Bhusawal Arts, Science & P. O. Nahata Commerce College, Bhusawal

Programme Outcomes (Pos)

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Bhusawal Arts, Science & P. O. Nahata Commerce College, Bhusawal

Programme Outcomes (Pos) & Course Outcomes (COs)

The syllabus of each programme and course itself includes Programme Outcomes and Courses outcomes. The college communicates the outcomes to the students at commencement of every academic year.

Mechanism of Communication:

The institution has established the following mechanism followed by to communicate the learning outcomes to the teachers and students is as below:

- Programme outcomes (POs) and course outcomes (COs) are uploaded on the college website.
- Hard and soft copy of syllabi and learning outcomes are made available in the central library as well as in the concerned departments for ready reference to both the teachers and students.
- Learning Outcomes of the Programmes and Courses are displayed on the notice boards too.
- The importance of the learning outcomes has been communicated to the teachers in every IQAC meeting, general staff meeting of the college and departmental meetings.
- The details of the programme outcomes and course outcomes are explained to students during bridge courses and induction programmes.

UG POs & COs - Summary

After successful completion of the Pos and Cos, the students will be able to:

- enhance communication and linguistic skills
- aware of the social and economic issues
- aware of social responsibility and inculcation of human values
- master competency, creativity, numerical ability, Management and global skills, scientific temperament, analytical thinking, professional ethics, basic scientific knowledge,
  vocational, technical and practical skills
- aware of Environmental issues, its protection and sustainability.
- provide sound academic base for higher education
- get conceptual understanding and techniques of core and complementary disciplines

PG POs & COs - Summary

After successful completion of the Pos and Cos, the students will be able to:

- master employment and entrepreneurial skills

- communicate effectively scientific concepts, experimental results and analytical thinking abilities and research attitude, ethics and life skills, marketing, managerial and corporate skills, scientific awareness, design/development of solutions
- ensures competence to make a prospective career in industry and academia

Programme Outcomes (Pos) - Humanities

B.A. (Bachalor of Arts)

After successful completion of three years programme in Bachelor of Arts (B.A.) thestudents would be able to gain:

1. Community Engagement and Global Understanding:

The students could understand cultural, historical, geographical, political, linguistic, economic and environmental forces that shape the world and recognize the role of them for bringing effective change in between. This includes the ability to:

i. Reflect on one's cultural identities and values
ii. Demonstrate intercultural awareness and competence
iii. Recognize and appreciate the real-world context of knowledge
iv. Promote active citizenship and community engagement

2. Critical and Creative Thinking

The students could learn to analyze and critically reflect on complex problems incorporating multiple perspectives and innovative thinking. This includes the ability to:

i. analyze, synthesize and integrate knowledge
ii. critically evaluate the validity of arguments and conclusions - practice creative thinking and expression
iii. demonstrate the capacity to argue in innovative directions

3. Literacy and Communication

The students could demonstrate the ability to extract and convey informationaccurately in a variety of formats. This includes the ability to:

i. identify, locate, comprehend, and critically evaluate quantitative and qualitative information using visual, numerical, oral, aural, and textual sources
ii. communicate concepts and information clearly and in various formats (oral, visual, written, etc.)
iii. engage effectively with audiences from different backgrounds.

4. Evaluate and Problem solving

The students could engage in scholarly inquiry to identify and investigate questions of a theoretical and/or applied nature. This includes the ability to:

i. identify gaps and limitations in the existing literature
ii. understand the principles of the problem solving
iii. apply appropriate problem solving methodologies to specific problems
iv. develop intellectual independence and practice self-directed inquiry

5. Depth and Breadth of Understanding

The students could gain detailed knowledge in one or more disciplines and Integrate knowledge and perspectives across disciplinary boundaries. This includes the ability to:

i. develop a detailed understanding of the current state of knowledge in one or more disciplines

ii. recognize the value, use and limits of multi

iii. disciplinary learning -Cultivate an openness to consider and engage alternative research perspectives

6. Professional Development and Ethical Behavior

The students could learn personal integrity and professional behaviour in scholarly endeavours and in collaborating with others within and beyond the academic community. This includes the ability to:

i. demonstrate intellectual integrity and academic accountability

ii. collaborate respectfully with others, individually and in teams

iii. show leadership in professional environments while recognizing diversity

iv. manage time effectively and ensure personal organization.

Programme Outcomes (Pos) - Science and Technology

After successful completion of the programmes, students will be able to:

- develop scientific attitude in the minds of learners in physical, chemical, material, life and mathematical sciences.
- acquire scientific abilities such as logical thinking, problem solving approach, data collection and decision making and apply the same.
- acquire scientific knowledge to extract information, formulate and solve problems in a systematic manner.
- acquire skills to handle basic scientific instruments following the general lab safety practices through experimental skills.
- empower the learners with creative thinking and numerical ability.
- provides understanding of current environmental scenario and necessity of sustainability along with solutions.
- make aware of environment related issues and sustainable technology development.
- appear to competitive examinations such as MPSC/UPSC and banking.
- acquire scientific knowledge and ability to integrate in-depth understanding of theoretical principles and apply them. The programme affords interdisciplinary applications of the respective subjects.
- identify, formulate, review research literature, formulate research problem, analyze them and conclude the results. Learners can develop ability to formulate research problem using the basic principles of mathematical and physical sciences.

- acquire research skills through project works which are the foundations of research.
- acquire skills for handling basic instruments.
- design solutions for scientific problems through practical based experiential learning for cultural, societal, and environmental considerations.
- apply knowledge independently for personal and professional development.
- orient towards basics of research.
- understand and apply the theory of computer science and software development fundamentals to produce computing- based solutions.
- provide a strong foundation in computer science and the ability to creatively apply computer and related technologies .
- formulate and analyze complex scientific problems.
- develop understanding and applying the principles of professional, ethical, legal, security, and social issues and responsibilities.
- enable learners for a career in an information technology oriented business or industry.
- comprehend the employment skills.
- understand modern notions in data analysis-oriented computing.

Programme Outcomes (Pos) - Commerce & Management

After successful completion of the programmes, students will be able to:

- develop professional skills.
- develop administrative abilities as trained professionals required for banking, industrial and financial sectors.
- apply the intensive knowledge of accountancy, business law, economic principles and taxation to complex commercial problems.
- work as Accountant, Auditor, Consultant, Company Secretary, Business Analyst, Finance Officer, Sales Analyst, Junior Analyst, Tax Accountant, Stock Broker, Economist, Business Development Trainee.
- appear to competitive examinations such as MPSC/UPSC and banking
- demonstrates knowledge and understanding the principles of commerce and management and applies them in real life situations. It also helps the learner to be a member and leader in a team to manage projects.
- inculcate marketing, good managerial and corporate skills among the learners.
- understand vast range of subjects including - corporate law, financial accounting and business communication and can apply as modern management skills.
- integrate professional ethics in life, organization, society and individual.
- to acquire entrepreneurship skills.

- identify business opportunities and initiate action to achieve it.
- develop research aptitude with scientific attitude.
- apply knowledge of management theories and practices to solve business problems.
- encourage analytical and critical thinking abilities for business decision making.
- communicate effectively in business issues, management concepts, plans and decisions both in oral and written form using appropriate supportive technologies .
- demonstrate the use of appropriate techniques to manage business challenges.
- recognize and solving ethical issues.
- appear to competitive examinations such as MPSC/UPSC and banking.

MARATHI

2.6.1Course Outcomes (as per syllabus)

CLASS	YEAR	COURSE (Paperwise)	OUTCOMES
FYBA/Bsc/Bcom	2014 to 2016	FYBA MAR 111 (A) प्रथम सत्र- कथा वाङ्मय	१. कथा व कथेची पार्श्वभूमी विद्यार्थ्यांनी समजून घेतली. २. कथा वाङ्मयाचे इतर वाङ्मय प्रकारापेक्षा वेगळेपण विद्यार्थ्यांनी समजून घेतले. ३. कथेचे प्रमुख घटक, कथानक, प्रसंग वर्णन, भाषा, निवेदनशैली, वातावरणनिर्मिती, संघर्ष, व्यक्तीचित्रण हे घटक विद्यार्थ्यांनी समजून घेतले. ४. मराठी कथेचे प्रमुख प्रकार व त्यांचे स्वरूप वैशिष्ट्ये विद्यार्थ्यांनी समजून घेतले. ५.कथेतील विविध कालखंडातील स्थित्यंतरे विद्यार्थ्यांनी लक्षात घेतली.
		MAR१२१ A द्वितीय सत्र वाङ्मय प्रकाराचा अभ्यास - कविता	१.काव्य संकल्पना, कवितेच्या व्याख्या विद्यार्थ्यांनी समजून घेतल्या. २. विद्यार्थ्यांनी कवितेचे घटक, शब्द, अलंकार, वृत्त, प्रतिमा ,प्रतीक यांचे आकलन करून घेतले. ३. कवितेचे प्रकार, स्वरूप, वैशिष्ट्ये हे घटक विद्यार्थ्यांनी आत्मसात केले. ४. विद्यार्थ्यांनी मराठी काव्याचा प्रवाह आत्मसात करून घेतला. ५. खानदेशी काव्य परंपरेचा विद्यार्थ्यांनी परिचय करून दिला.
		FYBCOM वाङ्मय प्रकार- ललित गद्य- इडली, ऑर्किड आणि मी-	१. ललित गद्याची संकल्पना विद्यार्थ्यांनी समजून घेतली. २. ललित गद्याचे विविध घटक, त्यातील मी ची अनुभव मांडण्याची पद्धत विद्यार्थ्यांनी समजून घेतली ३. इतर वाङ्मय प्रकारापेक्षा ललित गद्याचे वेगळेपण विद्यार्थ्यांनी

		डॉ विठ्ठल कामत (सत्र पहिले) सत्र दुसरे -उपयोजित मराठी -लेखन व संवाद कौशल्यांचा परिचय FYBA -MAR 111- उपयोजित मराठी (पर्यायी अभ्यासक्रम) प्रथम सत्र - उपयोजित मराठी- (द्वितीय सत्र) कार्यालयीन कौशल्य	आत्मसात केले. ४. ललित गद्याचे विविध प्रकार विद्यार्थ्यांनी लक्षात घेतले ५. ललित गद्य लेखनाचा आशय, अभिव्यक्ती व त्यातून व्यक्त होणारे लेखकाचे व्यावसायिक व्यक्तिमत्त्व विद्यार्थ्यांनी समजून घेतले. ६. मराठी ललित लेखातील विविध स्थित्यंतरे विद्यार्थ्यांनी आत्मसात करून घेतली. १.विद्यार्थ्यांनी भाषिक कौशल्य आत्मसात केले. २. निबंध लेखन, सारांश लेखन, उताऱ्याचे आकलन विद्यार्थ्यांनी करून घेतले. ३. संवाद कौशल्याचे विविध प्रकार विद्यार्थ्यांनी समजून घेतले. ४. वृत्तपत्र माध्यमांसाठी लेखन कसे करावे ते कौशल्य विद्यार्थ्यांनी आत्मसात करून घेतले. ५. विद्यार्थ्यांनी परिभाषा, स्वरूप, वैशिष्ट्ये यांचे आकलन करून घेतले. १. विद्यार्थ्यांनी भाषिक कौशल्ये आत्मसात करून भाषिक कौशल्याचे विविध अविष्कार यांचे आकलन करून घेतले. २. भाषिक व्यवहाराची नवनवीन क्षेत्रे, प्रसारमाध्यमे यांचे स्वरूप विद्यार्थ्यांनी अभ्यासून त्यासाठी आवश्यक संज्ञापन कौशल्य आत्मसात केली. ३. मराठीचा कार्यालयीन व्यावसायिक व माहिती तंत्रज्ञान क्षेत्रात होणारा वापर, गरज व स्वरूप या विषयांचे विद्यार्थ्यांनी आकलन करून घेतले. ४. विद्यार्थ्यांनी भाषिक कौशल्यांचा परिचय करून घेतला. ५.भाषिक कौशल्यांचा विविध क्षेत्रात वापर करण्याची क्षमता विद्यार्थ्यांनी विकसित केली ६. विद्यार्थ्यांनी व्यक्तिमत्त्व विकासासाठी संवाद कौशल्य आत्मसात करून घेतली. ७. कार्यालयीन, व्यावसायिक क्षेत्रातील लेखन कौशल्याचा विद्यार्थ्यांनी परिचय करून घेतला व उपयोजन क्षमता विकसित करून दिली.

FYBA/Bsc/Bcom	2017 to 2018	FYBCOM लोकल लांग्वेज ऑफ मराठी सत्र पहिले -बिझनेस लीजंटस- गीता पिरामल सत्र दुसरे बिझनेस लिजंट्स - गीता पिरामल FYBA वाङ्मयीन मराठी प्रथम सत्र- वाङ्मय प्रकाराचा अभ्यास –कादंबरी-चकवा- अलका शशांक कुलकर्णी सत्र दुसरे - वाङ्मयप्रकाराचा अभ्यास –काव्य-नेमलेली पुस्तक -कविता संग्रह संपादित FYBA सत्र पहिले उपयोजित मराठी (पर्यायी अभ्यासक्रम) भाषिक कौशल्य	१. विद्यार्थ्यांनी व्यवसाय क्षेत्रातील प्रतिथयश व्यक्तींचा परिचय करून दिला. २. विद्यार्थ्यांनी भाषिक क्षमतेचा विकास करून घेतला. ३. विद्यार्थ्यांना यशस्वी व्यावसायिकांच्या यशाची गाथा आत्मसात करून घेतली. १.उत्तम व्यवसायिकाचा गुण विद्यार्थ्यांनी आत्मसात करून घेतला. २. यशस्वी उद्योजक होण्यासाठी लागणारे गुण विद्यार्थ्यांनी आत्मसात केले. १. मराठी कादंबरीच्या वाटचालीची ओळख विद्यार्थ्यांनी करून घेतली. २. विद्यार्थ्यांनी कादंबरी वाङ्मयाची वैशिष्ट्ये आत्मसात करून घेतली. ३. कादंबरीचे विविध घटक, कथानक, प्रसंग वर्णन, संघर्ष, व्यक्तिचित्रण, मूल्य यांचा परिचय विद्यार्थ्यांनी करून घेतला. ४. मराठी कादंबरीचे विविध प्रकार विद्यार्थ्यांनी अभ्यासले.. ५. मराठी कादंबरीची स्थित्यंतरे विद्यार्थ्यांनी आत्मसात केली. १. कवितेच्या व्याख्या तसेच काव्य संकल्पना यांचा परिचय विद्यार्थ्यांनी करून घेतला . २. कवितेचे विविध घटक जसे नाद, शब्द, अलंकार, वृत्त, प्रतिमा, प्रतीके या संकल्पना विद्यार्थ्यांनी समजून घेतल्या. ३. कवितेचे प्रकार व स्वरूप वैशिष्ट्ये विद्यार्थ्यांनी आत्मसात केली. ४. खान्देशी काव्य परंपरेचा सविस्तर आढावा विद्यार्थ्यांनी अभ्यासला. ५.मराठी काव्याचा परिचय व प्रभाव विद्यार्थ्यांनी करून घेतला. १.भाषिक कौशल्ये तसेच मानसिक कौशल्यांचा विविध आविष्कार विद्यार्थ्यांनी समजून घेतला. २. भाषिक व्यवहाराची नवनवीन क्षेत्रे, प्रसारमाध्यमे यांचे स्वरूप विद्यार्थ्यांनी आत्मसात केली. ३.संज्ञापन कौशल्य व त्याचा भाषेतील वापर विद्यार्थ्यांनी अभ्यासला. ४. मराठीचा कार्यालयीन, व्यवसायिक व माहिती तंत्रज्ञान क्षेत्रात होणारा वापर विद्यार्थ्यांनी करून घेतला. १. भाषिक कौशल्याचा परिचय विद्यार्थ्यांनी जाणून घेतला.

		सत्र दुसरे - उपयोजित मराठी (पर्यायी अभ्यासक्रम) कार्यालयीन कौशल्य	२. भाषिक कौशल्यांचा विविध क्षेत्रात वापर करण्याची क्षमता विद्यार्थ्यांनी विकसित केली. ३. व्यक्तिमत्त्व विकासासाठी संवाद कौशल्य विद्यार्थ्यांनी आत्मसात केली व त्याचा दैनंदिन जीवनात उपयोग केला. ४. कार्यालयीन व्यवसाय क्षेत्रातील लेखन कौशल्य यांचा परिचय विद्यार्थ्यांनी करून घेतला व त्याचा वापर दैनंदिन कामकाजामध्ये केला.
FYBA/Bsc/Bcom	2018 onwards	FYBA -उपयोजित मराठी -सत्र पहिले- भाषिक कौशल्यांचा अभ्यास	१.विद्यार्थ्यांनी मूलभूत भाषिक कौशल्यांचा परिचय करून घेतला. २. व्यक्तिमत्व विकासातील भाषिक कौशल्याची महत्त्वाची भूमिका विद्यार्थ्यांनी लक्षात घेतली. ३. श्रवण व वाचन कौशल्यांचे महत्त्व जाणून घेऊन ती विद्यार्थ्यांनी आत्मसात केली. ४. लेखन कौशल्याचे स्वरूप जाणून घेऊन निबंध व सारांश लेखनाचे तंत्र विद्यार्थ्यांनी आत्मसात केले. ५. आकलन व संवाद या कौशल्यांचे महत्त्व विद्यार्थ्यांनी समजून घेतले. ६. भाषण व संवाद कौशल्य यांच्या निवड प्रकारांची उपयोजन करण्यास विद्यार्थी शिकले.
		सत्र दुसरे- कार्यालयीन कौशल्यांचा अभ्यास	१.कार्यालयीन कामकाजाच्या दृष्टीने आवश्यक कौशल्य यांचा परिचय विद्यार्थ्यांनी करून घेतला. २. विशिष्ट क्षेत्रातील भाषेच्या उपयोजनाचे कौशल्य विद्यार्थ्यांनी विकसित केले. ३. कार्यालयीन कामकाजातील पत्र लेखनाचे स्वरूप विद्यार्थ्यांनी जाणून घेतली. ४. इतिवृत्त व टिप्पणी लेखनाचे तंत्र विद्यार्थ्यांनी आत्मसात केले. ५. कार्यक्रम आयोजनाची कौशल्य विद्यार्थ्यांनी आत्मसात केली. ६. भाषेचा वापर निर्दोष होण्यासाठी लेखनविषयक नियम व विरामचिन्हांचा परिचय व त्याची माहिती विद्यार्थ्यांनी घेतली.
		FYBA -वाङ्मयीन मराठी सत्र पहिले -विशिष्ट वाङ्मय प्रकाराचा अभ्यास- कथा- पुस्तक (निवडता कथा	१. वाङ्मय प्रकाराचे स्वरूप, वैशिष्ट्ये विद्यार्थ्यांनी आत्मसात करून घेतली.

		हमिद दलवाई)	२. कथा रचनेच्या प्रमुख घटकांचे आकलन विद्यार्थ्यांनी केले. ३. कथेच्या महत्वपूर्ण प्रकारांचा परिचय विद्यार्थ्यांनी करून घेतला. ४. मराठी कथेची वाटचाल विद्यार्थ्यांनी विविध टप्प्यांच्या आधारे समजून घेतली. ५.हमीद दलवाई यांच्या कथांच्या कथानकाचे विद्यार्थ्यांनी आकलन करून घेतले. ६. हमीद दलवाई यांच्या निवडक दहा कथांमधील प्रसंगवर्णन आणि वातावरण निर्मिती यांचे विशेष विद्यार्थ्यांनी जाणून घेतले. ७. हमीद दलवाई यांच्या निवडक कथेतील संघर्ष, निवेदनशैली, भाषा विशेष या घटकांचे आकलन विद्यार्थ्यांनी करून घेतले.
		FYBAवांग्मयीन मराठी सत्र दुसरे विशिष्ट वांग्मय प्रकार याचा अभ्यास कविता	१. कविता या वाङ्मय प्रकाराचे स्वरूप, वैशिष्ट्ये विद्यार्थ्यांनी आत्मसात करून घेतली. २. काव्य रचनेच्या प्रमुख घटकांचा परिचय विद्यार्थ्यांनी करून घेतला. ३. कविता या वाङ्मय प्रकाराच्या दोन महत्त्वपूर्ण प्रकारांचे स्वरूप विद्यार्थ्यांनी जाणून घेतले. ४.आधुनिक मराठी कवितेची वाटचाल विद्यार्थ्यांनी विविध टप्प्यांचा आधारे जाणून घेतली. ५. संपादित कवितासंग्रहातील विविध प्रकारातील कवितांचा आशय विद्यार्थ्यांनी जाणून घेतला. ६. संपादित कवितासंग्रहातील विविध प्रकारातील कवितांचे भाषिक विशेष विद्यार्थ्यांनी जाणून घेतले. ७. संपादित कवितासंग्रहातील विविध प्रकारातील कवितांचे अभिव्यक्ती विशेष विद्यार्थ्यांनी जाणून घेतले.
			१. मूलभूत भाषिक कौशल्यांचा विद्यार्थ्यांनी परिचय करून घेतला. २. व्यक्तिमत्व विकासातील भाषिक कौशल्य यांची महत्त्वाची भूमिका विद्यार्थ्यांच्या लक्षात आली. ३. श्रवण व वाचन कौशल्यांचे महत्त्व विद्यार्थ्यांनी जाणून घेतले व ती

		FYBA उपयोजित मराठी सत्र पहिले भाषिक कौशल्यांचा अभ्यास	कशी आत्मसात करावी याबाबत सविस्तर माहिती घेतली. ४. लेखन कौशल्याचे स्वरूप जाणून घेवून निबंध, सारांश लेखनाचे तंत्र विद्यार्थ्यांनी आत्मसात करून त्याचा वापर व्यवहारात केला. ५. आकलन व संवाद कौशल्यांचे महत्त्व विद्यार्थ्यांनी जाणून घेतले ६. आकलन व संवाद कौशल्य यांच्या निवडक प्रकारांचे उपयोजन विद्यार्थ्यांनी शिकून घेतले.
		FYBA उपयोजित मराठी सत्र दुसरे कार्यालयीन कौशल्यांचा अभ्यास	१. कार्यालयीन कामकाजाच्या दृष्टीने आवश्यक कौशल्यांचा परिचय विद्यार्थ्यांनी करून घेतला. २. विशिष्ट क्षेत्रातील भाषेच्या उपयोजनाचे कौशल्य विद्यार्थ्यांनी जाणून घेतले. ३. कार्यालयीन कामकाजातील पत्र लेखनाचे स्वरूप व त्याचे लेखन तंत्र विद्यार्थ्यांनी जाणून घेतले व त्याचा दैनंदिन व्यवहारात वापर केला. ४. कार्यालयीन कामकाजातील इतिवृत्त व टिपणी यांचे लेखन तंत्र विद्यार्थ्यांनी जाणून घेतले व त्याचा दैनंदिन व्यवहारात वापर केला. ५. कार्यालयीन आयोजनाचे कौशल्य विद्यार्थ्यांनी आत्मसात केले. ६. कार्यालयीन कामकाजातील भाषेचा वापर करून लेखन विषयक नियम व विरामचिन्हे याबाबत सविस्तर अभ्यास विद्यार्थ्यांनी केला व त्याचा वापर लेखन कौशल्यामध्ये केला.
		FYBSC सत्र पहिले आणि दुसरे - कथा आणि संवाद कौशल्य यांचा अभ्यास	१."माणदेशी माणसं" या कथासंग्रहातील कथांची कथानक, व्यक्तिचित्रण व प्रसंग वर्णन या अंगांनी जाणवणारी वैशिष्ट्ये विद्यार्थ्यांनी लक्षात घेतली. २. माणदेशी माणसं या कथासंग्रहातील कथांचा संघर्ष निवेदन व भाषा ही वैशिष्ट्ये विद्यार्थ्यांनी लक्षात घेतली. ३. संवादाच्या औपचारिक व अनौपचारिक प्रकारांचा परिचय विद्यार्थ्यांनी करून घेतला ४. संवाद कौशल्यासाठी आवश्यक बाबींचा परिचय विद्यार्थ्यांनी करून

			घेतला. ५. भाषण, सादरीकरण, वाद-विवाद, सूत्रसंचालन, गटचर्चा या संवाद कौशल्याचे स्वरूप, वैशिष्ट्ये आणि त्याचे उपयोजन विद्यार्थ्यांनी शिकून त्याचा व्यवहारात वापर केला.
SYBA / SYBsc	2014 to 2019	SYBA जनरल मराठी (G -2) वाङ्मय प्रकार याचा अभ्यास -कादंबरी सत्र तिसरे -रारंग ढांग- प्रभाकर पेंढारकर SYBA सत्र चौथे वाङ्मय प्रकार- आत्मकथा -माती पंख आणि आकाश - ज्ञानेश्वर मुळे SYBA(ऐच्छिक अभ्यासक्रम) उपयोजित मराठी- तिसरे सत्र - प्रसारमाध्यमांचा परिचय आणि लेखन तंत्र SYBA- (ऐच्छिक अभ्यासक्रम) सत्र चौथ-आधुनिक संवाद माध्यमातील संवादाचा परिचय आणि लेखन	१.कादंबरी या वाङ्मय प्रकाराची विद्यार्थ्यांनी ओळख करून घेतली. २. आधुनिक काळातील कादंबरीच्या प्रेरणा विद्यार्थ्यांनी समजून घेतल्या. ३. रारंगढांग या कादंबरीचे प्रातिनिधिक स्वरूपात अध्ययन विद्यार्थ्यांनी केले. १. मराठीतील आत्मचरित्र व आत्मकथनाचे स्वरूप विद्यार्थ्यांनी आत्मसात केले. २.मराठीतील आत्मकथनात्मक लेखन व पुरुषांची आत्मकथने याचा अभ्यास विद्यार्थ्यांनी केला. ३.आत्मकथनाचे स्वरूप व वैशिष्ट्ये विद्यार्थ्यांनी आत्मसात करून घेतली. १. विद्यार्थ्यांनी भाषा संवाद साधनांचा परिचय करून घेऊन भाषिक संवाद प्रक्रियेतील साधनांचे महत्त्व समजून घेतले. २. संवाद माध्यमांची वैशिष्ट्ये आणि स्वरूप याचे आकलन विद्यार्थ्यांनी करून घेतले. ३. मुद्रित माध्यमांसाठी लेखन तंत्र विद्यार्थ्यांनी अवगत केली ४. विविध मुद्रित माध्यमांसाठी लेखनाचे उपयोजन विद्यार्थ्यांनी करून घेतले. १. आधुनिक संवाद माध्यमातील संवादाचा परिचय विद्यार्थ्यांनी करून घेतला. २. आधुनिक संवाद माध्यमातील श्राव्य आणि दृक्श्राव्य माध्यमांचे महत्त्व विद्यार्थ्यांनी आत्मसात केले. ३. आकाशवाणी आणि दूरदर्शन या संवाद माध्यमांचे स्वरूप व तंत्र

			विद्यार्थ्यांनी अवगत केले. ४. माहिती आणि तंत्रज्ञानाची तोंडओळख विद्यार्थ्यांनी करून घेतली.
		SYBA - S 1 मध्ययुगीन गद्य वाङ्मय प्रकारांचा अभ्यास- सत्र तिसरे- आज्ञापत्र- रामचंद्रपंत अमात्य(संपादक रा.चि. ढेरे)	१.शिवकालीन स्वराज्यनीतीचा परिचय विद्यार्थ्यांनी करून घेतला. २. स्वराज्यासाठी आज्ञापत्रातील महत्त्वाचे विचार विद्यार्थ्यांनी आत्मसात केली. ३. शिवकालिन कल्याणकारी योजनांची माहिती विद्यार्थ्यांनी समजून घेतली. ४.मध्ययुगीन कालखंडातील राज्यकर्त्याच्या नीती आचरण पद्धतीचा परिचय विद्यार्थ्यांनी करून घेतला.
		SYBA –S 1 मध्ययुगीन पद्य वाङ्मय प्रकाराचा अभ्यास- निवडक संत कवी कवयित्री यांच्या अभंग रचना	१. मध्ययुगीन पद्य वाङ्मयाचा विद्यार्थ्यांनी परिचय करून घेतला. २.संत वाङ्मयाची प्रेरणा विद्यार्थ्यांनी समजून घेतली. ३. मध्ययुगीन संत वाङ्मयाचे स्वरूप विद्यार्थ्यांनी जाणून घेतले. ४. निवडक संतांच्या अभंग रचनांचा अभ्यास विद्यार्थ्यांनी करून घेतला.
		SYBA S 2 साहित्य स्वरुप विचार -सत्र तिसरे	१.पौर्वात्य व पाश्चिमात्य साहित्यशास्त्रातील विविध संकल्पनांचा सखोल परिचय विद्यार्थ्यांनी करून घेतला. २.साहित्याचे स्वरूप, साहित्याचे प्रयोजन आणि साहित्याची निर्मिती प्रक्रिया विद्यार्थ्यांनी आत्मसात केली. ३. साहित्याचे विविध उपप्रकारांचे स्वरूप व वैशिष्ट्ये यांचा परिचय विद्यार्थ्यांनी करून घेतला. १. साहित्याची भाषा आणि व्यावहारिक भाषेतील मूल्यात्मक जाणिवा विद्यार्थ्यांनी आत्मसात केल्या. २.आकलन, आस्वाद आणि संस्कार मूल्य म्हणून विद्यार्थ्यांनी साहित्याचा

		SYBA S 2 -सत्र चौथे - साहित्य स्वरुप विचार S.Y.B.Sc -प्रथम सत्र- ललित वाङ्मय –कथा- स्वप्न आणि सत्य- लेखक वि. स. खांडेकर S.Y.B.Sc -सत्र दुसरे- नाटक- प्रेमाच्या गावा जावे- वसंत कानेटकर	अभ्यास करून घेतला. ३.विद्यार्थ्यांमध्ये वाडमयीन अभिरुची निर्माण झाली. ४. प्रादेशिक साहित्याची ओळख विद्यार्थ्यांनी करून घेतली. १. कथा वाङ्मयाची वाटचाल विद्यार्थ्यांनी समजून घेतली. २. कथेचे विविध घटक, कथानक, व्यक्तिचित्रण, प्रसंग वर्णन, संघर्ष, भाषाशैली हे सर्व घटक विद्यार्थ्यांनी समजून घेतले. ३. कथा वाङ्मयाचे असलेले वेगळेपण विद्यार्थ्यांनी समजून घेतले. ४. मराठी कथेचे योगदान विद्यार्थ्यांनी आत्मसात केले. ५. वि. स. खांडेकर यांच्या कथांची वैशिष्ट्ये विद्यार्थ्यांनी लक्षात घेतली. १. नाटकाची संकल्पना व नाटकाच्या व्याख्या विद्यार्थ्यांनी समजून घेतल्या. २. नाटकाचे घटक, कथानक, व्यक्तिचित्रण, संघर्ष, भाषाशैली यांचा अभ्यास विद्यार्थ्यांनी केला. ३. नाटकाचे प्रकार सामाजिक, ऐतिहासिक, राजकीय प्रकार विद्यार्थ्यांनी लक्षात घेतले. ४. नाटकातील सुखात्मिका व शोकांतिका यांचे स्वरूप व वैशिष्ट्ये विद्यार्थ्यांनी अभ्यासले. ५. मराठी नाटकाचा इतिहास विद्यार्थ्यांनी आत्मसात करून घेतला.

SYBA/Bsc/Bcom	2019onwards	SYBA DSC वाङ्मयीन मराठी- वैचारिक गद्य लेखनाचा अभ्यास - सत्र तिसरे	१. मराठीतील वैचारिक गद्य लेखनाच्या परंपरेचा परिचय विद्यार्थ्यांनी करून घेतला. २. महात्मा ज्योतिराव फुले यांचे जीवन कार्य व त्यांची वैचारिक जडणघडण याबाबत विद्यार्थ्यांनी जाणून घेतले. ३. महात्मा ज्योतिराव फुले यांच्या लेखन संपदेबाबत विद्यार्थ्यांनी माहिती घेतली. ४. शेतकऱ्याचा असूड मधील वैचारिक आशयाचे स्वरूप, वैशिष्ट्ये विद्यार्थ्यांनी समजावून घेतली. ५. शेतकऱ्याचा असूड या वैचारिक गद्य लेखनाच्या वाङ्मयीन गुणवैशिष्ट्यांचा अभ्यास विद्यार्थ्यांनी घेतला. ६. शेतकऱ्याचा असूड मधून आलेल्या वैचारिक मांडणीची समकालीन अर्थपूर्णता प्रात्यक्षिकांच्या माध्यमातून विद्यार्थ्यांनी जाणून घेतली.
		SYBA वाङ्मयीन मराठी -सत्र चौथ -चरित्र-आत्मचरित्रपर लेखनाचा अभ्यास- नेमलेली साहित्यकृती -जीवनरंग	१.चरित्र व आत्मचरित्रपर लेखनाचे सामाजिक व वाङ्मयीन दृष्ट्या महत्त्व विद्यार्थ्यांनी जाणून घेतले. २. मराठीतील चरित्र लेखनाच्या परंपरेचा परिचय विद्यार्थ्यांनी करून घेतला. ३. मराठीतील आत्मचरित्र लेखनाच्या परंपरेचा परिचय विद्यार्थ्यांनी करून घेतला. ४. जीवनरंग या पुस्तकातील निवडक चरित्रपर लेखांचे स्वरूप विद्यार्थ्यांनी जाणून घेतले. ५.जीवनरंग या पुस्तकातील निवडक आत्मचरित्रपर लेखांचे स्वरूप विद्यार्थ्यांनी जाणून घेतले. ६. “जीवनरंग” या पुस्तकातील निवडक चरित्रपर लेखांची वाङ्मयीन गुणवैशिष्ट्ये विद्यार्थ्यांनी लक्षात घेतली. ७.जीवनरंग या पुस्तकातील निवडक आत्मचरित्रपर लेखांची वाङ्मय गुणवैशिष्टे विद्यार्थ्यांनी लक्षात घेतली. ८. चरित्र-आत्मचरित्र पर लेखनाची सामाजिक वैशिष्ट्ये आणि लेखन पद्धती याबाबत प्रात्यक्षिकांच्या माध्यमातून विद्यार्थ्यांनी माहिती जाणून घेतली.

		SYBA DSE उपयोजित मराठी - स्पर्धा परीक्षांसाठी मराठी व्याकरण विभाग	१. विविध स्पर्धा परीक्षांसाठी आवश्यक मराठी भाषेच्या अभ्यासाची तयारी विद्यार्थ्यांनी करून घेतली २. मराठी भाषेच्या व्याकरणातील महत्त्वपूर्ण संकल्पना विद्यार्थ्यांनी समजून घेतल्या. ३. मराठी भाषेच्या व्याकरणातील संकल्पनांच्या उपयोजनाचे कौशल्य विद्यार्थ्यांनी आत्मसात केले. ४. स्पर्धा परीक्षांच्या दृष्टीने आवश्यक मराठी भाषेच्या लेखनाचे स्वरूप विद्यार्थ्यांनी जाणून घेतले. ५. मराठी भाषेतील लेखनासाठी उपयुक्त ठरतील अशी कौशल्ये विद्यार्थ्यांनी आत्मसात केली. ६. मराठी भाषेतील लेखनाचा सराव विद्यार्थ्यांनी केला.
		SYBA DSE सत्र चौथ- स्पर्धा परीक्षांसाठी मराठी(लेखन विभाग)	१. विविध स्पर्धा परीक्षांसाठी आवश्यक मराठी भाषेच्या अभ्यासाची तयारी विद्यार्थ्यांनी करून घेतली. २. मराठी भाषेच्या व्याकरणातील महत्त्वपूर्ण संकल्पना विद्यार्थ्यांनी समजून घेतल्या. ३. मराठी भाषेच्या व्याकरणातील संकल्पनांच्या उपयोजनाचे कौशल्य विद्यार्थ्यांनी आत्मसात केले. ४. स्पर्धा परीक्षांच्या दृष्टीने आवश्यक मराठी भाषेच्या लेखनाचे स्वरूप विद्यार्थ्यांनी जाणून घेतले. ५. मराठी भाषेतील लेखनासाठी उपयुक्त ठरतील अशी कौशल्ये विद्यार्थ्यांनी आत्मसात केली. ६. मराठी भाषेतील लेखनाचा सराव विद्यार्थ्यांनी केला .
			१. कादंबरी या वाङ्मय प्रकाराचे स्वरूप, प्रकार त्यांची वैशिष्ट्ये विद्यार्थ्यांनी जाणून घेतले. २. आधुनिक मराठी कादंबरीच्या वाटचालीचा परामर्श विद्यार्थ्यांनी

			घेतला. ३. “अवकाळी पावसाच्या दरम्यानची गोष्ट “या कादंबरीतील ग्रामीण जीवन वास्तवाचे स्वरूप विद्यार्थ्यांनी लक्षात घेतले. ४. “अवकाळी पावसाच्या दरम्यानची गोष्ट” या कादंबरीचे वाङ्मय मूल्यमापन विद्यार्थ्यांनी केले. ५. कादंबरीचे वाचन, आकलन व मूल्यमापन करून घेण्याची दृष्टी विद्यार्थ्यांमध्ये विकसित झाली.
		SYBA DSE १ आधुनिक वाङ्मय प्रकारांचा अभ्यास –कादंबरी- सत्र तिसरे- कादंबरी -अवकाळी पावसाच्या दरम्यानची गोष्ट - आनंद विंगकर	१. कविता या वाङ्मय प्रकाराचे स्वरूप व वैशिष्ट्ये विद्यार्थ्यांनी जाणून घेतले. २. आधुनिक मराठी कवितेच्या वाटचालीचा परामर्श विद्यार्थ्यांनी करून घेतला. ३. विद्यार्थ्यांनी माझे विद्यापीठ या कवितासंग्रहातील विविध जीवन जाणिवांचा शोध घेतला. ४. माझे विद्यापीठ या कवितासंग्रहाचे विद्यार्थ्यांनी वाङ्मयीन मूल्यमापन केले. ५. कवितेचे वाचन, आकलन व मूल्यमापन करण्याची दृष्टी विद्यार्थ्यांमध्ये विकसित झाली.
		SYBA (DSE १ B) सत्र चौथे- आधुनिक वाङ्मय प्रकार - कविता -माझे विद्यापीठ - नारायण सुर्वे	१. भारतीय आणि पाश्चात्य साहित्य विचारांचा परिचय विद्यार्थ्यांनी करून घेतला. २. विद्यार्थ्यांनी साहित्याचे स्वरूप समजून घेतले. ३. प्रमुख संस्कृत व पाश्चात्त्य साहित्य मीमांसकांनी साहित्याच्या स्वरूपाविषयी मांडलेल्या विचारांचा विद्यार्थ्यांनी परिचय करून घेतला ४. साहित्याच्या निर्मितीची विविध प्रयोजने विद्यार्थ्यांनी जाणून घेतली. ५. प्रमुख संस्कृत व पाश्चात्य साहित्य मीमांसक यांनी साहित्याच्या प्रयोजना विषयी मांडलेल्या विचारांचा विद्यार्थ्यांनी परिचय करून घेतला. ६. साहित्यनिर्मितीच्या प्रधान व गौण कारणांची ओळख विद्यार्थ्यांना

		SYBA DSE २ सत्र तिसरे - साहित्यविचार भारतीय आणि पाश्चात्य	झाली. १. भारतीय आणि पाश्चात्त्य साहित्य विचारांचा परिचय विद्यार्थ्यांनी करून घेतला. २. साहित्याच्या भाषेचे स्वरूप विद्यार्थ्यांनी जाणून घेतले तसेच शब्दशक्तीचे स्वरूप व प्रकार विद्यार्थ्यांनी समजून घेतले. ३. साहित्याच्या भाषेचे स्वरूप जाणून घेताना पाश्चात्य साहित्य मीमांसकांनी त्याबाबत मांडलेल्या विविध संकल्पनांचा विद्यार्थ्यांनी परिचय करून घेतला. ४. साहित्यातील रस प्रक्रिया संस्कृत साहित्य मीमांसक यांनी मांडलेल्या विचाराच्या आधारे विद्यार्थ्यांनी जाणून घेतली. ५. साहित्यातून प्राप्त होणाऱ्या आनंदाचे स्वरूप विद्यार्थ्यांनी जाणून घेतले. ६. साहित्याची आस्वाद प्रक्रिया विद्यार्थ्यांनी समजून घेतली.
		SYBA DSE २- B सत्र चौथे - साहित्यविचार भारतीय आणि पाश्चात्य	१. विद्यार्थ्यांनी मुद्रितशोधनाचे स्वरूप आणि आवश्यकता जाणून घेतली. २. मुद्रित शोधनाची कौशल्य विद्यार्थ्यांनी आत्मसात केले. ३. मुद्रितशोधनाच्या खूणा अर्थ आणि त्याचे उपयोजन याबाबत विद्यार्थ्यांनी सविस्तर माहिती जाणून घेतली. ४. विरामचिन्ह आणि लेखनविषयक नियम यांचे स्वरूप विद्यार्थ्यांनी जाणून घेतले. ५. मुद्रित शोधनाचा सराव विद्यार्थ्यांनी केला. १. सर्जनशील लेखनाचे स्वरूप आणि वैशिष्ट्ये विद्यार्थ्यांनी जाणून घेतले. २. कथा लेखनाची निर्मितीप्रक्रिया विद्यार्थ्यांनी समजून घेतली. ३. नाट्यात्मक लेखनाची निर्मितीप्रक्रिया विद्यार्थ्यांनी समजून घेतली. ४. विद्यार्थ्यांनी कथा लेखनाचा सराव केला. ५.विद्यार्थ्यांनी नाट्यात्मक लेखनाचा सराव केला. १. विद्यार्थ्यांनी वृत्तपत्र व मुद्रित माध्यमाचा विशेष परिचय करून घेतला. २. विद्यार्थ्यांनी वृत्तपत्र या मुद्रित माध्यमाचे कार्य आणि त्याची

		SYBA -SEC -लेखन कौशल्य -सत्र तिसरे- लेखन कौशल्य -मुद्रितशोधन	उपयुक्तता जाणून घेतली. ३. वृत्तपत्र माध्यमासाठी करावयाच्या बातमी लेखनाचे स्वरूप व तंत्र विद्यार्थ्यांनी अवगत केले. ४. वृत्तपत्र माध्यमासाठी करावयाच्या जाहिरात लेखनाचे स्वरूप व तंत्र विद्यार्थ्यांनी अवगत केले. ५. वृत्तपत्र माध्यमासाठी करावयाच्या विविध वृत्तलेख लेखनाचे स्वरूप व तंत्र विद्यार्थ्यांनी अवगत केले. ६. वृत्तपत्र माध्यमासाठी करावयाच्या स्तंभ व सदर लेखनाचे स्वरूप व तंत्र विद्यार्थ्यांनी आत्मसात केले.
		SYBA SEC २ लेखन कौशल्य सर्जनशील लेखन	१. नभोवाणी या श्राव्य माध्यमाचा विशेष परिचय विद्यार्थ्यांनी करून घेतला. २. विद्यार्थ्यांनी नभोवाणी या श्राव्य माध्यमाचे कार्य आणि त्याची उपयुक्तता जाणून घेतली. ३. विद्यार्थ्यांनी नभोवाणी माध्यमासाठी करावयाच्या भाषणाच्या लेखनाचे स्वरूप व तंत्र अवगत केले. ४. नभोवाणी माध्यमासाठी करावयाच्या श्रुतिका लेखनाचे स्वरूप व तंत्र विद्यार्थ्यांनी अवगत केले. ५. नभोवाणी माध्यमासाठी करावयाच्या युवकांसाठीच्या कार्यक्रमाच्या लेखनाचे स्वरूप व तंत्र विद्यार्थ्यांनी अवगत केले. ६. विद्यार्थ्यांनी सरकारी व खाजगी नभोवाणी माध्यमासाठी करावयाच्या निवेदनाचे स्वरूप व तंत्र आत्मसात केले.
		SYBA- MIL - माध्यमांसाठी लेखन व संवाद सत्र तिसरे- मुद्रित माध्यमांसाठी लेखन	१.विज्ञान कथा या कथा प्रकाराचा परिचय विद्यार्थ्यांनी करून घेतला. २.विनोदी कथा या कथा प्रकाराचा विद्यार्थ्यांनी परिचय करून घेतला. ३.विज्ञानाच्या क्षेत्रातील विविध विषयांबाबत मराठीतून लेखन करण्यास विद्यार्थ्यांना प्रोत्साहन मिळाले. ४. वैज्ञानिक संज्ञा संकल्पना बाबत विज्ञान कशासाठी नोंद लेखन करण्याचे तंत्र विद्यार्थ्यांनी आत्मसात केले. ५. विज्ञानाच्या क्षेत्रातील विविध विषयांवर लोकोपयोगी लेखन

		SYBA- MIL-सत्र चौथे -श्राव्य माध्यमासाठी लेखन व संवाद S.Y.B.Sc AECC -कथा आणि उपयोजित लेखन - सत्र तिसरे- विज्ञान कथा आणि नोंद लेखन	करण्याचे कौशल्य विद्यार्थ्यांनी जाणून घेतले. ६. वैज्ञानिक दृष्टिकोन विकसित करण्यास साहाय्यभूत ठरणाऱ्या संकल्पना विद्यार्थ्यांनी समजून घेतल्या. १.विज्ञान कथा या कथा प्रकाराचा परिचय विद्यार्थ्यांनी करून घेतला. २.विनोदी कथा या कथा प्रकाराचा विद्यार्थ्यांनी परिचय करून घेतला. ३.विज्ञानाच्या क्षेत्रातील विविध विषयांबाबत मराठीतून लेखन करण्यास विद्यार्थ्यांना प्रोत्साहन मिळाले. ४. वैज्ञानिक संज्ञा संकल्पना बाबत विज्ञान कशासाठी नोंद लेखन करण्याचे तंत्र विद्यार्थ्यांनी आत्मसात केले. ५. विज्ञानाच्या क्षेत्रातील विविध विषयांवर लोक उपयोगी लेखन करण्याचे कौशल्य विद्यार्थ्यांनी जाणून घेतले. ६. वैज्ञानिक दृष्टिकोन विकसित करण्यास साहाय्यभूत ठरणाऱ्या संकल्पना विद्यार्थ्यांनी समजून घेतल्या.

		SYBSC सत्र चौथे- विनोदी कथा आणि विज्ञान पर लेखन	
TYBA	2014 to 2015	TYBA मराठी विशेष स्तर - S-3 - साहित्यविचार (सत्र तिसरे व सत्र चौथे)	१. भारतीय व पाश्चात्त्य साहित्यशास्त्रातील संकल्पनांचा सखोल परिचय विद्यार्थ्यांनी करून घेतला. २. साहित्याचे स्वरूप ,साहित्याचे प्रयोजन, साहित्याची निर्मिती प्रक्रिया या संकल्पना विद्यार्थ्यांनी अभ्यासल्या. ३. साहित्याची भाषा सहित्याची अभिरुची या संकल्पनांचा अभ्यास

		T.Y.B.A. MAR (३५३-३६३) मराठी विशेष स्तर S- 4 सामान्य भाषा विज्ञान आणि पारंपारिक व्याकरण (सत्र तिसरे व चौथे) TYBA (मराठी सामान्य स्तर) G 3 वाङ्मय प्रकाराचा अभ्यास - वाङ्मय प्रकार- नाटक आणि ललित गद्य सत्र पाचवे- वाङ्मय प्रकार- नाटक TYBA- सत्र 6- वाङ्मय प्रकार - ललित गद्य	करून विद्यार्थ्यांनी उपयोजनात्मक अभ्यास केला. ४. साहित्याची सामाजिकता या विषयाचा अभ्यास करून विद्यार्थ्यांनी सामाजिक जाणीवा आत्मसात केल्या. १. विद्यार्थ्यांनी भाषा स्वरूप व तिचे मानवी जीवनातील कार्य समजावून घेतले. २. स्वन निर्मिती प्रक्रिया व वागीन्दियांची रचना व कार्य विद्यार्थ्यांनी समजावून घेतले. ३.स्वनिम संकल्पना व रुपीम संकल्पना विद्यार्थ्यांनी समजावून घेतल्या. ४. वाक्य विन्यास आणि अर्थ विन्यास याचा अभ्यास व स्वरूप विद्यार्थ्यांनी समजावून घेतले. ५. मराठी पारंपारिक व्याकरणातील महत्त्वाच्या घटकांचा परिचय विद्यार्थ्यांनी करून घेतला. १. विद्यार्थ्यांनी नाटकाचे स्वरूप व विशेष अभ्यासले. २. नाटकाचे प्रकार विद्यार्थ्यांनी अभ्यासून सुखात्मिका शोकात्मिका,प्रहसन, मेलोड्रामा इत्यादी नाटकांच्या प्रकारांचा अभ्यास केला. ३. विद्यार्थ्यांनी नाटकाचे सादरीकरण व प्रयोगमुल्ये यांचा अभ्यास केला. ४. विद्यार्थ्यांनी मराठीची नाट्य परंपरा यांचा स्थूल परिचय करून घेतला. १. ज्ञानपीठ पुरस्काराचे स्वरूप विद्यार्थ्यांनी समजावून घेतले २. विद्यार्थ्यांनी ज्ञानपीठ पुरस्कार विजेते मराठी साहित्यकारांचा परिचय करून घेतला. ३. ललित गद्य या वाङ्मय प्रकाराचे स्वरूप व विशेष विद्यार्थ्यांनी समजावून घेतले. ४. मराठीतील ललित गद्य परंपरेचा विद्यार्थ्यांनी स्थूल परिचय करून घेतला. ५. ललित गद्य लेखनाचा आशय, अभिव्यक्ती व त्यातून व्यक्त होणारी लेखकाचे व्यक्तिमत्व यांचा स्थूल अभ्यास विद्यार्थ्यांनी केला.

		TYBA मराठी सामान्य स्तर (G- 3) -उपयोजित मराठी (पर्यायी अभ्यासक्रम) सत्र पाचवे व सत्र सहावे	१. विद्यार्थ्यांनी विविध भाषिक कौशल्य समजावून घेतली. २. विद्यार्थ्यांनी भाषिक कौशल्यांचा वापर दैनंदिन जीवनात केला. ३. कार्यक्रम आयोजनाचे स्वरूप व तंत्र विद्यार्थ्यांनी समजून घेतले. ४. विद्यार्थ्यांनी कार्यक्रम आयोजनाचे स्वरूप व तंत्र याचा वापर दैनंदिन जीवनात केला. ५. सूची लेखन, परिचयात्मक लेखन, संपादन कौशल्य, रोजनिशी लेखन, भाषांतर कौशल्य इत्यादी संकल्पना विद्यार्थ्यांनी समजावून घेतल्या. ६. रोजनिशी लेख,न परिचयात्मक लेखन, संपादन कौशल्य, सूची लेखन, भाषांतर कौशल्य या संकल्पनांचा दैनंदिन व्यवहारात विद्यार्थ्यांनी वापर केला. ७. माहिती व तंत्रज्ञान, संगणक, ईमेल इत्यादी कार्यप्रणाली विद्यार्थ्यांनी समजावून घेतली व त्याचा वापर दैनंदिन व्यवहारात केला.
TYBA	2015 to 2020	TYBA –G- 3 वाङ्मयीन मराठी(पर्यायी अभ्यासक्रम) सत्र पाचवे वाङ्मय प्रकार- नाटक- नेमलेले पाठ्यपुस्तक –अधांतर- नाटक जयंत पवार TYBA सत्र सहावे वाङ्मय प्रकार- ललित गद्य- नेमलेले पाठ्यपुस्तक - साहित्य अकादमीने पुरस्कृत साहित्यिकांचे- निवडक ललित गद्य	१. नाटक वाङ्मय प्रकाराचे विद्यार्थ्यांनी स्वरूप जाणून घेतले. २. नाटकाचे घटक कथानक, व्यक्तिचित्रण, संघर्ष, संवाद, भाषा शैली इत्यादी घटक विद्यार्थ्यांनी समजून घेतले. ३. पौराणिक, ऐतिहासिक, सामाजिक, ग्रामीण, दलित आणि स्त्रीवादी नाट्य प्रकारांचे विद्यार्थ्यांनी अध्ययन केले. ४. सुखात्मिका, शोकांतिका इत्यादी नाट्य विशेष यांचा परिचय विद्यार्थ्यांनी करून घेतला. १. विद्यार्थ्यांनी ललित गद्य या वाङ्मय प्रकाराचे स्वरूप जाणून घेतले. २. मराठीतील ललीत गद्याची परंपरा विद्यार्थ्यांनी समजून घेतली. ३. ललित गद्य या वाङ्मय प्रकारातील अनुभवांची मांडणी आणि आविष्कार पद्धती विद्यार्थ्यांनी समजून घेतली. ४. ललित गद्य लेखनातील अनुभवांची तरलता आणि संवेदनांचे आकलन विद्यार्थ्यांनी करून घेतले. ५. विद्यार्थ्यांनी ललित गद्यातील घटना प्रसंगातील भावात्मक नाट्य आणि जीवन संघर्षाचे स्वरूप समजून घेतले.

			६. विद्यार्थ्यांनी साहित्य अकादमी पुरस्काराचे स्वरूप समजून घेतले. ७. साहित्य अकादमी पुरस्कार प्राप्त साहित्यिकांचा स्कूल परिचय विद्यार्थ्यांनी करून घेतला.
		TYBA- मराठी सामान्यस्तर-G-3- उपयोजित मराठी -पर्यायी अभ्यासक्रम- सत्र पाचवे- संपादन कौशल्यांचा परीचय	१. विद्यार्थ्यांनी संपादन कौशल्यांचा परिचय करून घेतला. २.विद्यार्थ्यांनी संपादन कौशल्यांची उपयोजन दैनंदिन व्यवहारात केले. ३. ग्रंथ वाचन आणि लेखन संपादन कौशल्यांचा उपयोग विद्यार्थ्यांनी करून घेतला. ४. सूची लेखन, प्रकल्प लेखन, स्मरणिका, संपादन कौशल्यांची उपयोजन विद्यार्थ्यांनी करून घेतले. ५. आधुनिक इलेक्ट्रॉनिक माध्यमांचा परिचय विद्यार्थ्यांनी करून घेतला . ६.विद्यार्थ्यांनी उपयोजनात्मक मराठी लेखनाच्या अभ्यासातून नोकरी व्यवसायाच्या संधी शोधल्या.
		TYBA- सत्र सहावे - स्वयम् रोजगारासाठी लेखन कौशल्य	१. विद्यार्थ्यांनी संपादन कौशल्य यांचा परिचय करून घेतला. २.विद्यार्थ्यांनी संपादन कौशल्यांची उपयोजन दैनंदिन व्यवहारात केले. ३. ग्रंथ वाचन आणि लेखन संपादन कौशल्यांचा उपयोग विद्यार्थ्यांनी करून घेतला. ४. सूची लेखन, प्रकल्प लेखन, स्मरणिका संपादन कौशल्यांची उपयोजन विद्यार्थ्यांनी करून घेतले. ५. आधुनिक इलेक्ट्रॉनिक माध्यमांचा परिचय विद्यार्थ्यांनी करून घेतला. ६.विद्यार्थ्यांनी उपयोजनात्मक मराठी लेखनाच्या अभ्यासातून नोकरी व्यवसायाच्या संधी शोधल्या.
			१. १९२० ते १९६० या कालखंडातील वाङ्मय व सांस्कृतिक घटनांचा परिचय विद्यार्थ्यांनी करून घेतला. २. १९२० ते १९६० या कालखंडातील विविध वाङ्मय प्रकारांच्या

		TYBA -मराठी विशेष तर- S-3 -आधुनिक मराठी वाङ्मयाचा इतिहास -19 20 ते 19 60	वाटचालीचा व वाङ्मयीन साहित्यकृतीचा परिचय विद्यार्थ्यांनी करून घेतला. ३. १९२० ते १९६० या कालखंडातील वाङ्मयीन विविध प्रवाह यांचा परिचय विद्यार्थ्यांनी करून घेतला. ४.१९२० ते १९६० या कालखंडातील कथा, कादंबरी, नाटक व काव्य या वाङ्मय प्रकारातील प्रमुख लेखक व त्यांचे वाङ्मयीन कार्य यांचा परिचय विद्यार्थ्यांनी करून घेतला. १. १९२० ते १९६० या कालखंडातील वाङ्मय व सांस्कृतिक घटनांचा परिचय विद्यार्थ्यांनी करून घेतला. २. १९२० ते १९६० या कालखंडातील विविध वाङ्मय प्रकारांच्या वाटचालीचा व वाङ्मयीन साहित्यकृतीचा परिचय विद्यार्थ्यांनी करून घेतला. ३. १९२० ते १९६० या कालखंडातील वाङ्मयीन विविध प्रवाह यांचा परिचय विद्यार्थ्यांनी करून घेतला. ४.१९२० ते १९६० या कालखंडातील कथा, कादंबरी, नाटक व काव्य या वाङ्मय प्रकारातील प्रमुख लेखक व त्यांचे वाङ्मयीन कार्य यांचा परिचय विद्यार्थ्यांनी करून घेतला.
		सत्र पाच - १९२० ते १९६० या कालखंडातील कथा व कादंबरी वाङ्मयाचा परिचय	१. भाषा, स्वरूप व तिचे मानवी जीवनातील कार्य विद्यार्थ्यांनी समजावून घेतले. २. स्वन निर्मिती प्रक्रिया, वागेन्द्रीयांची रचना व कार्य विद्यार्थ्यांनी समजावून घेतले. ३.स्वनिम संकल्पना, रुपीम संकल्पना विद्यार्थ्यांनी समजावून घेतल्या. ४. वाक्य विन्यास आणि अर्थ विन्यास यांचे स्वरूप विद्यार्थ्यांनी समजावून घेतले. ५. मराठी पारंपारिक व्याकरणातील काही महत्त्वाच्या घटकांचा परिचय विद्यार्थ्यांनी करून घेतला.
		TYBA- S- 3-सत्र सहावे- १९२० ते १९६० या कालखंडातील कविता आणि नाटक वाङ्मयाचा	१. मराठी पारंपारिक व्याकरणातील काही महत्त्वाच्या घटकांचा परिचय विद्यार्थ्यांनी करून घेतला.

		परिचय **TYBA- S 4- भाषाविज्ञान आणि मराठी व्याकरण** **सत्र पाचवे- भाषाविज्ञान** **सत्र सहावे- मराठी व्याकरण**	२.मराठीतील म्हणी व वाक्प्रचार यांचा वापर विद्यार्थ्यांनी दैनंदिन बोलीत केला.
TYBA	2020 onwards	TYBA –DSC- E वाङ्मयीन मराठी- विशिष्ट वाङ्मय प्रकाराचा अभ्यास सत्र पाचवे- एकांकिका लेखनाचा अभ्यास सत्र सहावे ललित गद्य लेखनाचा अभ्यास TYBA- DSC- उपयोजित मराठी- व्यवसायाभिमुख लेखनासाठी मराठी सत्र पाचवे- व्यवसायाभिमुख लेखनासाठी मराठी	१. विद्यार्थ्यांनी एकांकिका या नाट्य प्रकाराचे स्वरूप व वैशिष्ट्ये जाणून घेतले २. मराठीतील एकांकिका लेखनाची वाटचाल विद्यार्थ्यांनी अभ्यासली. ३. दलित एकांकिका लेखनाचे स्वरूप, वैशिष्ट्ये व वाटचाल विद्यार्थ्यांनी समजून घेतली. ४. निवडक दलित एकांकीकेचा अभ्यास विद्यार्थ्यांनी केला. १. विद्यार्थ्यांनी ललित गद्य या वाङ्मय प्रकाराची संकल्पना स्वरूप व वैशिष्ट्ये जाणून घेतली. २. मराठीतील ललित गद्य लेखनाच्या वाटचालीचा परामर्श विद्यार्थ्यांनी घेतला. ३. ललित गद्य लेखनातील विविध प्रकारांची त्यांच्या बदलत्या रूपांची विद्यार्थ्यांनी माहिती करून घेतली. ४. स्त्रीविषयक निवडक ललित गद्य लेखनाचा विद्यार्थ्यांनी अभ्यास गेला. १. मराठी व्यावसायिक लेखनासाठी मराठी भाषेचे उपयोजन विद्यार्थ्यांनी करून घेतले. २. विद्यार्थ्यांनी अहवाल लेखनाचे स्वरूप जाणून घेऊन अहवाल लेखन कौशल्य आत्मसात केले. ३. संपादन प्रक्रिया याची माहिती घेऊन विद्यार्थ्यांनी त्या प्रक्रियेचा अनुभव घेतला. ४. प्रकाशन व्यवसायाबाबत विद्यार्थ्यांनी जाणून घेतले व त्याच्याशी संबंधित विविध कामांची माहिती करून घेतली. १.व्यवसायिक लेखनासाठी मराठी भाषेचे उपयोजन विद्यार्थ्यांनी आत्मसात केले.

		सत्र सहावे- व्यवसायाभिमुख लेखनासाठी मराठी	२. नाटक व चित्रपट यांच्या परीक्षण लेखनाचे स्वरूप व वैशिष्टे विद्यार्थ्यांनी जाणून घेतले व त्याचे उपयोजन करण्यास विद्यार्थी शिकले. ३. मुलाखत घेण्यासाठी आवश्यक बाबींची माहिती विद्यार्थ्यांनी करून घेतली व मुलाखत लेखनाची प्रक्रिया आत्मसात केली. ४. भाषांतराची प्रक्रिया विद्यार्थ्यांनी जाणून घेतली व भाषांतराचा सराव केला.
		DSE- ३ -मध्ययुगीन मराठी वाङ्मयाचा इतिहास सत्र पाचवे- मध्ययुगीन मराठी वाङ्मयाचा इतिहास	१. विद्यार्थ्यांनी मध्ययुगीन मराठी वाङ्मयाचा इतिहासाचा परिचय करून घेतला. २. मध्ययुगीन मराठी वाङ्मयाचा निर्मिती व प्रेरणा विद्यार्थ्यांनी जाणून घेतली. ३. महानुभाव संप्रदायाच्या वाङ्मय निर्मितीचे स्वरूप विद्यार्थ्यांनी लक्षात घेतले आणि त्याचे वैशिष्ट्य जाणून घेतले. ४. शाहिरी काव्याचे स्वरूप विद्यार्थ्यांनी लक्षात घेतले आणि शाहिरी काव्याची वैशिष्ट्ये जाणून घेतले. ५. निवडक ग्रंथकारांच्या वाङ्मय निर्मितीचा वा साहित्यकृतीचा परिचय विद्यार्थ्यांनी करून घेतला.
		सत्र -6 -मध्ययुगीन मराठी वाङ्मयाचा अभ्यास	१. मध्ययुगीन मराठी वाङ्मयाच्या इतिहासाचा परिचय विद्यार्थ्यांनी करून घेतला. २. मध्ययुगीन मराठी वाङ्मयाचा निर्मितीमागील प्रेरणा विद्यार्थ्यांनी जाणून घेतली. ३. वारकरी संप्रदायातील प्रमुख संत कवींच्या काव्यनिर्मितीचे स्वरूप विद्यार्थ्यांनी जाणून घेतली आणि त्याची वैशिष्ट्ये लक्षात घेतली. ४. बखर वाङ्मय निर्मितीचा परिचय करून घेऊन विद्यार्थ्यांनी त्यांची वैशिष्ट्ये जाणून घेतली. ५.निवडक ग्रंथकारांच्या वाङ्मय निर्मितीचा वा साहित्यकृतींचा परिचय विद्यार्थ्यांनी करून घेतला.
			१.विद्यार्थ्यांनी भाषेचे स्वरूप आणि तिचे कार्य जाणून घेतले.

		DSE -४ -मराठीचा भाषिक अभ्यास सत्र 5 मराठीचा भाषिक अभ्यास सत्र -6- मराठीचा भाषिक अभ्यास GE - मराठी लोकरंगभूमी सत्र- 5- मराठी लोकरंगभूमी	२. भाषा अभ्यासाच्या विविध अंगांचा विद्यार्थ्यांनी परिचय करून घेतला. ३. विद्यार्थ्यांनी भाषा उत्पत्तीचे सिद्धांत जाणून घेतले. ४. भाषाकुळ संकल्पना विद्यार्थ्यांनी समजून घेऊन मराठीच्या भाषाकुळाची माहिती घेतली. ५. मराठी भाषेची उत्पत्ती संबंधी विविध मते विद्यार्थ्यांनी जाणून घेतली व मराठीची पूर्वपिठीकेचा अभ्यास केला. १. विद्यार्थ्यांनी मराठीच्या कालिक भेदाचे स्वरूप जाणून घेतले व त्यांची वैशिष्ट्ये नोंदविली. २. विद्यार्थ्यांनी मराठीच्या प्रांतिक भेदाची माहिती करून घेतली. ३. मराठीच्या निवडक प्रमुख बोलींच्या वैशिष्ट्यांचा विद्यार्थ्यांनी परिचय करून घेतला. ४. भाषाविषयक समज गैरसमज यांचे विद्यार्थ्यांनी निराकरण करून घेतले. ५. विद्यार्थ्यांनी मराठी वरील अन्य भाषांच्या प्रभावाचे स्वरूप लक्षात घेतली. १.लोकरंगभूमीची संकल्पना विद्यार्थ्यांनी जाणून घेतली. २.लोकरंगभूमीचे स्वरूप विद्यार्थ्यांनी जाणून घेतले व त्यांच्या वैशिष्ट्यांचा परिचय करून घेतला. ३. लोकसाहित्य आणि लोकरंगभूमी यांचा परस्पर संबंध विद्यार्थ्यांनी समजून घेतला. ४. किर्तन आणि भारुड या लोकरंगभूमीच्या पारंपारिक रूपांची स्वरूप, वैशिष्ट्ये विद्यार्थ्यांनी जाणून घेतली. ५. खानदेशी वही आणि कोकणी दशावतार या लोकरंगभूमीच्या प्रादेशिक प्रकारांची स्वरूप, वैशिष्ट्ये विद्यार्थ्यांनी जाणून घेतली. १.विद्यार्थ्यांनी तमाशा या लोकरंगभूमीच्या पारंपारिक स्वरूपाची स्वरूप, वैशिष्ट्ये जाणून घेतली. २. लोकनाट्य या लोकरंगभूमीच्या आधुनिक रूपाची विद्यार्थ्यांनी स्वरूप, वैशिष्ट्ये जाणून घेतली

			३. विद्यार्थ्यांनी सत्यशोधकी जलसे आणि आंबेडकरी जलसे या लोकरंगभूमीच्या आधुनिक रूपांची स्वरूप, वैशिष्ट्ये अभ्यासली. ४. विद्यार्थ्यांनी पथनाट्य आणि रिंगणनाट्य या लोकरंगभूमीच्या आधुनिक रूपांची स्वरूप वैशिष्ट्ये अभ्यासली.
		सत्र सहा -मराठी लोकरंगभूमी	१. दूरचित्रवाणी या दृकश्राव्य माध्यमाचा विद्यार्थ्यांनी परिचय करून घेतला. २. दूरचित्रवाणी या दृकश्राव्य माध्यमाचे विद्यार्थ्यांनी कार्य अभ्यासले आणि त्याची उपयुक्तता जाणून घेतली. ३. दूरचित्रवाणीसाठी करावयाच्या मनोरंजनपर व माहितीपर कार्यक्रमांच्या लेखनाचे स्वरूप व तंत्र विद्यार्थ्यांनी अवगत केले. ४. दूरचित्रवाणीसाठी करावयाच्या जाहिरात लेखनाचे स्वरूप व तंत्र विद्यार्थ्यांनी अवगत केले. ५. दूरचित्रवाणीसाठी आवश्यक निवेदन कौशल्यांचे स्वरूप विद्यार्थ्यांनी जाणून घेतले.
		MIL- माध्यमांसाठी लेखन व संवाद सत्र पाचवी दृक-श्राव्य माध्यमांसाठी लेखन व संवाद	१. आधुनिक समाज माध्यमांचा विशेष परिचय विद्यार्थ्यांनी करून घेतला. २. आधुनिक समाज माध्यमांचे कार्य विद्यार्थ्यांनी जाणून घेतले आणि त्याची उपयुक्तता अभ्यासली. ३. ई-मेल लेखनाचे स्वरूप विद्यार्थ्यांनी अभ्यासले व ते लेखन तंत्र अवगत केले. ४. ब्लॉग लेखनाचे स्वरूप विद्यार्थ्यांनी लक्षात घेतले व ते लेखन तंत्र अवगत केले. ५. फेसबुक, ट्विटर, व्हाट्सअप, यूट्यूब यावरील लेखनाचे स्वरूप विद्यार्थ्यांनी अभ्यासले. ६. फेसबुक, युट्यूब या वरील निवेदन कौशल्य विद्यार्थ्यांनी आत्मसात केले.

		सत्र -6 वे आधुनिक समाज माध्यमांसाठी लेखन व संवाद SEC - लेखन कौशल्य सत्र पाचवे- लेखन कौशल्य निबंध लेखन सत्र सहावे-लेखन कौशल्य- ग्रंथ परीक्षण लेखन	१. विद्यार्थ्यांनी निबंध लेखनाचे कौशल्य आत्मसात केले. २. निबंध लेखनाचे स्वरूप व त्याचे घटक विद्यार्थ्यांनी जाणून घेतले. ३. निबंधाचे प्रकार विद्यार्थ्यांनी अभ्यासले व त्यांच्या लेखनाचा सराव केला. १. ग्रंथ परीक्षण लेखनाचे कौशल्य विद्यार्थी आत्मसात केले. २. ग्रंथ परीक्षण लेखनाचे स्वरूप विद्यार्थ्यांनी अभ्यासले व या लेखनाची प्रक्रिया जाणून घेतली. ३. विविध प्रकारातील ग्रंथाचे परीक्षण लिहिण्याचा सराव विद्यार्थ्यांनी केला.
MA I	2014 to 2017	MA I -पेपर 1- मध्ययुगीन मराठी वाङ्मयाचा इतिहास (प्रारंभ ते 1818) सत्र पहिले व सत्र दुसरे MA I- पेपर 2- साहित्य समीक्षा आणि संशोधन	१. मध्ययुगीन मराठी वाङ्मयाची ओळख विद्यार्थ्यांनी करून घेतली. २. विद्यार्थ्यांनी भाषा आणि संस्कृतीच्या संदर्भात मध्ययुगीन साहित्याचा अभ्यास केला. ३. मध्ययुगीन गद्य पद्य वाङ्मय निर्मितीच्या प्रेरणा विद्यार्थ्यांनी अभ्यासल्या. ४. मध्ययुगीन काळातील विविध राजवटींचा मराठी वाङ्मय वरील प्रभाव आणि परिणामांचा अभ्यास विद्यार्थ्यांनी केला. ५.विद्यार्थ्यांनी मध्ययुगातील विविध साहित्य प्रवाहांचा अभ्यास केला. ६. सामाजिक, सांस्कृतिक आणि राजकीय घटकांची विद्यार्थ्यांनी वाङ्मय निर्मितीच्या संदर्भातील प्रेरणांचा अभ्यास केला. १. विद्यार्थ्यांनी साहित्य आणि समीक्षा यांचे महत्त्व समजून घेतले. २. वाङ्मयीन मूल्यमापनाची दृष्टी विद्यार्थ्यांनी विकसित केली. ३. विद्यार्थ्यांनी समीक्षेविषयी योग्य ती समज निर्माण केला. ४. विद्यार्थ्यांनी समीक्षाविषयी क्षमता वाढविली. ५. साहित्यनिर्मिती, साहित्याचे मूल्यमापन या संकल्पना विद्यार्थ्यांनी

		MA I- पेपर 3- लेखकाचा अभ्यास- अण्णाभाऊ साठे- सत्र पहिले व दुसरे MA I- पेपर 4 - स्त्रीवादी साहित्य- सत्र पहिले व सत्र दुसरे	समजून घेतल्या. ६. साहित्य समीक्षा विषयी जाण व दृष्टिकोण विद्यार्थ्यांनी अभ्यासला. १. विद्यार्थ्यांनी लेखकाच्या वाङ्मयीन कर्तृत्वाचे आकलन करून घेतले. २. लेखकाच्या व्यक्तिमत्त्वाचा परिचय विद्यार्थ्यांनी अभ्यासला. ३. लेखकाच्या साहित्यकृतीतून तत्कालीन सामाजिक, सांस्कृतिक घटनांच्या प्रवृत्तीचा शोध घेण्याचा प्रयत्न विद्यार्थ्यांनी केला. ४. विद्यार्थ्यांनी लेखकाचे वाङ्मयीन योगदान अभ्यासले. ५. लेखकाचे वाङ्मयीन कलाकृतीतून होणारा जीवनमूल्यांचा परिचय विद्यार्थ्यांनी अभ्यासला. १. मराठी साहित्यातील नवे प्रवाह यांचा विद्यार्थ्यांनी अभ्यास केला. २. स्त्रीवाद या वाङ्मयीन प्रवाहाच्या प्रेरणा व प्रवृत्ती विद्यार्थ्यांनी अभ्यासल्या. ३. स्त्रीवादी वाङ्मयीन प्रवाहाचे वेगळेपण विद्यार्थ्यांनी लक्षात घेतले. ४. मराठीतील स्त्रीवादी साहित्य कलाकृतींचा अभ्यास करून विद्यार्थ्यांनी स्त्रीवादी जाणिवांचे स्वरूप अभ्यासले.
MA I	2017 to 2021	MA I - पेपर पहिला- मराठी वाङ्मयाचा इतिहास (प्रारंभ ते १८१८) पहिले व सत्र दुसरे	१. मध्ययुगीन मराठी वाङ्मयाची ओळख विद्यार्थ्यांनी करून घेतली. २. भाषा आणि संस्कृतीच्या संदर्भात विद्यार्थ्यांनी मध्ययुगीन साहित्याचा अभ्यास केला. ३. मध्ययुगीन गद्य पद्य वाङ्मय निर्मितीच्या प्रेरणा विद्यार्थ्यांनी अभ्यासल्या. ४. विद्यार्थ्यांनी मध्ययुगीन काळातील विविध राजवटींचा मराठी वाङ्मयावरील प्रभाव आणि परिणामांचा अभ्यास केला. ५. मध्ययुगीन विविध वाङ्मय प्रवाहांचा अभ्यास विद्यार्थ्यांनी केला. ६. सामाजिक, सांस्कृतिक आणि राजकीय घटकांचा वाङ्मय निर्मितीच्या संदर्भातील प्रेरणांचा विद्यार्थ्यांनी अभ्यास केला. १. साहित्य आणि समीक्षा यांचे महत्त्व विद्यार्थ्यांनी जाणून घेतली. २. वाङ्मयीन मूल्यमापनाची दृष्टी विद्यार्थ्यांनी विकसित केली. ३. संशोधानाविषयी योग्य ती समज विद्यार्थ्यांमध्ये निर्माण झाला.

		MA I - समीक्षा आणि संशोधन सत्र पहिले - समीक्षा	४. विद्यार्थ्यांची समीक्षेचे विषयी क्षमता वाढविली. ५. साहित्यनिर्मिती, साहित्याचे मूल्यमापन या संकल्पना विद्यार्थ्यांनी समजून घेतल्या. ६. साहित्य समीक्षाविषयक जाण, व दृष्टिकोण विद्यार्थ्यांमध्ये निर्माण झाला. १. विद्यार्थीनी संशोधन विषय जाण वाढविली. २. संशोधन प्रक्रिया विद्यार्थ्यांनी समजून घेतली. ३. संशोधन लेखन व मांडणी विद्यार्थीनी लक्षात घेऊन त्याचा अभ्यास केला. ४. विद्यार्थ्यांनी साहित्यातील संशोधनाचे महत्त्व अभ्यासले.
		सत्र दुसरे - संशोधन	१.विद्यार्थ्यांनी स्वातंत्र्यपूर्व काळातील वाङ्मयीन जाणिवांचा अभ्यास केला. २. विद्यार्थ्यांनी कवी व नाटककार यांच्या कलाकृतीवर पडलेल्या परिस्थितीजन्य प्रभावांचा अभ्यास केला. ३. साहित्यिकाच्या साहित्यकृतीतून विद्यार्थ्यांनी सामाजिक व वाङ्मयीन प्रेरणा यांचा अभ्यास केला. ४. विद्यार्थ्यांनी साहित्यिकाचे वाङ्मय योगदान अभ्यासले. ५. विद्यार्थ्यांनी साहित्यकृतीतून होणारा जीवनमूल्यांचा परिचय अभ्यासला.
		MA -I -पेपर तिसरा- साहित्यकृतीचा अभ्यास - सत्र पहिले- केशवसुतांची कविता- केशवसुत, कुलवधू नाटक रांगणेकर सत्र दुसरे - ब बळीचा कादंबरी- राजन गवस- ईडा पीडा टळो - कथासंग्रह -आसाराम लोमटे MA I पेपर चौथा- स्त्रीवादी साहित्य –सत्र पहिले व सत्र दुसरे	१.विद्यार्थ्यांनी मराठी साहित्यातील नवे प्रवाह यांचा परिचय करून घेतला. २. विद्यार्थ्यांनी स्त्रीवाद या वाङ्मय प्रवाहाच्या प्रेरणा व प्रवृत्तीचा अभ्यास केला. ३. स्त्रीवादी वाङ्मय प्रवाहचे वेगळेपण विद्यार्थ्यांनी अभ्यासली. ४. मराठीतील स्त्रीवादी साहित्य कलाकृतीचा विद्यार्थ्यांनी अभ्यास केला व स्त्रीवादी जाणिवांचे स्वरूप अभ्यासले.

MA II	2015 to 2018	MA II पेपर 5 आधुनिक मराठी वांग्मयाचा इतिहास 19 45 ते 19 90 सत्र तिसरे व चौथे	१. १९४५ ते ९० या कालखंडातील वाङ्मय प्रकारांच्या प्रवृत्ती प्रेरणा आणि परंपरांचा विद्यार्थ्यांनी अभ्यास केला. २. १९४५ ते ९० या कालखंडातील विविध वाङ्मय प्रकारांच्या संदर्भात प्रमुख लेखकांचे वाङ्मयीन कार्य विद्यार्थ्यांनी अभ्यासले. ३. कालखंडातील नव्या जाणिवांचा अभ्यास विद्यार्थ्यांनी केला. ४. विविध वाङ्मय प्रकारांच्या वाटचालीचा परिचय विद्यार्थ्यांनी केला.
		MA II- पेपर सहा -भाषाविज्ञान व समाजभाषाविज्ञान सत्र तिसरे व चौथे	१ भाषेचे मानवी जीवनातील कार्य विद्यार्थ्यांनी समजावून घेतले. २. विद्यार्थ्यांनी भाषा अभ्यासाच्या विविध पद्धती अभ्यासल्या. ३. विद्यार्थ्यांनी भाशिक संदेशन प्रणालीचा अभ्यास करून भाषा निर्मितीच्या प्रक्रियेचा अभ्यास केला. ४.विद्यार्थ्यांनी सामाजिक ज्ञानाचा अभ्यास करून भाषिक उपयोजन संदर्भात जाणिवा विकसित केले आल्या.
		MA II पेपर सात साठोत्तरी मराठी वांग्मयीन प्रवाह सत्र तिसरे व सत्र चौथे	१. १९६० नंतर मराठी साहित्याशी निगडित असलेल्या राजकीय सांस्कृतिक घटनांचा अभ्यास विद्यार्थ्यांनी केला. २. १९६० नंतर मराठी साहित्यात निर्माण झालेल्या वाङ्मय प्रवाह याचा अभ्यास विद्यार्थ्यांनी केला. ३. साठोत्तरी मराठी साहित्यातील लेखकांच्या साहित्यकृतींचा अभ्यास विद्यार्थ्यांनी केला. ४. विद्यार्थ्यांनी साठोत्तरी वाङ्मयीन प्रवाहातील दलित, ग्रामीण, प्रादेशिक, स्त्रीवादी या वाङ्मयीन वाटचालीचा अभ्यास केला. ५. साठोत्तरी ख्रिश्चन व मुस्लिम साहित्य वाटचालीचा परिचय विद्यार्थ्यांनी करून घेतला.
		MA II -पेपर आठ- लोकसाहित्य आणि खानदेशी लोकसाहित्य सत्र तिसरे व सत्र चौथे	१. विद्यार्थ्यांनी लोकसाहित्याचे स्वरूप समजून घेतले. २. विद्यार्थ्यांनी लोकसाहित्यातील अन्य ज्ञानशाखा यांचा परस्पर संबंध अभ्यासला. ३.विद्यार्थ्यांनी लोकसाहित्य अभ्यासाची नवी दिशा व उपयुक्तता अभ्यासाली. ४. लोकसाहित्याचे लोककथा, लोकगीत, लोकपरंपरा, लोकसंगीत या

			घटकांचा अभ्यास विद्यार्थ्यांनी केला. ५. खानदेशातील लोक साहित्य परंपरा व जाणीवा याचा अभ्यास विद्यार्थ्यांनी केला
MA II	2018 onwards	MA II -पेपर पाच- स्वातंत्र्योत्तर कालखंडातील साहित्य प्रवाह -सत्र तिसरे- स्वातंत्र्योत्तर कालखंडातील साहित्य प्रवाह सत्र चौथे - स्वातंत्र्योत्तर कालखंडातील साहित्य प्रवाह	१. विद्यार्थ्यांनी साहित्य प्रवाहाची संकल्पना जाणून घेतली. २. विद्यार्थ्यांनी साहित्य प्रवाहांच्या उदया मागील सामाजिक, सांस्कृतिक व साहित्यिक पार्श्वभूमी अभ्यासली. ३. स्वातंत्र्योत्तर कालखंडातील नवसाहित्य, ग्रामीण व महानगरीय साहित्य प्रवाह यांचे स्वरूप विद्यार्थ्यांनी अभ्यासले व त्यांच्या वैशिष्ट्यांचा अभ्यास केला. ४. स्वातंत्र्योत्तर कालखंडातील नवसाहित्य, ग्रामीण व महानगरीय साहित्य प्रवाह यांची विविध वाङ्मय प्रकारातील वाटचाल विद्यार्थ्यांनी सविस्तर अभ्यासली. ५. विद्यार्थ्यांनी स्वातंत्र्योत्तर कालखंडातील साहित्य, ग्रामीण व महानगरीय साहित्य प्रवाहांच्या प्रातिनिधिक साहित्यकृतीचा अभ्यास केला. १. विद्यार्थ्यांनी स्वातंत्र्योत्तर कालखंडातील दलित, आदिवासी, भटके विमुक्त व मुस्लीम साहित्य प्रवाह यांचे स्वरूप अभ्यासले व त्यांच्या वैशिष्ट्यांचा अभ्यास केला. २. विद्यार्थ्यांनी स्वातंत्र्योत्तर खंडातील दलित, आदिवासी, भटके विमुक्त व मुस्लीम साहित्यप्रवाह यांची वाङ्मय प्रकारातील वाटचाल सविस्तर अभ्यासली. ३. स्वातंत्र्योत्तर कालखंडातील दलित, आदिवासी, भटके, विमुक्त व मुस्लीम या साहित्य प्रवाहांच्या प्रातिनिधिक साहित्यकृतींचा विद्यार्थ्यांनी अभ्यास केला. १ विद्यार्थ्यांनी पाश्चात्य भाषा वैज्ञानिकांनी मांडलेल्या प्रमुख सिद्धांताचा अभ्यास केला. २. स्वनिम विचाराचे स्वरूप विद्यार्थ्यांनी जाणून घेतले व मराठीच्या

		MA II –सहा- भाषाविज्ञान -सत्र तिसरे- वर्णनात्मक भाषाविज्ञान	स्वनिम व्यवस्थेची सविस्तर माहिती घेतली. ३.विद्यार्थ्यांनी रुपीम विचाराचे स्वरूप जाणून घेतले ४. विद्यार्थ्यांनी वाक्य विचाराचे स्वरूप जाणून घेतले. ५. विद्यार्थ्यांनी अर्थ विचाराचे स्वरूप जाणून घेतले.
		सत्र चौथे - समाजभाषाविज्ञान	१.समाजभाषाविज्ञानाचे स्वरूप आणि या अभ्यासक्षेत्राची व्याप्ती विद्यार्थ्यांनी जाणून घेतली. २. समाजभाषाविज्ञानातील पायाभूत संकल्पना विद्यार्थ्यांनी समजून घेतल्या. ३. भाषा, समाज व संस्कृती यातील परस्पर संबंध विद्यार्थ्यांनी जाणून घेतल्या व त्यानुसार भाषेतील स्तर भेदांचे स्वरूप अभ्यासले. ४. बोली अभ्यासाचे भाषावैज्ञानिक महत्त्व लक्षात घेतले. ५. खानदेशातील निवडक बोलीची समाजभाषाविज्ञानाच्या अंगाने विद्यार्थ्यांनी वैशिष्ट्ये अभ्यासली.
		MA II- पेपर 7- मध्ययुगीन पद्य रचनाप्रकारांचा अभ्यास- सत्र तिसरे- मध्ययुगीन पद्य रचनाप्रकारांचा अभ्यास- अभंग आणि भारूड	१. विद्यार्थ्यांनी मध्ययुगीन कालखंडातील पद्य साहित्यातील वैविध्यपूर्ण रचना प्रकारांचा अभ्यास केला. २. विद्यार्थ्यांनी मध्ययुगीन कालखंडातील प्रमुख पद्यरचना प्रकारांचे स्वरूप अभ्यासले व त्यांचा परिचय करून घेतला. ३. मध्ययुगीन कालखंडातील अभंग या पद्यरचना प्रकारांचे विद्यार्थ्यांनी स्वरूप व वैशिष्ट्ये अभ्यासले. ४. प्रतिनिधी अभंगरचना यांच्या अनुषंगाने विद्यार्थ्यांनी अभंग या रचनाप्रकाराचा अभ्यास केला. ५. मध्ययुगीन कालखंडातील भारूड या पद्यरचना प्रकारांचे विद्यार्थ्यांनी स्वरूप वैशिष्ट्ये अभ्यासली. ६. प्रातिनिधीक भारुड रचना यांच्या अनुषंगाने विद्यार्थ्यांनी भारुड या रचना प्रकाराचा अभ्यास केला. १. मध्ययुगीन कालखंडातील पद्य साहित्यातील वैविध्यपूर्ण रचना

			प्रकारांचा विद्यार्थ्यांनी अभ्यास केला. २. विद्यार्थ्यांनी मध्ययुगीन कालखंडातील प्रमुख पद्यरचना प्रकारांचे स्वरूप अभ्यासले व त्यांचा परिचय करून घेतला. ३. विद्यार्थ्यांनी मध्ययुगीन कालखंडातील आख्यान काव्य या पद्य रचना प्रकाराचे स्वरूप व वैशिष्ट्ये अभ्यासली. ४. प्रातिनिधिक आख्यान काव्याच्या अनुषंगाने विद्यार्थ्यांनी आख्यान काव्य या रचनाप्रकाराचा अभ्यास केला. ५. मध्ययुगीन कालखंडातील लावणी या पद्यरचना प्रकाराचे स्वरूप, वैशिष्ट्ये विद्यार्थ्यांनी अभ्यासली. ६. विद्यार्थ्यांनी प्रातिनिधीक लावणी रचना यांच्या अनुषंगाने लावणी या रचना प्रकाराचा अभ्यास केला.
		सत्र चौथे-मध्ययुगीन पद्य रचनाप्रकारांचा अभ्यास- (आख्यान काव्य आणि लावणी) MA II पेपर ८ लोकसाहित्य आणि खानदेशातील लोकसाहित्य सत्र तिसरे- लोकसाहित्य सत्र चौथे- खानदेशातील लोकसाहित्य	१. विद्यार्थ्यांनी लोकसाहित्याची संकल्पना व स्वरूप समजून घेतली. २. विद्यार्थ्यांनी लोकसाहित्य आणि अन्य ज्ञानशाखा यातील अनुबंध जाणून घेतला. ३. लोकसाहित्याच्या विविध अभ्यास पद्धतीचे स्वरूप विद्यार्थ्यांनी अभ्यासले. ४. विद्यार्थ्यांनी लोकसाहित्याच्या अभ्यासाची भारतीय परंपरा अभ्यासली. ५. लोकसाहित्याच्या अभ्यासातील अडचणी विद्यार्थ्यांनी जाणून घेतल्या. ६. मराठी लोकसाहित्याचा परिचय विद्यार्थ्यांनी करून घेतला. १. खानदेशातील लोकजीवन आणि लोकसाहित्य यांचा परस्परांशी असलेला अनुबंध विद्यार्थ्यांनी जाणून घेतला. २. विद्यार्थ्यांनी खानदेशातील अहिराणी लेवागणबोली, गुजरी या बोलीतील लोकगीते, लोककथा, म्हणी, वाक्प्रचार, उखाणे यांचा परिचय करून घेतला. ३. खानदेशातील लोकनाट्याचे तमाशा, गोंधळ, वही गायन याचे स्वरूप विद्यार्थ्यांनी जाणून घेतले.

			४. विद्यार्थ्यांनी खानदेशातील आदिवासींच्या लोकसाहित्याचे लोकगीते, लोककथा, लोकनाट्याचे स्वरूप जाणून घेतले.
2021-22	MA I Marathi **सत्र - पहिले**	**वाङ्मयीन कालखंडाचा अभ्यास (मध्ययुगीन कालखंड) MAR -101**	1.विद्यार्थ्यांनी मध्ययुगीन कालखंड आणि वाङ्मयनिर्मिती यांचा परस्पर संबध समजावून घेतला. 2.विद्यार्थ्यांनी यादवकालीन,बहामनी कालीन,शिवकालीन व पेशवेकालीन समाजसंस्कृतीचे स्वरूप समजावून घेतले. 3. विद्यार्थ्यांनी यादवकालीन,बहामनी कालीन,शिवकालीन व पेशवेकालीन वाङ्मयनिर्मितीचे स्वरूप आकलन केले. 4. विद्यार्थ्यांनी यादवकालीन,बहामनी कालीन,शिवकालीन व पेशवेकालीन वाङ्मयाचा व कर्तृत्ववाचा अभ्यास केला.
	MA I Marathi **सत्र-दुसरे**	**वाङ्मयीन कालखंडाचा अभ्यास (अर्वाचीन व आधुनिक कालखंड) MAR -201**	1. विद्यार्थ्यांनी अर्वाचीन व आधुनिक कालखंडातील सामाजिक, सांस्कृतिक स्थित्यत्तरे व वाङ्मयीन प्रेरणा जाणून घेतली. 2. अर्वाचीन व आधुनिक कालखंडातील लेखनाचे स्वरूपविशेष विद्यार्थ्यांनी आकलन केले. 3. विद्यार्थ्यांनी प्रमुख साहित्यकृतींचा अभ्यास केला. 4. अर्वाचीन काळातील वृत्तपत्रे व नियतकालिके यांचे स्वरूप आकलन झाले.
	MA I Marathi **सत्र - पहिले**	**साहित्यसमीक्षा : सिद्धांत MAR -102**	1. विद्यार्थ्यांनी साहित्यसमीक्षेची संकल्पना समजावून घेतली. 2.साहित्यसमीक्षेचे स्वरूप व प्रक्रिया समजावून घेतली. 3..विद्यार्थ्यांनी साहित्यसमीक्षेचे निकष जाणून घेतले. 4.विद्यार्थ्यांनी साहित्यसमीक्षेतील वाङ्मयीन मुल्ये व जीवनमूल्ये आत्मसात केली.
	MA I Marathi **सत्र-दुसरे**	**साहित्यसमीक्षा : सिद्धांत MAR -202**	1. विद्यार्थ्यांना साहित्यसमीक्षेच्या उपयोजन दृष्टीचे भान प्राप्त झाले. 2.मानसशास्त्रीय, आदिबंधात्मक ,रुपवादी समीक्षापद्धतींचे स्वरूप व वैशिष्ट्ये तसेच मर्यादा समजून घेतल्या . 3. विद्यार्थ्यांमध्ये समीक्षादृष्टीची जाण निर्माण झाली. 4.समीक्षेच्या आधारे निवडक साहित्यकृतींचा अभ्यास केला.

	MA I Marathi **सत्र - पहिले**	**आधुनिक गद्य वाङ्मयप्रकार कथा MAR -103**	1.विद्यार्थ्यांनी गद्य व पद्य वाङ्मयप्रकारांचा परिचय करून घेतला. 2.कथा या साहित्यप्रकारची संकल्पना, स्वरूप व घटक जाणून घेतले. 3.लघुकथा, दीर्घकथा या वाङ्मयप्रकारांची संकल्पना व स्वरूप आकलन झाले . 4.अभ्यासासाठी लावण्यात आलेल्या निवडक साहित्यकृतींचा अभ्यास केला.
	MA I Marathi **सत्र-दुसरे**	**आधुनिक गद्य वाङ्मयप्रकार कथा MAR -203**	1.विद्यार्थ्यांनी कादंबरी या वाङ्मयप्रकारांचे स्वरूप,संकल्पना व घटकांचा परिचय करून घेतला. 2. कादंबरीचे प्रमुख प्रकार विद्यार्थ्यांनी अभ्यासले. 3. लघुकादंबरी या प्रमुख गद्य वाङ्मयप्रकारची संकल्पना व स्वरूप जाणून घेतले. 4.प्रयोगशील कादंबरी व लघुकादंबरी यांच्या अभ्यासाची दृष्टी प्राप्त झाली.
	MA I Marathi **सत्र - पहिले**	**आधुनिक माध्यमे आणि लेखनव्यवहार MAR -104(B)**	1.विद्यार्थ्यांनी आधुनिक माध्यमांच्या लेखनव्यवहाराचे कौशल्य आत्मसात केले. 2.विद्यार्थ्यांनी दूरचित्रवाणीवरील विविध लेखनाचे स्वरूप, रचनातंत्र, भाषिक कौशल्य आत्मसात केले. 3.माहितीपट व लघुपट यांच्या संहिता लेखनाचे स्वरूप जाणून घेतले. 4.ब्लॉग लेखन, विकिपीडिया लेखनाचे रचनातंत्र, भाषिक कौशल्य आत्मसात केले.
	MA I Marathi **सत्र-दुसरे**	**मराठी :अनुवाद व संगणक उपयोजन MAR-204 (B)**	1.विद्यार्थ्यांनी अनुवादाची संकल्पना जाणून घेतली. 2.हिंदी अनुवादित साहित्यकृती व इंग्रजीतील मराठीत अनुवादित झालेल्या साहित्यकृतींचे आकलन झाले. 3.युनिकोड,ई-मेल, पॉवर पॉइट प्रेझेन्टेशन या संगणकीय कौशल्यांचे स्वरूप जाणून घेतले. 4.मरठी भाषा व साहित्य यांच्याशी संबधित विविध संकलन स्थळांचा परिचय करून दिला.

Course Outcomes (Cos) : B.A. English

Year	Course	Outcome Students will be able to :-
2017-22	FYBA: Compulsory English	1. the course will develop the ability of students to comprehend short stories, essays and poetry. 2. it will inculcate amongst students moral and human values through literature. 3. it will make the students aware of the aesthetic pleasure of literary texts. 4. it will also increase the students‟ interest into literature. 5. 5. it will increase communicative competence among students.
	FYBA: Discipline Specific Course 1 Reading Literature: Short Stories and Poems	1. the course will introduce the basic forms of literature to the students. 2. the course will develop the liking of reading in the students. 3. the course will inspire students to develop their creative ability. 4. consequently, the course will develop reading skill and creative and expressive ability of the students.
2016-2019 & Onwards	S.Y.B.A. Compulsory English	1. this course will help the students to comprehend the literary texts. 2. this course will increase students‟ interest into value education which is the basis of quality life. 3. it will develop their competency in communication. 4. it will develop their worldly wisdom and commercial perception which will ultimately lead them to be successful and enjoy quality life.
	S.Y.B.A. DSE 1 A & B 16th and 17th Century English Literature	1. this course will acquaint the students with the major literary trends and tendencies and 2. prominent writers of the 16th and 17th century english literature. 3. it will make the students aware about the literary history, salient features and socio-cultural background of the period. 4. it will help the students to grasp the content and critically appreciate the prescribed texts. 5. it will inculcate amongst students a liking for the elizabethan and post- shakespearean literature.
	S.Y.B.A. DSE 2A & B 18th and 19th Century English Literature	1. this course will impart basic ideas about the 18th and 19th century english literature with special reference to poetry and novel. 2. it will make the students aware about the literary history, salient features, sociopolitical and cultural background of the romantic and victorian age. 3. it will help the students to grasp the content and critically appreciate the prescribed texts. 4. it will inculcate amongst students a liking for the romantic and victorian literature.
	S.Y.B.A. DSC 1 C The Study of Novel and Drama	1. the course will develop the interest of students in reading/ understanding novel and drama. 2. it will acquaint students with novel and drama as genres of literature. 3. it will develop students‟ competence to study, understand,

		analyse and interpret novel and drama. 4. it will introduce students with the key terms useful in the study of novel and drama. 5. it will orient students with major types of novel and drama.
	S.Y.B.A. Skill Enhancement Course (SEC) SEC-I: English for Competitive Examinations	1. this course will enable students to prepare for the competitive exams of various kinds especially meant for testing ability in english language. 2. it will introduce students with the common question types asked in competitive examinations concerning english-grammar, vocabulary, comprehension, and other significant topics. 3. it will encourage students to appear and prepare for the competitive exams. 4. it will help the students to overcome the fear about english as a compulsory subject in various competitive exams.
2016-20	TYBA: Compulsory English	1. this course will increase the students interest into reading and comprehension of literary texts. 2. it will encourage the students to read and enjoy literary classics. 3. this course will develop students‟ interest in spoken and written communication. 4. it will develop their interest into english language and grammar.
	TYBA: ENG-352 & ENG-362 Indian Writing in English and American Literature	1. this course will acquaint the students with the growth of indian drama and novel in english during the 20th century. 2. this course will enable the students to evaluate, analyze, appreciate and criticize drama and novel prescribed. 3. this course will acquaint the students with the social, political and cultural background and literary movements of the century. 4. it will acquaint the students with the developments in american poetry and novel.
	TYBA: ENG-353 & ENG-363 The Study of English Language	1. this course will introduce the students to the properties and functions of language. 2. it will inculcate phonological competence among students. 3. this course will acquaint the students with english grammatical forms and functions. 4. it will acquaint the students with morphological concepts and processes. 5. it will introduce the students to the basic concepts in syntactic and semantic levels of language.
	TYBA: (G-III) ENG - 351 & ENG - 361 The Study of Drama	1. this course will acquaint the students with origin of drama and dramatic art. 2. it will introduce the students to the aspects and genres of drama. 3. it will enable the students to trace the development of english drama. 4. it will inculcate amongst the students the competence to study drama systematically. 5. this course will acquaint the students with representative english dramatists.

2020-onwards	TYBA: Ability Enhancement Course (AEC) AEC: Developing Communication Skills	1. the paper of aec- developing communication skills intends to give practice in spoken and written communication which will open opportunities for them in business and corporate world. 2. it will acquaint students with various modes of communication. 3. it will intimate students about various modes of communication. 4. it will inform students about various types of oral communication. 5. it will give practice to students in various modes of communication.
	TYBA: Discipline Specific Elective 3 A (DSE 3 A) DSE 3 ENG A :Twentieth Century English Literature	1. it will explain the students‟ with the development of poetry in english. 2. this course will acquaint the students with features and types of modern poetry, drama and novel. 3. it is intended to introduce the students with major poets, novelists and dramatists in modern english literature.
	TYBA: Discipline Specific Elective 4 A (DSE- 4 A) DSE 4 ENG A: The Study of English Language	1. this course is intended to introduce the students to the properties, styles, and varieties of english language. 2. this course will acquaint the students with grammatical forms and functions in english language. 3. it will enable the students learn and practice morphological concepts and word formation processes. 4. it will introduce the students to the basic concepts in semantic, lexis and syntax in english language.
	TYBA: Discipline Specific Core Course 1 E (DSC 1 E) DSC ENG 1 E: Indian Writing in English	1. this course will introduce the students with the development of english literature by indian writers. 2. it will acquaint the students with major writers of indian english literature. 3. the course will introduce students with content, techniques and styles of indian writers in english.
	TYBA: Skill Enhancement Course SEC ENG: English for Practical Purposes 3 & 4	1. this course will enable students learn and practice usages in spoken and written english. 2. it intends to introduce students various skills in using practical english in real life situation 3. it will encourage students prepare for attending job interviews, develop presentation skills,learn professional skills in communicative english. 4. it will make students able to exercise spoken and written english skills for their career development.
	TYBA: Generic Elective Course GE-1(A and B) GE Eng A and B: Film and Literature	1. the course will introduce the students the concept of film and its origin and development. 2. it will make the students able to understand the similarities and differences in film and literature. 3. the course will enable the students explore the process of adaptation and come to an understanding of how film interacts with other cultural forms such as theatre and fiction. 4. it will help the students analyze and judge film as an adaptation of literary text. 5. the course will develop among the students the ability to

		comprehend art of cinema making from a literary text.

M.A. English

Year	Course	**Outcome** Students will be able to :-
2017-21	M.A.I: ENG 111 & 121 AN INTRODUCTION TO LINGUISTICS	1. the present course will acquaint the students with the nature of human language. 2. the course will introduce the students to the developments in the field of linguistics. 3. it intends to familiarize the students with the recent trends in linguistics. 4. the course will make the students aware of the relation of language to brain, society, machine and law. 5. the course will develop amongst the students the stylistic competence for analyzing literary texts.
	M.A.I: ENG: 112 & ENG: 122 ENGLISH POETRY	1. this course will acquaint the students with the most significant english poets through the study of the 2. representative poems. 3. it will enable the students to understand the different trends in english poetry. 4. the course will acquaint the students with different movements in english poetry. 5. it will train the students in the close reading of the poems prescribed. 6. the course will enable the students to compare and contrast the poems prescribed. 7. it will enable the students to understand different thematic patterns, poetic structures, poeticdevices and stylistic peculiarities. 8. it will develop among the students the ability to interpret, analyze and evaluate english poems in 9. the context of literary history and theory of different movements of poetry in english.
	M.A.I: ENG: 113 & ENG: 123 ENGLISH DRAMA	1. this course will introduce the students to a wide range of theatrical practices around the world. 2. it will introduce the students to various genres of drama. 3. it will enable the learners to understand the elements of drama and theatre. 4. it will enable the students to get a historical perspective of english drama. 5. it will enable the students to compare and contrast dramatic works illustrative of differentperiods of literary history. 6. it will enable the students to learn and develop english language proficiency, both writtenand spoken.
	M.A.I: ENG: 114 (A) & ENG: 124 (A) INDIAN WRITING IN ENGLISH	1. the course will acquaint the students with selected masterpieces in indian writing in english. 2. it will enable the students to read and appreciate the works of indian authors writing inenglish. 3. it will acquaint the students with the development of different genres in indian writing inenglish. 4. this course will make the students aware of social, political

		and cultural issues reflected in IndianWriting in English.
2018-22	MA II: ENG 231 and 241 : Literary Theory and Concepts	1. this course will introduce the students to a wide range of critical methods, literary theories and concepts. 2. it will enable them to use the various critical approaches and advanced literary theories. 3. it will familiarize the learners with the trends and cross-disciplinary nature of literary theories. 4. the course will enable them to use various critical tools in the analysis of literary and cultural texts.
	MA II: ENG 232 and 242 : English Novel	1. this course will acquaint the students with the growth and development of english novel. 2. it will acquaint the students with the contribution of the novelists to the genre. 3. it will enable the students to understand the different aspects of novel in different social and cultural contexts. 4. this course will make the students to understand the human values, psyche and issues raised in the representative novels. 5. it will familiarize the students with verities of english through the reading of the prescribed novels.
	MA II: ENG 233 and 243 : Basics of Research in English Language and Literature	1. this course will acquaint the students with the term „research". 2. it will introduce the students with the basic elements of research in english language and english literature. 3. it will make the students familiar with difference in the research of english language and literature. 4. it will acquaint the students with nature, aspects, types and areas of research in english language and literature. 5. it will acquaint the students with research questions, methods and framing of outlines.
	MA II: ENG 234 and 244 (B) : American Literature	1. this course will acquaint the students with selected masterpieces in american literature. 2. it will acquaint the students with the development of different genres in american literature. 3. this course will make the students aware about social, political and cultural issues reflected in american literature. 4. it will introduce the students with the trends and tendencies in american literature.
2021-onwards	MA. I: ENG-101 Basics of Linguistics & ENG-201 Applied Linguistics	1. this course will familiarize the students with the theory and practices of communication. 2. it intends to acquaint students with the nature of english phonetics and its application. 3. the course will introduce students to various theories and practices in linguistics and update their knowledge towards recent trends in linguistics. 4. the course will make students aware of the relation of language to brain, society, and culture. 5. the course will develop amongst students" grammatical and stylistic competence. 6. it will introduce students the development of english language in india. 7. students will recognize rich heritage of communication and language. 8. students will be able to examine/associate usage of language

		and communication used in day to day conversation. 9. creativity will be inculcated in students to use theirknowledge in different registers.
	MA. I: ENG-102 & 202: English Drama	1. this course will acquaint students with various types of drama. 2. it will introduce students with the contribution of different playwrights in developing various types of drama. 3. it will familiarize students with various dramatic techniques and device. 4. students will identify difference in various types of drama. 1 5. students will be able to relate their knowledge of dramatic devices and technique to the texts. 6. students will be able to analyze variety of plays and how to analyze those.
	MA. I: ENG-103 & 203: English Poetry	1. the course will introduce students with the contribution of various poets to english poetry. 2. it will acquaint the students with the form, language, subject and poetic devices used in prescribed poems. 3. the course will orient students with the skill of creative writing through the prescribed poems. 4. students will recognize glorious heritage of english poetry. 5. students will be able to understand poetic styles of prescribed poets. 6. students will get the practice of expressing their creative urge by writing poems.
	MA. I: ENG-104 (A)& 204 (B): Indian Writing In English (Poetry and Drama)	1. this course will acquaint students with the growth and development of indian poetry, drama and novel. 2. it will familiarize students with indian ethos and university of issues depicted in indian writing in english. 3. it will facilitate students with trends, techniques and tendencies depicted in indian writing in english. 4. the students will associate their previous knowledge with the growth and development of indian writing in english. 5. the students will appraise the kind of difference between native english writing and indian writing in english. 6. the students will be able to device how to use the trends and techniques form wise.
	MA. I: Audit Course (Sem I)	1. aware of clean india mission and inculcate cleanliness practices among them. 2. identify need at of cleanliness at home/office and other public places. 3. plan and observe cleanliness programs at home and other places. 4. practice japanese 5. s practices in regular life.
	Soft Skill (Sem II)	1. inculcate different soft skills among students. 2. practice learned soft skills in real life and do their jobs more effectively. 3. identify their lacunas about some soft skills and try to overcome the same.

English courses for FYBCom, FYBSc., SYBSc., FYBBA, FYBMS:

Year	Course	Outcome Students will be able to :-
2017-22	FYBCom.: English for Business	1. the course will introduce communication theory to students. 2. it will inculcate various communication skills in english among students. 3. this course will introduce various soft skills to students. 4. it will improve oral and written competency in english of students. 5. the course will develop linguistic competency of students through various grammatical and vocabularyexercises.
	FYBCom.: Additional English	1. the course will introduce various famous entrepreneurs to commerce students. 2. it will develop english reading and linguistic comprehension of students. 3. this course will improve professional and entrepreneurial attitude of students through successstories. 4. it will make acquaint students with special challenges of starting new ventures. 5. it will enable the students to know the qualities to become a successful entrepreneur.
2017-22	FYBCA: Professional Communicatio n	1. this course will impart the basic communication skills among students. 2. it will introduce the students with the development of english language and its uses. 3. it will help the students to get acquainted with written communication and its types.
2017-22	BMS: Professional Communication	1. this course will help the students to improve professional communication skills and soft skills 2. with enhancing administration skills in them. 3. this course will impart the basic communication skills among students. 4. it will introduce the students with the development of english language and its uses. 5. it will help the students to get acquainted with written communication and its types.
2018-22	FYBSc.: Ability Enhancement Compulsory Course (AEC)	1. this course will introduce the students with writing and reading skill 2. it will acquaint the students with the use of english language through different means. 3. it will acquaint the students with the creative use of english language.
2016-19 & onwar ds	SYBSc.: Optional English	1. this course will introduce the new techniques of technical communication. 2. it will train the students to use english for specific purpose and situation in real life. 3. this course will enable the students to face the world of competition and challenges of the changing world. 4. the course will equip the students with enough englishto enable them to enter the usual professions open to them.

		5. the course will inculcate the basic human values amongst the students. 6. it will enable the students for oral and written communication in english. 7. this course will equip the students to communicate effectively in the changed circumstances and the present business environment.

B.A. / B.Com Hindi

Year	Course	Outcome Students will be able to :-
2017 - 2022	FYBA HIN 111 General Hindi	1. develop the comprehensive ability. 2. inculcate moral and human values within themselves. 3. understand the basic forms of fiction and poetry.
	FYBA HIN 111 General Hindi	1. develop the comprehensive ability. 2. inculcate moral and human values within themselves. 3. understand the basic forms of fiction and poetry.
	F. Y. B COM HIN 102 - Optional Hindi	1. develop hindi reading and linguistic comprehension of students. 2. develop interest in literature, fiction and poetry. 3. use their vocabulary for developing moral and social sensein life. 4. make special use of language for their expression.
	F. Y. B COM HIN 102 - Optional Hindi	1. develop hindi reading and linguistic comprehension of students. 2. develop interest in literature, fiction and poetry. 3. use their vocabulary for developing moral and social sense in life. 4. make special use of language for their expression..
2016-19 & Onwards	S.Y.B.A HIN 231 General 2 :- Short Story	1. develop literary tendencies. 2. understand the types of hindi short story writing.
	S.Y.B.A HIN 232 Special I :- Kavyashatra	3. know indian poetry structure in ancient and modern era. 4. know the importance of criticism. 5. increase vision regarding literary value. 6. know the concept and process of literature.
	S.Y.B.A HIN 233 II : Upnyas and Natak	1. understand novel forms and their types 2. know the concept and process of dramatics
2020 - Onwards	T.Y.B.A HIN 351 General 3 :- One Act Play, Essay and Hindi Grammar	1. introduce to the minor genres such as one act play,essay and hindi prose 2. study grammar which acquainted them to the correct usage language. 3. use literature to develop their social and moral sense in life.
	HIN 352	1. introduce to the minor genres such as one act play,

	T.Y.B.A Special 3 :- Hindi Sahitya ka Etihas	essay and hindi prose 2. study grammar which acquainted them to the correct usage language. 3. use literature to develop their social and moral sense in life.
	T.Y.B.A HIN 353 Bhasha vigyan Evam Hindi Bhasha Aandolan ka Etihas	1. inculcation of phonological competence among students. 2. study the various dialects of hindi. 3. get acquainted with hindi grammatical forms and functions. 4. get acquainted with morphological concepts and processes. 5. get acquainted with the basic concepts in syntactic andsemantic levels of hindi language.

M.A. Hindi

Year	Course	Outcomes Students will be able to:
2017-21	MA-I HIN 1110 : General level – Katha Sahitya	1. get information about the novel and story literature. 2. get information about hindi literature forms. 3. understand socio-cultural & political impact on hindi literature.
	HIN 1120 : Special level : Aadikalin avam Madhyayugin kavya	1. get information about sant poet & their literature. 2. get information about hindi"s historical literature forms. 3. get information well known poet vidyapati & sant tulasidaas
	HIN1130:Specialle vel:Bhartiyakavyas hastrakesiddhantav ama	4. know indian poetry structure in ancient era 5. know the importance of criticism. 6. increase vision regarding literary value. 7. know the concept and process of literature.
	HIN 1140 : Special level : Aatmkatha	1. get information well known female writer in hindi 2. know the literary contribution of female writer 3. know the gender equality among the literature. 4. know the importance of feminism. 5. know the characteristics of feminine literature.
2018-22	MA II- HIN 1210 : General level : kathetar gadya sahitya	1. get introduction of hindi writer. 2. get information about the autobiography, essay and drama literature. 3. get information about hindi literature forms. 4. understand socio-cultural & political impact on hindi literature.
	HIN 1220: Spl. – Ritikalin kavya	1. know the medieval hindi literature 2. get information about hindi"s historical literature forms. 3. get information well known poet bihari, ghanan and & bhushan

	HIN 1230 : Spl. Level – Paschatya kavyshastra evam Vaad	1. know western poetry structure in ancient and modern era 2. know the importance ofcriticism. 3. increase vision regarding literaryvalue. 4. know the concept and process ofliterature.
	HIN 1240 : Spl. Optional : Dalit Vimarsh	1. get introduction of dalit agitation (india &world) 2. know the history of the dalit movement inindia 3. study of literature in dalitapproach.
	HI 2310 : General level : poetry	1. get acquainted with the language, poetic style, diction of the age to which it belongs. 2. learn values through literary works.
	HI 2320 : Spl. level : Bhasha vigyan	1. know the importance of language in human life. 2. know the various methods to the study of language. 3. understand the communication process and method
	HI 2330 : Spl. level : Hindi sahitya ka Etihas	1. study the historical development of hindi literature. 2. know the brief literature in same period 3. know the various literary form in same period.
	HI 2340 : Spl. level optional : Loksahitya	1. know the concept of folk-literature. 2. know the tradition of folk literature in india 3. know the co-relation between folk literature and otherbranches. 4. know the new trends study of folk literature in new era.
	HI 2410 : General level : poetic Drama, New Poetry and Gazal	1. know then ewtrends study of poetic drama, new poetry and gazal literature in new era. 2. get acquainted with the poetic style, diction of the age to which it belongs. 3. learn values through literary works.
	HI 2420 : Spl. level – Hindi Bhasha	1. know the importance of language in human life. 2. know the various methods to the study of hindi language. 3. understand the communication process and method. 4. know the importance of devnagari script
	HI 2430 : Spl. level – Hindi Sahitya ka aadhunik Etihas	1. study the social cultural & political background of from 1900 to 2000 periods. 2. know the brief literature in same period. 3. know the various literary form in same period.
	HI 2440 : Spl. level optional- Prayojanmoolak Hindi	1. understand the communication process and method 2. introduce the media writing 3. introduce the devnagari script various aspect.
2021-Onwards	MA-I HIN 1110 : General level – Katha Sahitya	1. get information about the novel and story literature. 2. get information about hindi literature forms. 3. understand socio-cultural & political impact on hindi literature.

	HIN 1120 : Special level : Aadikalin avam Madhyayugin kavya	1. get information about sant poet & their literature. 2. get information about hindi‟s historical literature forms. 3. get information well known poet amir khusro, vidyapati, jayasi, kabir, surdas & sant tulasidaas
	HIN1130:Specialle vel:BhartiyaSahitya shastrakesiddhant evamaalochana	1. know indian poetry structure in ancient era 2. know the importance of criticism. 3. increase vision regarding literary value. 4. know the concept and process of literature.
	HIN 1140 : Special level : Anudit sahitya siddhant evam vyavhar	1. get information well known translation from other language to hindi language. 2. know the literary contribution of writer other than hindi. 3. know the importance of translation other language to hindi language. 4. know the characteristics of translate language in literature.
2022 - Onwards	HIN 1210 : General level : kathetar gadya sahitya	1. get introduction of hindi writer. 2. get information about the essay and vyanga sahitya literature. 3. get information about hindi literature forms. 4. understand socio-cultural impact on hindi literature.
	HIN 1220: Spl. – Vimarshmulak Sahitya	1. know the medieval hindi literature 2. get information about hindi‟s historical literature forms. 3. get information well known mahashweta devi and ramnika gupta 4. understand socio-cultural & political impact on hindi literature.
	HIN 1230 : Spl. Level – Paschatya sahityashastra evam vividh vaad	1. know western poetry structure in ancient and modern era 2. know the importance of criticism. 3. increase vision regarding literary value. 4. know the concept and process of literature.
	HIN 1240 : Spl. Optional : Patrakarita evam Web patrakarita	1. get introduction of patrakarita. 2. know the history of the web patrakarita in india. 3. study of literature in hindi patrakarita and web. 4. understand socio-cultural & political impact on hindi literature.

B.A. (Economics)

Year	**Course**	**Outcomes** students will be able to:
2017-Onwards	**FYBA** 101(A): Principles	1. introduce the students to the basic principles of micro 2. introduce the student‟s behaviour of consumer, producer

	of Microeconomics-II General (optional) Paper	in economy, price determination in market and also factor pricing. 3. how to micro-economic concepts can be applied to analyze real life situations.
	201 B Economy of Maharashtra Since Reform Era General (Optional) Paper	1. aware students about the various issues of the economy of maharashtra. 2. increase the understanding of students about social and economic problems before maharashtra. 3. prepare student for competitive exams
2019 Onwards	**SYBA** DSC Eco 231 C - INDIAN ECONOMY SINCE 1980-I DSC Eco 241 D : INDIAN ECONOMY SINCE 1980-II	1. enable students to have understanding the various issues of indian economy. 2. develop the analysing capability in the context of current indian economic problems. 3. able the students for appearing the mpsc, upsc and other competitive examinations.
	DSE Eco 232 A - AGRICULTURAL ECONOMICS-I DSE Eco 242 B - AGRICULTURAL ECONOMICS- II	1. enable students to have understanding the various issues of indian agriculture. 2. develop the analysing capability in the context of current indian agriculture problems. 3. able the students for appearing the mpsc, upsc and other competitive examinations
	DSE Eco 233 A - ADVANCED MACRO ECONOMICS-I DSE Eco 243 B - ADVANCED MACRO ECONOMICS-II	objectives of paper : 1. acquaint the student knowledge of macroeconomics concept and theories. 2. acquaint the student knowledge of macroeconomics problem and policies. 3. develop the analysing capacity in applying theories to real life situation.
	(SEC Eco 234) RESEARCH METHODOLOGY FOR ECONOMICS-I (SEC Eco 244) RESEARCH METHODOLOGY FOR ECONOMICS-II	1. develop the analysing capacity in applying knowledge of research to real life situation. 2. acquaint the student knowledge of research methodology.
2020-21	**TYBA** DSC-1(E)-Eco-351 Indian Economy	1. enable students to have understanding the various issues of indian economy. 2. develop the analysing capability in the context of current

	Since 1980 –III DSC-1(F)-Eco-361 Indian Economy Since 1980 –IV	Indian Economic Problems. 3. able the students for appearing the MPSC, UPSC andother competitive Examinations
	DSE -3 (A) Eco-352(A) Economics of Public Finance – I DSE- 3 (B)Eco-362 (A) Economics of Public Finance- II	1. enable students to have understanding the various issues of Public Finance and Policies. 2. develop the analyzing capability in the context of Public Finance and Policies. 3. enable the students for appearing the MPSC, UPSC and other competitive Examinations.
	DSE 4 (A) Eco-353 (A) Theory of International Trade and Practices-I DSE 4 (B) Eco-363 (A) Theory of International Trade and Practices-II	1. enable students to have understanding the various issues of International Trade and Practices. 2. develop the analyzing capability in the text context of International Trade and Practices 3. able the students for appearing the MPSC, UPSC and other competitive Examinations.
	SEC- 3 Eco-354 Modern Banking SEC -4 Eco-364 Indian Financial Market	1. provide the students basic knowledge of Banking & Financial market. 2. provide the information of Indian Banking system. updated the students about new changes and technology in Banking. 3. know the relevance of banking practices in modern competitive world.

M.A. Economics

Year	**Course**	**Outcome** Students will be able to :-
2017-21	MA I Paper Code No: Eco: 111 Paper Title: Advanced Micro Economics: I Paper Code No: Eco: 121 Paper Title: Advanced Micro Economics: II	1. students will be able to integrate theoretical knowledge in order to explain past economic events and to formulate predictions on future ones. 2. students will be able to evaluate the consequences of economic 3. students will be able to identify and explain economic concepts and theories related to the market competition.
	Paper Code No: Eco: 112 Paper Title: Modern Public Economics: I Paper Code No: Eco: 122 Paper Title: Modern Public	1. student will understand and will be able to discuss on varies theories related to tax, public expenditure. 2. students will be able to understand changes in tax system. 3. students will understand knowledge regarding government budgeting. 1. understanding government budget and deficit

	Economics: II	Financing.
	Paper Code No: Eco: 113(A) Paper Title: Statistics for Economics Paper Code No: Eco: 123(A) Paper Title: Research Methodology For Economics	1. students will be capable to use the hypothesis tests. 2. students would be acquainted with knowledge of probability 3. students will be familiar with nature of statistics and central tendency 4. students will have concrete knowledge of dispersion and skewness 5. students will be competent to construct index number
	Paper Code No: Eco: 114 (A) Paper Title: Economics of Agriculture & Rural Development: I Paper Code No: Eco: 124 (A) Paper Title: Economics Of Agriculture & Rural Development: II	1. discuss on varies issues related to indian agriculture labour and technology. 2. understand relation between wto and indian agricultural.
2021-Onwards	**MA I** PG-ECO-101: Advanced Microeconomic Analysis-I	1. students will be able to identify and explain economic concepts and theories related to the behaviour of economic agents, markets, and industry structures. 2. students will able to integrate theoretical knowledge in order to explain past economic events and to formulate predictions on future ones. 3. students will evaluate the consequences of economic activities and institutions for individual and social welfare.
	PG-ECO -102: Public Finance- I	1. student will understand social welfare expenditure schemes, the growth and economic development 2. student will understand and will be able to discuss on varies theories related to tax, public expenditure. 3. students will be able to understand changes in tax system.
	PG-ECO -103: Statistics-I	1. students will be familiar with nature of statistics and central tendency 2. students will have concrete knowledge of dispersion and skewness 3. students will be competent to construct index number 4. students understanding for uses of time series will be developed
	PG-ECO -104 A: Agricultural Economics-I	1. students will be able to understand indian agricultural sector. 2. students will be able to discuss on varies issues related to indian agriculture.

		3. understand agriculture price in india, impact of price on agricultural activities
	MA I Sem. II PG-ECO -201: Advanced Microeconomic Analysis - II	1. students will be able to identify and explain economic concepts and theories related to the market competition. 2. students will be able to integrate theoretical knowledge in order to explain past economic events and to formulate predictions on future ones. 3. students will be able to evaluate the consequences of economic
	PG-ECO -202: Public Finance- II	1. students will understand knowledge regarding government budgeting. 2. understanding government budget and deficit financing. 3. discuss on trends of public finance in india. 4. understand fiscal policy and federal finance
	PG-ECO -203: Statistics-II	1. students will be familiar with correlation of economic variables 2. students will have concrete knowledge of regression analysis. 3. students will be capable to use the hypothesis tests. 4. students would be acquainted with knowledge of probability
	PG-ECO -204 A: Agricultural Economics -II	1. understand economics of agricultural production. 2. discuss on varies issues related to indian agriculture labour and technology. 3. understand relation between wto and indian agricultural.
2018-22	MA-II Paper Code : ECO: 231 Paper Title :Advanced Monetary Economics-I Paper Code : ECO: 241 Paper Title : Advanced Monetary Economics-II a	1. students can identify the determinants of various macroeconomic aggregates such as output, unemployment, inflation, productivity and the major challenges associated with the measurement of these aggregates. 2. students will be able to discuss the linkages between financial markets and the real economy, and how these linkages influence the impact of economic policies over different time horizons.
	Paper Code : ECO: 232 Paper Title : Theories of Economic Development Paper Code : ECO: 242 Paper Title : Theories of Economic Growth	1. students will acquire knowledge of the principal issues of economic development to prepare students for advanced study and policy-oriented research in this subject area. 2. students will acquire knowledge of the principal issues of economic development to prepare students for advanced study and policy-oriented research in this subject area. 3. emphasis will be on economy-wide aspects of economic development

	Paper Code : ECO: 233(A) Paper Title : International Economics – I Paper Code : ECO: 243(A) Paper Title : International Economics - II	1. students will be able to identify major economic characteristics of selected world regions. 2. students will be able to trace the origins of various processes of international (global or regional) economic integration and discuss their implications for the international patterns of productive specialization. 3. students will be able to trace the development of the international financial architecture and the international monetary system and evaluate the implications of different exchange rate regimes for domestic macroeconomic policy.
	Paper Code : ECO: 234(B) Paper Title : Modern Banking System in India Paper Code : ECO:244(B) Paper Title : Financial Market in India	1. 1.students will be able to comprehend reforms in indian financial system 2. students will be able to comprehend financial institutions and markets. 3. students will be able to analyze financial sector reforms in india
2022-23	**MA-II** PG-ECO-301: Monetary Economics-I	1. students will be able to critically evaluate the consequences of basic monetary policy and fiscal policy under differing economic conditions. 2. students can identify the determinants of various macroeconomic aggregates such as output, unemployment, inflation, productivity and the major challenges associated with the measurement of these aggregates. 3. students will be able to discuss the linkages between financial markets and the real economy, and how these linkages influence the impact of economic policies over different time horizons. 4. able to describe the main macroeconomic theories of short term fluctuations and long term growth in the economy.
	PG-ECO -302: Economics Development and Growth- I	1. students will get knowledge about essential tools and concepts of development economics, to prepare them to understand what makes underdevelopment persist and what helps development succeed. 2. students will acquire knowledge of the principal issues of economic development to prepare students for advanced study and policy-oriented research in this subject area. 3. emphasis will be on economy-wide aspects of economic development
	PG-ECO -303: International	1. students will be able to discuss the major economic theories of international trade and analyze the economic

	Economics-I	implications of alternative trade policies. 2. Students will be able to trace the development of the international financial architecture and the international monetary system and evaluate the implications of different exchange rate regimes for domestic macroeconomic policy. 3. students will be able to trace the origins of various processes of international (global or regional) economic integration and discuss their implications for the international patterns of productive specialization
	PG-ECO – 304 C: Principles of Banking and Finance	1. students will be able to explain banking structure, commercial banks, regional rural banks, and cooperative banking in india. 2. students will be able to understand the reserve bank of india and its important functions of rbi. 3. students will be able to comprehend financial institutions and markets. 4. students will be able to analyze financial sector reforms in india
	MA II Sem IV PG-ECO-401: Monetary Economics-II	1. students will be able to critically evaluate the consequences of basic monetary policy and fiscal policy under differing economic conditions. 2. students can identify the determinants of various macroeconomic aggregates such as output, unemployment, inflation, productivity and the major challenges associated with the measurement of these aggregates. 3. students will be able to discuss the linkages between financial markets and the real economy, and how these linkages influence the impact of economic policies over different time horizons. 4. able to describe the main macroeconomic theories of short term fluctuations and long term growth in the economy
	PG-ECO 402: Economics Development and Growth-II	1. students will get knowledge about essential tools and concepts of development economics, to prepare them to understand what makes underdevelopment persist and what helps development succeed. 2. students will acquire knowledge of the principal issues of economic development to prepare students for advanced study and policy-oriented research in this subject area. 3. emphasis will be on economy-wide aspects of economic development.
	PG-ECO -403: International	1. students will be able to discuss the major economic theories of international trade, to analyze the economic

	Economics-II	implications of alternative trade policies. 2. students will be able to identify major economic characteristics of selected world regions. 3. students will be able to trace the origins of various processes of international (global or regional) economic integration and discuss their implications for the international patterns of productive specialization. 4. students will be able to discuss the major economic theories of international trade and analyze the economic implications of alternative trade policies.
	PG-ECO – 404 C: Indian Financial Market	1. students will be able to explain the indian financial market 2. students will be able to understand the money market, primary market, secondary market 3. students will be able to comprehend reforms in indian financial system 4. students will be able to analyze mutual funds and other
	PG-AC(Audit Course) 101: Practicing Cleanliness	1. identify the front of cleanliness at home/office and other public places. 2. plan and observe cleanliness programmes at home and other places. 3. practice japanese 4. s practices in regular life
	PG-AC-201(A): Soft Skills	1. identify their lacunas about some soft skills and try to overcome the same. 2. practice learned soft skills in real life and do their jobs more effectively 3. identify their lacunas about some soft skills and try to overcome the same.

B.A. (History)

Year	**Course**	**Outcome** Students will be able to:
2017-22	FYBA Semester I HIS- G – 101: History of Indian Freedom Movement (1857-1905)	1. understand modern indian history 2. identify the importance and the legacy of freedom movement 3. distinguish the detail account of british raj as well as its overall impacts on the indian society.
	FYBA Semester II HIS- G – 201 : History of Indian Freedom Movement (1905-1947)	1. understand early political awakening in indian freedom movement. 2. understand various phases of the national movement. 3. grasp the details of freedom movement under the mahatma gandhi‟s leadership. 4. understand the evolutionary processes of constitutional developments.

2018 -19	FYBA Semester I HIS – DSC A 1) HISTORY OF INDIA (1857-1950)	1. create spirit of patriotism and nationalism. 2. aware about freedom movement. 3. become the part and parcel of national integration.
	FYBA Semester II HIS – DSC A 2) HISTORY OF INDIA (1857-1950)	1. create spirit of patriotism and nationalism. 2. aware about freedom movement. 3. become the part and parcel of national integration.
2019 - Onwards	S.Y.B.A. Semester III DSC - HIS - 231 History of the Marathas (A.D.1605-1750 A.D.)	1. understand the regional history 2. discuss the marathas history 3. motivate for research work in maratha history.
	S.Y.B.A. Semester III DSE-HIS-232 History of United States of America (A.D.1776 - A.D. 1945)	1. understand the importance of usa history 2. discuss about the foreign policy of america 3. get the information about the human rights movement.
	S.Y.B.A. Semester III DSE-HIS-233 History of Ancient India (B.C 3000 to B.C 600)	1. the student can understand cultural heritage in india. 2. the student can discuss about social ,economicalcondition of ancient india 3. the student have understand the ancient indian patten of society
	S.Y.B.A. Semester III SEC-HIS-234 Research Methodology in History	1. understand the concept of research 2. students discuss the research methodology 3. understand the interdisciplinary approach 4. understand the formulating of hypothesis.
	SYBA Semester IV DSC - HIS - 241 History of the Marathas (A.D.1605 - A.D 1750)	1. the student understand the regional history 2. he has discuss the marathas history 3. he has motivational about research work about maratha history.
	SYBA Semester IV DSE - HIS - 242 History of United States of America (A.D. 1776 - A.D.1945)	1. students understand the importanceof usa. 2. discuss about the foreign policy of america 3. get the information about the human rights movement.
	SYBA Semester IV DSE-HIS- 243 History of Ancient India (B.C 600 - A.D 1206)	1. the student can understand cultural heritage in india. 2. the student can discuss about social ,economical condition of ancient india 3. the student have understand the ancient indian patten of society

	SYBA Semester IV SEC-HIS-244 An Introduction to Archives in India	1. the student can understand the role of archives inthe preservation of heritage 2. he has understand the importance of archives inthe study of history. 3. he has interest of students to pursue career in thefield of archives.
2017 -20	T.Y.B.A. SEMESTER – V HIS (G-3) 351 - HISTORY OF MODERN WORLD (1789-1900)	1. understand the concept and meaning of the` history of modern europe`. 2. explain important information of the `history of modern europe`. 3. introduce various perspectives of the history of modern europe. 4. cover an important topic of the `history of modern europe`1781 to 1945. 5. inculcate liberty, equality and fraternity among the students.
	HIS (S3) 352 (A) : TRAVEL AND TOURISM (PART – I)	1. understand the concept and types of tourism. 2. acquire adequate knowledge about various aspects in tourism planning. 3. explain important information of some historical tourist places. 4. develop career in tourism industry.
	HIS (S-4) 353 : HISTORY OF SULTANAT (1206-1526)	1. learn about the various polity and sultanate period‟s (1206-1526) in india. 2. understand and review about the social, economic and cultural information during the sultanate period in medieval india. 3. understand and review detail about the agricultural, trade and commerce position of women and religious condition in sultanate period.
	T.Y.B.A. SEMESTER – VI HIS (G-3) 361 : HISTORY OF MODERN WORLD (1901-1945) Marks	1. understand the concept and meaning of the` history of modern europe`. 2. explain important information of the `history of modern europe`. 3. introduce various perspectives of the history of modern europe. 4. cover an important topic of the `history of modern europe`1781 to 1945. 5. inculcate liberty, equality and fraternity among the students.
	T.Y.B.A. SEMESTER – VI His (S-3) 362 (A) Travel And Tourism (Part - Ii)	1. understand the concept and types of tourism. 2. acquire adequate knowledge about various aspects in tourism planning. 3. explain important information of some historical tourist places. 4. develop career in tourism industry.
	T.Y.B.A. SEMESTER – VI HIS (S-4) 363 : HISTORY OF THE MUGHALAS (1526-1707)	1. learn about the various polity and mughal period‟s (1526-1707) in india. 2. understand and review about the social, economic and cultural information during the mughal period in medieval india. understand and review detail about the agricultural, trade and commerce position of 3. women and religious condition in mughal period.

2020-21	T.Y.B.A. Sem. V DSC 1 E HIS 351 History of Modern Europe (AD 1781 - AD 1913)	1. understand the concept and meaning of the` history of modern europe`. 2. explain important information of the `history of modern europe`. 3. introduce various perspectives of the history of modern europe. 4. cover an important topic of the `history of modern europe`1781 to 1945. 5. inculcate liberty, equality and fraternity among the students.
	T.Y.B.A. Sem. V DSE 1 C HIS 352 History of India (AD 1750 – AD 1857)	1. students understand the national freedom movement 2. students discuss the spirit of national integrity 3. students understand the various perspectives of modern india .
	T.Y.B.A. Sem. V DSE 2 C HIS 353 History of India (AD 1206 – AD 1526)	1. students learn about the various polity and sultanate period‟s (1206-1526) in india. 2. students understand and review about the social, economic and cultural information during 3. the sultanate period in medieval india. 4. students understand and review detail about the agricultural, trade and commerce position of 5. women and religious condition in sultanate period.
	T.Y.B.A. Sem. V SEC 3 HIS 354 Travel and Tourism in India	1. understand the concept and types of tourism. 2. acquire adequate knowledge about various aspects in tourism planning. 3. explain important information of some historical tourist places. 4. develop career in tourism industry.
	T.Y.B.A. Sem. V GE 1 A HIS 355 Making of Contemporary India - 1	1. this course presents some important vignettes of a complex, highly diverse india that is also 2. witnessing unprecedented changes since its formal independence in 1947 from great britain. the 3. course revolve around social dimensions of change, political democracy, economic transition from 4. the state to the market, gender relations, india's economic globalization and changing world view. 5. however, it would be helpful if students are aware of the socio political dynamics at play in 6. contemporary india and keep themselves abreast with current affairs and debates in the country to 7. fully appreciate the various dimensions and contours if the subject matter in the course.
	T.Y.B.A. Sem. VI DSC 1 F HIS 361 History of Modern Europe (AD 1914 - AD 1945)	1. understand the concept and meaning of the` history of modern europe`. 2. explain important information of the `history of modern europe`. 3. introduce various perspectives of the history of modern europe. 4. cover an important topic of the `history of modern europe`1781 to 1945.

		5. inculcate liberty, equality and fraternity among the students.
	T.Y.B.A. Sem. VI DSE 1 D HIS 362 History of India (AD 1750 – AD 1857)	1. students understand the national freedom movement. 2. discuss the spirit of national integrity 3. understand the various perspectives of modern india .
	DSE 2 D HIS 363 History of India (AD 1526 – AD 1707)	1. students learn about the various polity and mughal period‟s (1526-1707) in india. 2. students understand and review about the social, economic and cultural information during 3. the mughal period in medieval india. 4. students understand and review detail about the agricultural, trade and commerce position of 5. women and religious condition in mughal period.
	SEC 4 HIS 364 An Introduction to Museums in India	1. grasp the concept of museum. 2. acquire adequate knowledge about historical importance of museums as sources of history. 3. understand management of museums. 4. acquire important information of some famous museums in india. 5. develop career in tourism industry.
	GE 1 B HIS 365 Making of Contemporary India - II	1. this course presents some important vignettes of a complex, highly diverse india that is also 2. witnessing unprecedented changes since its formal independence in 1947 from great britain. the 3. course revolve around social dimensions of change, political democracy, economic transition from 4. the state to the market, gender relations, india's economic globalization and changing world view. 5. however, it would be helpful if students are aware of the socio political dynamics at play in 6. contemporary india and keep themselves abreast with current affairs and debates in the country to 7. fully appreciate the various dimensions and contours if the subject matter in the course.

B.A. (Geography)

Year	Course	Outcomes
2015-18	**FYBA** SEM I Physical Geography (Lithosphere)	1. student became familiarized with basic concept of latitude, longitude, time measurement, earth structure, major lithosphere processes and geomorphic modifications.
	SEM II Physical Geography (Atmosphere & Hydrosphere)	2. students obtained awareness about atmospheric process and hydrosphere characteristic of the earth.

	FYBCom Geography Of Trade.	student acquaint to trade concept theoretical tradeframework and trade functionality.
	Geography Of Transport	student became aware about significance and utility oftransport system similarly understood role of transport in economics development.
2016-19	**SYBA** SEM III G2-Human Geography	students got notion about man environment relationship classification of mankind and his distribution in global contest with rti.
	G2-Economic Geography	students are acquaint with economic realm ,economicactivities, mineral power resources there trade and models.
	S-1 Geography Of Tourim	students are familiarized with geo-tourism and its potential and practices elements and geo-tourismorganization.
	S-1 Geography Of Travel Management	students are enlightened for concept of accommodation travel agency marketing planning anddevelopment tourism .
	S-2 Annual – Practical Geography	annual-student understood crucial cartographic conceptscale and projection conventional and non conventional serving technique.
2017-20	**TYBA** G3 Population Geography	student became familiar with national, international populations problems and populationstheories.
	G3 Political Geography	students got the information‟s regarding political geography ,state and nation geopoliticaltheories and problems
	S3 Environment Geography	students became aware about environmentalconcept process problems recent issues resources and environmental laws.
	S3 Remot Sensing and GIS	students become familiar with concept and functioning of remote sensing with various applications similarly significances and utility of gis.
	S4 Annual Practical	student got thoroughly practices of map reading, weather map reading, cartographic, statistical techniquesand excursion.
2018-22	**FYBA** Physical Geography (Lithospher)	student became familerized with basic concept of latitude , longitude time measurment earth structur and the major lithospheric proseccesand geomarphic modifications.
	Physical Geography (Atmosphere & Hydrospher)	students obtained awerness atmospheric prosecces and hydrospheric characteristic of the earth .
	FYB Com Geography Of Trade.	students acquaint to trade concept theorotical trade fremework and trade fuctionality.

	Geography Of Transport	Students Became Aware About Singificance And Utylity Of Transport System Similarly Understood Rool Of Transport in Economics Devlopment .
2019 Onwards	**SYBA** G2-Human Geography	Students Got denotion About Man Environment Relationship Classifacation Of Mankindand His Distribution In global Contest With RTI.
	G2-Economic Geography	Students Are Acquant with Economic Realm ,Economic Activities,Mineral Power Resourcces ThereTrade And Models .
	S-1 Geography Of Tourim	Students Are Familerized With GeotourismAnd Its Potaintial And Practices Elements And Geotourims organization .
	S-1 Geography Of Travel Management	Students Are enlighted for concept of accommodationTravel agency marketing planning anddevlopmant Tourism .
	S-2 Annual – Practical Geography	Annual-Student understood crucial cortographyc concept scale and projection conventional and non conventional surveying techniques.
2020 Onwards	**TYBA** G3 Population Geography	Student became familiar with national, international populations problems and populationstheories.
	G3 Political Geography	Students got the information regarding politicalgeography ,state and nation geopolitical theorys and problems.
	S3 Environment Geography	Students became aware about environmentalconcept process problems recent issues resources and environmental laws.
	S3 Remote Sensing and GIS	Students become familiar with concept and functioning of remote sensing with various applications similarly significances and utility of GIS.
	S4 Annual Practical	Student gone thoroughly practices map reading, whether map reading, cartographic and statistical techniques andexcursion.

M. A. Geography

Year	Course	Outcomes
2017-21	**MA I** GG 101:Principal Of Economic Geography	Student understood economic trends processestheories models with economic development production scale and distributions of resources.
	Gg 102: Principal Of Population and Settlement Geography	Students receive the knowledge regarding geographical distributions of populations theories andmovement human habitations and type urbanization and related theories.
	Gg 103: Principal Of Climatology	Students became well versed to atmosphericprocesses disturbances and climatic classifications.
	Gg 104: Principal Of	Students actively participated understanding

	Geomorphology	origins and evolution of Earth surface exegetic processes erosion landform and depositional landform.
	Gg 105 Practical Geography	Students received hands on training for data analysis and data collection village report writing withhelp of Computer.
	Gg 201:Geographical Thought	Students understood historical ideas and discovers modern development geography dualism and recent trends modern techniques such as stats computerRS and GIS.
	Gg 202: Social and Cultual Geography	Students became aware of RTI cultural traitscivilization origin dispersion of culture agriculture space and social processes .
	Gg203: (A) Remote Sensing	Students got deep knowledge about remote sensing and related processes satellite Indian remotesensing GIS applications and coordinate system.
	Gg 204: Geo-Statistical Methods	Students tried to have expertise in statisticalcalculations understood sampling and surveying inferential statistic with rogation analysis.
	Gg205:Practical Geography	Students received hands on training for GISconcept use of GIS software for cartographic representations in the field of Geography with short cartographic project and excursion.
2018-22	MA II Gg301(A):Regional Geography Of U.S.A	Students understood geography and physiographic of USA natural recourses, mineral recourses, agricultural and current issue.
	Gg302: Environment Geography	Students became aware about nature of environment, functioning of environment global,environmental issue environmental management, environmental laws, climate change theories.
	Gg303:Geographical Information System	Students god the technicalities about GIS datamodels geospatial analysis use of map projections and coronate system use of GIS in various field ofgeography.
	Gg304:Watershet Management & Planning	Students are introduce to watershed and itsphysical hydrological parameters with ground waterwith watershed development and sample watershed planning .
	Gg305:Practical Of Physical Geography	Students received hands on training for GISsoftware ilwis image registrations topology numericaldata making of profile presentation of physical data GPS surveying and report .
	Gg401(C):Geography of Rural Settlement	Students became familiar with concept of settlement growth and theories rural activities and morphogenesis. Types demography and planning of rural settlement .
	Gg402(C): Urban Geography	Students became aware about processes pattern of urban processes urban function morphologyrelevant theory urban issue and plan cities in India.
	Gg403(A): Research methodology	Students became familiar about research, research method, defining, designing research problems sampling data, collection data, analysis result summary, interpretation report writing.
	Gg404 (A)	Students are enlightened by understanding

	Geography Of tourism	tourism marketing functions social cultural andenvironmental role of travel agency travel organizations Indian railway in tourism development.
	Gg405: Practical of Geography	Students acquainted with topographical mathaerial photographs and satellite imagers by identifyingcultural and natural features surveying with dumpy level and transit theodolite

B.A. (Political Science)

Year	Course	Outcome Students will be able to :-
2015 to 2018	FYBA G-101 A Introduction to Indian Constitution	1. the students have understood basic introduction to the process, concept and working of indian constitution. 2. to create responsible indian citizen is the need. practical applicability of the constitution should be known to the students.
2018 - 22	FYBA G-101 A IndianConstitution	the students has understand constitution base indian political process action power system in india and acrossthe country.
2016 to 2019	SYBA POL- 241(A-G2) Administration of Maharashtra	1. students will understand the structure and functionof the government of maharashtra. 2. students will be made aware of the role and importance of state administration by creating political awareness.
	POL- 232 (S-1) Modern Political Ideology	1. students will understand modern political concepts. 2. students will notice the political influence of the ideologiesof nationalism, sarvodaya, feminism and marxism.
	POL- 233 (S-2) Indian Political Thought	1. the students will know nationalism, democracy and social transformation were discussed in pre- and post-independence india. 2. the main objective is to understand key thinker's seminal contribution to the evolution of political theorizing in political thought.
2019 onwards	SYBA DSE -1A, Reading Gandhi	1. the students has understand about ideas of ethics, values, humanity, faith, truth and satyagraha 2. the students has understand the theory of gandhi andgandhism.
	DSE -2A, Government and Politics of America	1. the students has knowledge about american governmentand his constitutional framework. 2. the students can comparatively study of government and politics of america and china.
	DSC -1C, Introduction to Administration of Maharashtra	1. the students had learned about how our state administrationis going on. 2. the students should develop the qualities of administrator.
	SEC-1, Research Methodology in Political Science	1. the students has the basic idea of main concept and methodology of research. 2. the graduate students can handle the research work in dependently of political science.
2017 to 2020	TYBA POL-351(A-G-3) Personal Administration	1. students will understand the recruitment and training process in personnel administration. 2. understand the role of citizens in the administration. for that, the public welfare role of the administration will be

	and Management	realized.
	POL-352(S-3) Western Political Though	1. understanding the contribution of western political thinkers in political science. 2. students acquire political innovations and thinkers' perspectives.
	POL-353(S-4) Modern Political Analysis	1. developing a political outlook for modern political analysis among students. 2. students understand the new concepts of modern political culture, political system, political socialization etc.
2020 onwards	TYBA DSE-3A Western Political Thinker	1. the main purpose of this paper is to acknowledge students with how the great masters explained and analysed political events and problems of their time and prescribes solutions. 2. understanding the contribution of western political thinkers in political science.
	DSE-4A Political Sociology	1. the students has understand various aspects of political culture, process of political socialization and political modernization. 2. developing a political outlook for modern political analysis among students.
	DSC -1 E Indian Political Thinker	1. the students will know nationalism, democracy and social transformation were discussed in pre- and post-independence india. 2. the main objective is to understand key thinker's seminal contribution to the evolution of political theorizing in political thought.
	SEC- 3 Journalism and Mass Communication	1. this course will help learners to understand dynamics within journalism, political journalism and communication means and ends and his process in society and nation.
	GE - 1A Indian Civil Services	1. this course will be helpful and encourage students to acknowledge civil services and good governance process in india. 2. an intention of this paper is to understand origin, development, and challenges before good governance in india.

M.A. Politics

Year	**Course**	**Outcome** Students will be able to :-
2017 to 2021	MA I POL-111- India‟s Foreign Affairs	1. the students will know indian foreign policy reflects the philosophy of india as a sovereign democratic nation and the self-image and role she conceives for herself in the global policies. 2. it also specifically focuses on the challenges of the contemporary times such as globalization, liberalization, crossborder terrorism, human rights, environmental and gender concerns.
	POL- 112- Global	developing a political outlook for relatively underdeveloped countries of the third world.

	Political Issues.	The students will know to examine critically these concerns &analyze their impact on the course of world politics and policy making individual countries.
	POL- 113- Political Process in Indian Federation	1. the students will know the power of the centre& the autonomy of the state within the india federal system, whichreflect & articulate well-defined regional identities. 2. there is an increasing need to understand that despite the widearea of powers, with which the centre is armed by the constitution. 3. the centre-state relationship in the context of liberalizationalso needs to be focused.
	POL- 114- A- Optional Paper Public Administration	1. the students will know public administration is an essentialpart of a society and a dominant factor in democratic system. 2. the students has understand the meaning, significance and structure of public administration. there is an increasing needto understand public administration in the context of contemporary world.
2021 onwards	MA I PG-POL 101: State Politics in India	1. make students understand about centre- state relationship inthe context of liberalization. 2. understand how social determinants or issues affect state politics. 3. understand how politics works in different states and theoretical framework
	PG-POL-102 - Basic Elements of Foreign Policy	1. the paper deals with the theoretical evaluation of conceptsand approaches of foreign policy. 2. study of basic principal and elements of foreign policy. 3. examing the role of diplomacy in foreign policy. 4. evaluating the how important foreing policy for nations.
	PG- POL-103 – World Political Issue	1. the paper deals with the evaluation of traditional, economic& contemporary world political issues. 2. study of historical continuities and changes in world politics. 3. learning and understand core controversies during world. 4. understand and examine the world order in different era.
	PG- POL-104 B – Public Administration	1. to study of the meaning, significance and structure of public administration. 2. analyzing the importance of personnel administration in public administration 3. discuss on policy making and decision-making process in administrative management.
2018 - 22	MA II POL - 231 Socio-Political Research Methods	1. this paper will teach basic introduction to line process and methods of research for achieving scientific knowledge in political science. 2. there is need to teach the methods for writing of report, dissertation, thesis and project.
	POL - 232 Comparative Political Process	1. the students has understand the theoretical evaluation of recent political process to the study of comparative politics. 2. this paper intends to highlight variations in systematic characteristics & political process explanation regarding social development in usa, uk, europe and india comparatively.
	POL-233 International Relations	1. the students has understand the theoretical evaluation of concepts & approaches of international relations and to thestudy of international relations.

		2. The students has understand characteristics & Political process explanation regarding International Relations with the various theories, concepts and approaches in new era.
	POL-234 (A) Political theory & Key Concepts	1. developing a political outlook for modern political theory &key concept among students. 2. students understand the new concepts of modern ero communism, liberalism, political economy, political system, pluralism etc.

B.A. (Psychology Gen.)

Year	Course	Outcome Students will be able to :-
2017 -18	FYBA Sem - I Foundations of psychology	students improve their knowledge the basic concept andmodern trends in psychology.
2018 -22	FYBA Sem - II Social Psychology	student receive the knowledge about trends in social psychology, fostered interest in psychological research forvarious applications in indian contest.
2017 to 2019	SY BA Sem - III Advanced social Psychology	student receive the knowledge about trends in social psychology, fostered interest in psychological research for various applications in indian contest.
	SYBA Sem - IV Social Psychology Process	student receive the knowledge about trends in social psychology , fostered interest in psychological research forvarious applications in indian contest.
2019 onwards	SY BA Sem - III Human Development Psychology – Early Life	as a learner students understood concept and processes ofhuman development in various domains in life span.
	SY BA Sem - IV Human Development Psychology- Later Life	student received the introduction of concept theories and research in the discipline of psychology also understood the capability of connecting disciplined content to the the personal values and behaviour similarly understood issues in the lifespan.
2017 to 2020	TYBA Sem - V Psy 351A Applied Psychology	students become familiar with the field of psychology andget acquainted with the personal control community relationship decision making similarly got the knowledge about relation to the environment and effect on humanbeing in their day to day life.
	TYBA Sem - VI Psy 361A Applied Psychology and Modern Life	students become familiar with the field of psychology andget acquainted with the personal control community relationship decision making similarly got the knowledge about relation to the environment and effect on humanbeing in their day to day life
2020 onwards	TYBA Sem V DSC-2E Management of Interpersonal Relations	students develop the skill of positive interpersonal ration similarly understood the various domains of human relationship development and adjustment for good decisionmaking and career choice.
	TYBA Sem VI DSC2F Adjustment in Life Spam	students understood the self concept and self esteem develop the skill of stress coping and effect of habit onlifestyle.

	TYBA Sem V GE- 1A – Psy 355 Industrial and Organizational Psychology	the work done in industrial and organisational psychologyin the motivation of worker to workplace the importance ofengineering psychology.
	TYBA Sem VI GE – 1A-Psy355 Industrial and Organizational Behaviour	the personal training and selection the workplace inservant behaviour the work done in industrial and organisation behaviour the correct.

B.A. (Education Gen.)

Year	Course	Outcomes
2017 to 2018	F.Y.B.A. **SEMESTER – I** Edu- 101 : The Introduction to the Foundation of Education	1. the student can understand the aims, growth and development of ancient i 2. the student can understand the nature of intelligence.
	SEMESTER – II Edu- 201 : The Introduction to the Foundation of Education	1. the student can understand the concept of memory. 2. the student can understand the concept of value education
2018 onwards	F.Y.B.A. **SEMESTER – I** Edu- 101 : The Introduction to the Foundation of Education	1. the student can understand the types of intelligence. 2. the student can understand the nature of intelligence. 3. the student can understand the types of intelligence.
	SEMESTER – II Edu- 201 : The Introduction to the Foundation of Education	1. the student can understand the structure of group. 2. the student can understand the group dynamics. 3. the student can understand the structure of group.
2017 to 2019	S.Y.B.A. **SEMESTER – III** Edu- 231 : Psychological Foundation of Education	1. the student can understand the meaning, nature of education psychology. 2. the student can understand the methods of studying behavior. 3. the student can understand the concept of learning.
	SEMESTER – IV Edu- 241 : Psychological Foundation of Education	1. the student can understand the learner‟s special needs. 2. the student can understand the need of learner. 3. the student can understand the process of learning.
2019 onwards	S.Y.B.A. **SEMESTER – III** Edu- 231 :	1. the student can understand the adolescence period. 2. the student can understand the factors affecting learning. 3. the student can understand the concept of childhood.

	Psychological Foundation of Education	
	SEMESTER – IV Edu- 241 : Psychological Foundation of Education	1. the student can understand the principles of teaching. 2. the student can understand the concept of thinking. 3. the student can understand the process of learning.
2017 to 2020	T.Y.B.A. **SEMESTER – V** Edu- 351 : Philosophical, Sociological Foundation of Education	1. the student can understand the goals of education. 2. the student can understand the concept of philosophy of education. 3. the student can understand the concept of holistic health.
	SEMESTER – VI Edu- 361 : Philosophical, Sociological Foundation of Education	1. the student can understand the concept of social change. 2. the student can understand the agencies of education. 3. the student can understand the concept of educational sociology.
2020 onwards	T.Y.B.A. **SEMESTER – V** Edu- 351 : Philosophical, Sociological Foundation of Education	1. the student can develop the positive attitude towards health. 2. the student can understand the process of yoga.
	SEMESTER – VI Edu- 361 : Philosophical, Sociological Foundation of Education	1. the student can understand the problems of disadvantaged group of indian society. 2. the student can understand the social aspect of education.

B.A. (Philosophy Gen.)

Year	Course	Outcomes
2017 to 2018	F.Y.B.A. **SEMESTER – I** PHI G-111 Western Ethics	1. it will introduce the students to the fundamental concepts in ethics. 2. the ethical outcomes are foundations of decision making, motivating others to understand values, identifying consequences of unethical behavior, establishing a culture that reinforces integrity etc. 3. after the completion of this course the students will be able to understand the beauty of life. 4. students get the basic knowledge of morality and other ethical theories of the western thought.
	SEMESTER – II	1. the students after having run through basic ethical

	PHI G-121 Dimensions of Ethics	theories gain a better orientation from the ethical perspective 2. students can assess arguments and philosophical perspectives using critical reasoning. they can write clear and concise explanations and arguments about basis ethical problems. 3. this course helps the students to know the relation between man & environment, influences the life of human beings and also how human beings modify their environment as a result of their growth, dispersal activities, death & decay etc.
2018 Onwards	F.Y.B.A. **SEMESTER – I** PHI G-111- A DSC A 1 - Introduction to Ethics	1. the student can acquire fundamental concepts, terms, definitions, principles interest in the study of ethics. 2. students get the basic knowledge of morality and other ethical theories of the western. 3. students can do research work about western ethics in future. for example, kant's moral concept, the conceptof hedonism, etc.
	SEMESTER – II PHI G-121- A DSC A2 - Dimensions of Ethics	1. the student can understand various moral problems like violence, punishment, evil and indian approaches wherever required. 2. students can assess arguments and philosophical perspectives using critical reasoning. they can write clear and concise explanations and arguments about basis ethical problems. 3. enunciate the ethical implication of rights and duties. 4. this course helps the students to know the relation between man & environment, influences the life of human beings and also how human beings modify their environment as a result of their growth, dispersal activities, death & decay etc.
2016 to 2019	S.Y.B.A. **SEMESTER – III** PHI-231 (G -2) Indian Philosophy (Heterodox) (Introduction to Indian Philosophy Caravaka, Jainism, Buddhism	1. after studying the course the students will be able to understand the basics of this course and the use of this course in different field of philosophy. 2. on completion of this course, students will be able to understand basics of indian philosophy and use indian philosophy as a tool to study and solve the real world problems. 3. this course is also useful in various competitive examinations and research. such as net (jrf), set, ias, pcs (civil services) and teaching jobs.
	SEMESTER – IV PHI-241 (G -2) Indian Philosophy (Orthodox), (Nyaya-Sankhya and Yoga, Advaita Vedanta)	1. after going through this course, students will be able to understand the indian philosophical methods used by different philosophers in their philosophical analysis and investigations. 2. in this course, the nature and importance of methods in indian philosophy will be briefly discussed. the students will be able to understand how different philosophers have adopted varied methods to get knowledge or to clarify ideas and evaluate concepts and thoughts critically. 3. in this course, information about orthodox schools of indian philosophy is being given which is very useful for

		competitive exams like upsc-prelims, ssc, state services, nda, cds and railways etc.
2019 onwards	S.Y.B.A. **SEMESTER – III** DSC-PHI (231) 1 C Indian Philosophy : (Charvaka, Jainism, Buddhism)	1. understand the vedic theism and upanisadic conceptionof atman and brahman 2. acquire thorough knowledge about carvaka, jainism and buddhism. 3. on completion of this course, students will be able to understand basics of indian philosophy and use indian philosophy as a tool to study and solve the real world problems. 4. the course is very important for research work and various competitive examinations such as net (jrf),ias, pcs (civil services) and teaching jobs.
	SEMESTER – IV DSC-PHI (241) 2 C Indian Philosophy : Orthodox	1. comprehend the epistemology and metaphysics of nyaya-vaisesik 2. analyse sankhya‟s theory of evolution and patanjali‟s astanga yoga. 3. elucidate the vedanta philosophy. 4. on completion of this course, students will be able to understand basics of indian philosophy and use indian philosophy as a tool to study and solve the real world problems. 5. the course is very important for research work and various competitive examinations such as net (jrf),ias, pcs (civil services) and teaching jobs.
2017 to 2020	T.Y.B.A. **SEMESTER – V** PHI –G3 Modern Western Thought	1. this course helps the students present karl marx, russell and sartre as revolutionary thinkers and their systems contributing much to the tradition of modern western thought. 2. the students can understand the thinking of modern thinkers in the most important and influential thought tradition in contemporary western philosophy. 3. the outcome of contemporary western philosophy is to increase the horizon of western philosophical thoughts. after studying this course the students will be able to understand the basics of this course and develop new ideas in this course. after this course the students will be able to do their research work in deferent areas of western philosophy.
	SEMESTER – VI PHI –G3 Modern Indian Thought	1. this course provide a comprehensive introduction to key thinkers and visionaries in contemporary indian philosophy and the impact of their ideas on philosophical and political life today. 2. identify some of the foundational problems and issues of contemporary indian philosophy and its political and social context. 3. relate some of the core concepts and theories of contemporary indian philosophy to concepts and ideas in classical indian philosophy and contemporary european thought. 4. identify different ways of “doing philosophy”, develop an ability to use a variety of philosophical approaches in addressing contemporary issues and gain an appreciation

		of how these approaches may be integrated more practically as a "way of life".
2020 onwards	T.Y.B.A. **SEMESTER-V** DSC-PHI-1E(351) Modern Western Thought	1. this course helps the students present karl marx, russell and sartre as revolutionary thinkers and their systems contributing much to the tradition of modern western thought. 2. the students can understand the thinking of modern thinkers in the most important and influential thought tradition in contemporary western philosophy. 3. the outcome of contemporary western philosophy is to increase the horizon of western philosophical thoughts. after studying this course the students will be able to understand the basics of this course and develop new ideas in this course. after this course the students will be able to do their research work in deferent areas of western philosophy. 4. after studying the course the students will be able to understand the basics of this course and the use of this course in different field of philosophy. this course is also useful in various competitive examinations and research.
	SEMESTER-VI DSC-PHI-2F(361) Modern Indian Thought	1. the outcome of the course is to understand the development and its contextuality that has determine modern indian thought 2. the outcome of the course is to makes students aware about the modern indian thinkers i.e. m.k.gandhiji, swami vivekananda and dr. b. r. ambedkar. 3. to help students in their preparation (personal counseling, books) for competitive exams. g. net, set, civil services and teaching jobs, etc.
	T.Y.B.A. (GE) **SEMESTER-V** SEC-PHI – 1 - PHI-3-354- Philosophy of Saint – I	1. students can do research work on the philosophical thoughts of the saints of maharashtra. 2. students will recognize the historical perspective of the traditional philosophical problems of maharashtra. 3. after studying the course, students will be able to present to the society some of the dominant trends of bhakti philosophy in maharashtra such as epistemology, metaphysics and ethics. 4. students will be able to analyze the religious text of the saints of maharashtra.
	T.Y.B.A. (GE) **SEMESTER-VI** SEC-PHI – 2 - PHI-3-364- Philosophy of Saint – II	1. students will articulate and evaluate the values, principles and beliefs of medieval maharashtra on which personal and social decisions depend. 2. students will be able to practice, believe and identify the thoughts of prominent maharashtrian saints like sant dnyaneshwar, sant tukaram sant namdev. 3. 3.students will be able to identify what is the place of bhagavad gita in the sant darshan of maharashtra and how the saints of maharashtra interpret the bhagavad gita. : reconciliation jnana yoga, bhakti yoga, karma yoga 4. students will be able to compare and compare the themes of philosophical thought of various maharashtrian saints.

		5. Students will be able to analyze the religious text of the saints of Maharashtra.

B.A. (Music Gen.)

Year	Course	Outcome Students will be able to :-
2017-2022	F.Y.B.A. Mus. – 101 Mus. – 201	1. intro. with indian classical music 2. intro. with benefits of learning music as a carrier. 3. update on details with theory and general applied music. 4. update with practical basics
2019 to 2022	SYBA MUS 231 Hindustani Sangeet I	1. detail study of foundation of ragas 2. detail study of classical singing skills 3. upgraded with music knowledge by learning different type of singing and history 4. grow and flourish with the encouragement being given to the performing arts.
	SYBA MUS 241 Hindustani Sangeet I	1. it takes time to develop mastery in the indian classical music. first you need to decide that you want to be instrumentalist or vocalist or want to play percussion instruments like tabla.
2017 to 2020 and Onwards	T.Y.B.A. Mus. – 351 Mus. – 361	1. being graduate level updated music knowledge 2. ready to work in field as a teacher or else one 3. enough updated with knowledge for to do masters in the subject.
2022 - Onwards	FYBA - MUS 101 Kanth Sangeet	1. being able to express oneself orally in music singing, composing by experimenting with the voice and participating in playing music together and vocal performances.
	FYBA: MUS 201 Kanth Sangeet	1. being able to read in music: being able to interpret and understand various musical expressions, symbols, signs.

M.A. Music

Year	Course	Outcome Students will be able to :-
2017 to 2021	MAI: MV- 101 & 201: Practical Stage Performance	practice and master the performing skill & to gainconfidence.
	MV- 102 & 202 Practical viva	practice and master to the body structure of basic ragas.
	MV- 103 & 203: Theory of General applied Music	depth study of classical music in all aspects.

	MV- 104 & 204: History and Theory of Music	1. depth study of classical music in all aspects. 2. study about research subject and research in music 3. depth study of classical music in all aspects.
2021 - Onwards	MV 101 Practical Stage Performance	be able to make practical presentation.
	MV 102 Practical Viva	increase memory increases due to the music of students.
	MV 103 Theory of general applied music	1. stage performance. 2. read in music: being able to interpret and understand various musical expressions, symbols, signs .
	MV 104 History and theory of music	1. nurture performing skills in students in the field of hindustani classical and semi classical music 2. popular music (film music/light music/natyasangeet etc
	MV 201 Practical Stage Performance	develop the professional abilities in students as performer, playback singer, music director, musicteachers, accompanist, event manager etc.
	MV 202 Practical Viva	identify, analyze and work conceptually with the elements and organizational patterns of music and theirinteraction, employing this understanding in aural, verbal, and visual analyses and applications.
	MV 203 Theory of general applied music	1. demonstrate a fundamental proficiency in keyboardskills. 2. demonstrate and apply the research skills necessary for musical and contextual understanding of musical elements and relevance.
	MV 204 History and theory of music	1. create original or derivative music. 2. demonstrate and apply the knowledge and performance skills sufficient to teach beginning students on instruments and/or in voice as appropriate to the chosenareas of specialization.
	MV 301 Practical Stage Performance	demonstrate the use of basic concepts, tools, techniques,and procedures to develop a composition from concept to finished product.
	MV 302 Practical Viva	demonstrate the conducting and technical skillsnecessary to effectively and artistically lead a collaborative rehearsal.
	MV 303 Theory of general applied music	demonstrate professional, entry-level competencies inthe major area, including significant technical mastery,capability to produce work and solve professional problems independently, and a coherent set of artistic/intellectual goals that are evident in their work.
	MV 304 History and theory of music	demonstrate and apply relevant pedagogies and the self-assessment necessary for teaching and continuing education in his or her performance area.
	MV 401 Practical Stage Performance	demonstrate the tools necessary for the realization ofcompositions from completion to performance.
	MV 402 Practical Viva	demonstrate through solo and collaborative performances achievement of professional, entry-level competence in the major performance area.
	MV 403	demonstrate and apply knowledge of content,

	Theory of general applied music	methodologies, philosophies, pedagogies, materials,technologies, and curriculum development in music education.
	MV 404 Project work	demonstrate the ability to work on and manage a team in a music industry-related project.

B.Sc. (Bachelor of Chemistry)

Year	Course	Outcome Students will be able to :-
2015-2018	FY B.Sc.CH-101: Physical and Inorganic Chemistry	1. understand specific and equivalent conductance. 2. understand cell constant and use of it to obtain specific and equivalent conductance. 3. know kohlaurach's law and application of it. 4. develop an ability to use conceptual and mathematical tools to express and predict atomic and molecular behavior. 5. convert scientific equation in straight line to get physical parameter for slope and intercept. 6. understand periodic properties. 7. learn properties of s-block elements. 8. understand the concepts of adsorption theories in surface chemistry.
	CH-102: Organic and Inorganic Chemistry	1. understand the general properties of organic compounds, applications of organic compounds. 2. understand the mono functional compounds-common and iupac nomenclature of various type of organic compound. 3. understand the hydrocarbons by many organic reactions. 4. learn the concepts of vsepr theory. 5. understand arrhenius theory, bronsted- lowry theory, and lewis theory. 6. understand ionic product of water, buffer solutions.
	CH-103: Chemistry Practical	1. calibrate the apparatus like volumetric flask, pipette and burette. 2. understand the determination of heat of solution, equivalent weight, surface tension etc. 3. carry out qualitative analysis of acidic and basic radicals. 4. learn the applications of types of titrations for various estimations 5. carry out quantitative analysis by gravimetric method. 6. carry out quantitative analysis by volumetric method.
	CH-201: Physical and Inorganic Chemistry	1. understand deviation of real gas from ideal behavior. 2. understand critical constant and vander waal's constant. 3. identify methods and instruments that can be used to study chemistry. 4. get knowledge of law's of thermodynamics. 5. understand different metallurgical processes for ore extraction. 6. learn properties of p-block elements.
	CH-202: Organic and Inorganic Chemistry	1. understand the preparations, reactions and properties of aldehydes and ketones. 2. understand the preparations, reactions and properties of 3. understand the preparations and reactions of carbonyl group. 4. understand the preparation of carboxylic acids. 5. determine the molecular weight, formula weight, equivalent weight of organic compounds. 6. understand the electronic structures, size of atoms and ions, ionization energy, metallic and non-metallic of p-block elements. 7. understand of s- block elements of alkali metals and alkaline earth metals.
	CH-203: Chemistry Practical	8. handle viscometer to determine the viscosity and relative viscosity of liquids. 9. carry out quantitative analysis by instrumental method using conductometer. 10. estimate of aniline /phenol.

		11. perform qualitative analysis of organic compounds. 12. carry out quantitative analysis by volumetric method and gravimetric methods.
2017 - 2018	SY B.Sc CH 231: Physical and inorganic chemistry	1. understand the electronic structures, size of atoms and ions, ionization energy, metallic and non-metallic of d-block elements. 2. understand concept of helmoltz free energy 3. understand numerical calculations of gibbs free energy. 4. understand concept of vapor pressure of liquids. 5. understand the concept of physical properties of metals
	CH 232: Organic and analytical chemistry:	1. review the concept of isomers and discuss the isomer which results from free rotation of c-c single bond, from achirallity, from restricted rotation, r,s and e,z nomenclature. 2. study of amines their formation and reactivity. 3. study of reactivity, preparation and reactions of organo li, cu, zn compounds. 4. understand the importance of analytical chemistry in analysis of compounds by titrimetric, gravimetric and instrumental methods. 5. know the importance of sampling methods and ways of interpretation of results of analysis. 6. determine the causes of errors and their minimization during analysis 7. learn the application of types of titrations for quantitative analysis of the samples.
	CH 233: Chemistry practical:	1. understand techniques chromatography for separation of components in the mixture. 2. understand recrystallization for purification of organic compounds. 3. prepare various inorganic complexes. 4. analyse the compounds by titrimetric, gravimetric and instrumental methods.. 5. understand to determine thermodynamic parameter.
	CH 241 Physical and inorganic chemistry	1. understand colligative properties and its application calculation of molecular weight of solutes 2. understand concept of electromotive force and its measurement 3. understand about properties of lanthanides and actinides. 4. understand concept of s-s, s-p, p-p, p-d & d-d combination of orbitals. 5. understand about classification of electrodes.
	CH 242: Organic and analytical chemistry	1. understand the synthesis and reaction of 5, 6 member and condensed heterocyclic systems. 2. understand the synthesis of synthetic reagents and their synthetic utility. 3. know the mechanism and stereochemistry of e1, e2 reaction. 4. understand the concept of quantitative analysis by gravimetric methods. 5. understand the concept for separation of analytes in samples by thin layer, paper and column chromatographic methods.
	CH 243: chemistry practical	1. carry out qualitative analysis of organic compounds. 2. determine molecular weight by depression of freezing point method. 3. handle lands bergers apparatus for determination of molecular weight. 4. estimate of nickel and barium gravimetrically. 5. make use of potentiometer for determination of standard electrode

		potential.
2019 onwards	SY B.Sc SEM III	1. understand the concept of ideal and non-ideal solutions. 2. understand the concept of rault's law. 3. understand colligative properties and its application calculation of molecular weight of solutes. 4. understand the electronic structures, size of atoms and ions, ionization energy, metallic and non-metallic of d-block elements.
	CH 302: Organic and Inorganic chemistry:	1. review the concept of isomers and discuss the isomer which results from free rotation of c-c single bond, from achirality, from restricted rotation, r, s and e,z 2. nomenclature. 3. understand the concept of stereochemistry of cyclohexane. 4. understand the synthesis and reaction of 5, 6 member and condensed heterocyclic systems. 5. learn to know about acid-base concept. 6. learn to know about pearson hsab concept, application and limitations.
	CH 303: Practical Chemistry:	1. learn to know about different volumetric techniques for quantitative analysis. 2. learn to know about conductometric and potentiometric titration. 3. estimation of analytes in given sample. 4. understand techniques chromatography for separation of components in the mixture. 5. prepare various organic compounds. 6. understand recrystallization for purification of organic compounds.
	CH-304 : Basic Analytical Chemistry	1. get knowledge about concepts of analytical chemistry. 2. understand the concept of acid–base indicators. 3. learn to know about henderson-hasselbalch equation. 4. learn to know about precipitation titration. 5. learn to know about standardization by mohr's method. 6. understand the concept of halides estimation by fajan's method. 7. understand the concept of chromatography technique.
	SY BSc SEM-IV CH 401: Physical and Inorganic chemistry	1. understand concept of electromotive force and its measurement. 2. understand concept of conductors, insulators and semiconductors. 3. understand concept of helmolthz free energy. 4. understand numerical calculations of gibbs free energy. 5. understand concept of vapor pressure of liquids. 6. understand concept of coordination compounds. 7. understand about classification of electrodes.
	CH 402: Organic and Inorganic chemistry	1. understand the synthesis of synthetic reagents and their synthetic utility. 2. understand nomenclature, preparation and applications of organometallic compounds. 3. understand concept of molecular orbital theory.

	CH 403: Practical chemistry:	1. carry out qualitative analysis of organic compounds. 2. determine molecular weight by depression of freezing point method. 3. estimate of nickel and barium gravimetrically. 4. make use of potentiometer for determination of standard electrode potential. 5. prepare various inorganic complexes. 6. analyse compounds by titrimetric, gravimetric and instrumental methods..
	CH 404: Advanced Analytical Chemistry	1. understand concept of redox titrations. 2. understand concept of complexometric titrations. 3. understand concept of steps of gravimetric analysis.
2017-2020	T.Y.B.Sc.CH 351: Physical chemistry	1. understand spontaneous and non- spontaneous processes. 2. understand the importance of salt bridge in electrochemical cell. 3. understand the concept electrochemical cell and determination of potential of cell 4. understand the laws of photochemistry (grothus drapper law and stark einstein law) 5. understand the concept quantum yield and fluoresce and phosphorescence from jablonskii diagram. 6. understand the various devices to measure the radiation from radioactive sample.
	CH-352: Inorganic chemistry	1. understand the basic concept of the co-ordination compound and identify the types of given ligand, chelates. 2. understand the different physical method for the study of complexes and assumptions, drawbacks and isomerism in werner's theory. 3. understand effective atomic number (ean) and how to calculate ean for any given complexes. 4. understand the modern theories of metal-ligand bond related to valence bond theory. 5. application of cft related to different geometry such as square planer, tetrahedral, octahedral. 6. understand the basic concept about cft. spin magnetic moment, crystal field stabilization energy related to weak and strong field, limitation of theory. 7. understand the modern theories of metal-ligand bond related to molecular orbital theory and difference between b.t., c.f.t. and m.o.t.
	CH-353: Organic chemistry	1. understand polarity picture of carbonyl group and nucleophilic addition reaction to it. 2. introduction concept of aromaticity electrophilic and nucleophilic aromatic substitution reaction. 3. molecular rearrangement involving migration to c, n and oxygen. 4. drawing the resonating structures. 5. understand nucleophilic substitution reactions. 6. understanding electrophilic addition reactions.

	CH-354: Analytical Chemistry SEM V	1. understand procedure of extraction of metal ions using solvent extraction process. 2. understand the application of ion exchange chromatography method for the separation of cations and anions using different types of resins. 3. understand applications of size exclusion chromatography for the separation of analytes based on their size and shapes. 4. understand the working of gas chromatographic unit and apply the knowledge to separate volatile compounds in sample. 5. understand principle, choice of column materials for hplc and its application. 6. understand principles of electrophoresis and choice of techniques of electrophoresis for various applications
	CH-355: Industrial chemistry	1. understand general concept of industrial chemistry. 2. understand manufacturing of sugarcane. 3. understand general idea of differ physical methods used in manufacturing. 4. understand various types of fertilizer. 5. understand manufacturing of beer and spirit. 6. understand the aspects of small scale industry.
	CH 356: (B) Environmental chemistry	1. understand the concept to awareness about environmental chemistry 2. understand the concept about atmosphere and different layer and composition 3. understand the concept. awareness about air pollution and organic inorganic pollutants 4. understand the concept of water pollution and domestic sewage waste water, industrial pollution agriculture pesticide water pollution. 5. understand the different methods of water treatment, water effluents and sewage water. 6. understand the green house gases and globalwarming.
	CH-357,367: Physical Chemistry Practical	1. prepare molar and normal solutions of various concentrations. 2. determine concentration of unknown solutions by spectrophotometric method. 3. measure the ph, pka and ka of various acids by potentiometry. 4. measure refractive index, molar refraction and unknown concentration of various solvents. 5. determine the molecular weight of a given polymer by turbidimetry. 6. investigate the reaction rate.
	CH 358,368: Inorganic practical	1. estimate ores and alloy by gravimetric and volumetric method. 2. separate and analyze binary mixtures by qualitative method 3. prepare and determine percent purity of various inorganic complexes. 4. perform chromatographic technique (paper chromatography). 5. estimate lead, iron by gravimetric method. 6. estimate titanium and iron by spectrophotometric method.
	CH 359,369: Organic practical:	1. separate and analyze binary water insoluble mixture 2. separate and analyze binary water soluble mixture 3. estimate - acetamide, glucose by volumetric method 4. estimate basicity of various acids. 5. prepare various organic compounds. 6. understand thin layer chromatographic techniques and physical constant.

	T.Y.B.Sc Sem VI CH-361: Physical chemistry.	1. understand the types of spectra, rotational, vibration and electronic energy levels. 2. difference between order and molecularity 3. understand the first, second and third order reaction. 4. understand the concept anisotropic, isotropic, etch figure, polymorphism, 5. learn concept photoelectric effect, compton effect and heisenberg's uncertainty principle. 6. understand the concept of x- ray analysis.
	CH-362: Inorganic chemistry	1. understand the electronic structure, extraction uses, oxidation states biological role of cu. 2. know about the all basic theory of acid and bases. 3. understand the concept of hard and soft acid bases concept theories, application and limitations. 4. knowthedifferenttypesandtheoriesofcorrosionandhowtoprotectmetalfromcorrosion.
	CH-363: Organic chemistry	1. understands common terms in spectroscopy. 2. learn physical methods of structure determination which includes ir, uv and nmr. 3. solve the problems based on ir, uv and nmr. 4. understand retro-synthesis. 5. predict synthons and reagents. 6. solve the problems based on retro-synthesis.
	CH-364 Analytical Chemistry	1. perform the analysis of samples using instrumental methods. 2. understand the concepts of spectrometry, know the principles of instruments and their applications. 3. understand principle, working and applications of flame and plasma emission spectrometry. 4. understand principle, instrumentation and application of atomic absorption spectrophotometry 5. understand principle, instrumentation and applications of turbidimetry and nephelometry. 6. understand principle, instrumentation and applications of thermogravimetric methods like tga, dta and dsc.
	CH-365: Industrial chemistry	1. understand the process of manufacturing of petrol and gasoline. 2. understand the process of manufacturing of methanol. 3. understand the process of manufacturing of soap. 4. understand the process of manufacturing of detergents. 5. understand classification of dyes and paints. 6. understand properties of drugs.
	CH 366: Polymer chemistry	1. understand the basic concepts of polymerization. 2. understand the different methods of polymerization. 3. understand various techniques of polymerization. 4. understand the preparation, properties and applications of pe, pvc, polystyrene, polyacrylonitrile, 5. understand the concept glass transition temperature
2020 onwards	T.Y.B.Sc. Sem -VCH 501: Principles of Physical chemistry-I	1. understand the significance of wave function and postulates of quantum mechanics. 2. deduce rate equations and half-life equations for first and second order reactions 3. draw and explain the one and two component system phase diagrams. 4. explain the principles of electrode processes and apply them during practicals.

	CH-502: Inorganic chemistry	1. learn about the vsepr theory and how it can be used to explain molecular shapes 2. learn about the vbt to describe the formation of covalent bonds in terms of atomic orbital overlap. 3. learn about stability of complexes using cfse 4. learn about mot to draw energy diagrams and to predict bond order.
	CH-503: Organic Reaction Mechanism	1. students will learn organic reactions like nucleophilic substitution, electrophilic substitution, nucleophilic addition, electrophilic addition and elimination. 2. students will be able to write/ explain mechanisms of those types of reactions. 3. students will understand how a reaction takes place in one or more steps. 4. students will understand the types of intermediates formed in different reactions 5. students will learn how reagent attacks the substrate molecule and accordingly how bonds break and formed. 6. students will learn how change in structure of substrate, reagent and solvent changes the product formed and its stereochemistry.
	CH-504: Industrial chemistry	1. basic requirements of chemical industry, different terms, operations and processes involved in chemical industry. 2. describe copy right act, patent act and trade marks, bureau of indian standards (bis) and international organization for standardization (iso) 3. basic requirements, raw materials, different processes and operations involved in sugar industry and also different grades of sugar and uses of by-products of sugar industry. 4. importance of fermented products, basic requirements, theory and process of alcohol making, fractional distillation and various terms involved in fermentation industry. 5. understand occurrence of petroleum, theories of formation of petroleum and different terms viz. knocking, anti-knock compounds, octane number, cetane number, gasohol and power alcohol etc. 6. manufacturing processes involved in industrial organic synthesis such as methanol, isopropanol, glycerol, acetylene and aromatic hydrocarbon i.e. toluene from petroleum with their uses.
	CH-505: Analytical Instrumentation	1. explain the fundamentals of analytical methods and instruments for qualitative and quantitative analysis. 2. express the role of analytical chemistry in science. 3. students will be able to function as a member of an inter disciplinary problem solving team.
	CH -506 (A) : Biochemistry	1. students will study biomolecules like carbohydrates, amino acids, proteins, enzymes, lipids and nucleic acids. 2. students will understand definitions, classifications and examples of these biomolecules. 3. students will learn the detailed structure of these biomolecules along with types of bonds or linkages present in their molecules. 4. students will learn the chemical properties of these biomolecules and the action of some reagents on them in the form of reactions or graphical presentation. 5. students will understand biochemical energetics of common energy rich compounds along with hydrolytic reactions. 6. students will learn metabolisms like glycolysis, tca cycle,

		transamination, deamination and β- oxidation through reactions, enzymes involved, outlines and energetics.
	CH-507,607: Physical Chemistry Practical	1. students will get basic analytical and technical skills to work effectively in the various fields of chemistry. 2. students will able to calibrate and handle instruments like conductometer, potentiometer, ph meter, colorimeter, spectrophotometer, polarimeter. 3. they have ability to perform accurate quantitative measurements with an understanding of the theory and use of contemporary chemical instrumentation, interpret experimental results, perform calculations on these results and draw reasonable, accurate conclusions. 4. they get skills required in chemistry such as the proper handling of apparatus and chemicals. 5. they will have ability to present scientific and technical information resulting from laboratory experimentation in both written and oral formats. 6. students will apply conductometer, potentiometer, ph meter, colorimeter, spectrophotometer, polarimetery techniques for analysis and measurement.
	CH -508,608: Inorganic practical	1. student will able to determine cation & anion from inorganic mixtures by using qualitative analysis. 2. student will able to determine metal from ore & alloys. 3. students will be able to design & carry out scientific experiments as well as accurately record & analyze the results of experiments. 4. students will be able to handle colorimeter for estimation of metal ions.
	CH -509,609: Organic practical:	1. separate and analyze binary water insoluble mixture. 2. separate and analyze binary water soluble mixture. 3. estimate - acetamide, glucose and glycine by volumetric method, 4. estimate basicity of various acids. 5. synthesis of various organic compounds through greener alternatives. 6. understand thin layer chromatographic techniques and physical constant. 7. understand the purification technique use in organic chemistry
	T.Y.B.Sc SEM- VI CH-601: Principles of Physical chemistry-II	1. analyze the rotational spectra of diatomic molecules and determine the bond length. 2. explain and apply the radioactivity principles for various chemical and biological investigations. 3. describe the mechanism of fluorescence, phosphorescence and photochemical reactions. 4. analyze the given crystal structure and determine the indices of planes, interplaner distances and type of crystal structure.
	CH-602: Inorganic chemistry	learn about basic principles and synthesis of nanomaterials. learn about classification, composition and processing of cement. learn about classification and composition of alloys. learn about types manufacture and applications of fertilizers.
	CH-603: Organic chemistry	1. students will learn interaction of radiations with matter. they will understand different regions of electromagnetic radiations. they will know different wave parameters. 2. students will learn principle of mass spectroscopy, its instrumentation and nature of mass spectrum. 3. students will understand principle of uv spectroscopy and nature of uv

		spectrum. they will learn types of electronic excitations. 4. students will be able to calculate maximum wavelength for any conjugated system. and from the value of λ-max they will be able to find out extent of conjugation in the compound. 5. students will understand principle of ir spectroscopy, types of vibrations and the nature of ir spectrum. 6. from ir spectrum, they will be able to find out ir frequencies of different functional groups. and thus, they will be able to find out functional groups present in the compound. 7. students will understand principle of nmr spectroscopy and will understand various terms used in nmr spectroscopy. they will learn measurement of chemical shift and coupling constants. 8. students will be able to interpret the nmr data and they will be able to use it for determination of structure of organic compound. 9. students will be able to determine structure of simple organic compounds on the basis of spectral data such as λ max values, ir frequencies, chemical shift (δ values).
	CH-604: Industrial chemistry	1. describe the industrial production of a number of important organic and inorganic compounds / chemicals and products of end use. 2. gain comprehensive knowledge of cutting-edge developments in a field of different chemical industries. 3. importance of cosmetics industry and a general study including preparation and uses of the hair dye, hair spray, shampoo, suntan lotions, lipsticks, talcum powder, nail enamel, creams (cold, and shaving creams). 4. perfumes and identify the distinguishing features of its components and also an essential oils and their importance in cosmetic industries with reference to eugenol, geraniol, sandalwood oil, eucalyptus, rose oil, 2-phenyl ethyl alcohol, jasmone, civetone, muscone etc. 5. know about pesticides both natural and synthetic, benefits and adverse effects of it, also synthesis, manufacture and uses of pesticides viz. organochlorines (ddt, gammexene,); organophosphates (malathion, parathion); anilides (alachlor and butachlor). 6. definition, classification, raw material used in soaps and detergents, reaction involved in it, manufacture of soaps and cleansing action of soaps and detergents. 7. definition, properties of good dyes, relation between colour and constitution, classification of dyes according to their mode of application and chemical constitution. 8. importance's, definition and meaning of the different terms involved in drugs and pharmaceuticals industry and also synthesis, uses, properties and industrial manufacture of paracetamol, aspirin, and chloramphenicol.
	CH-605 Analytical Chemistry	1. compare the instrumental methods and non-instrumental methods and there advantages. 2. solve the problem of detection and separation using analytical instruments. 3. students will be able to explore new areas of research in both chemistry and allied fields of science and technology 4. students will be able to explain why chemistry is an integral activity for addressing social, economic, and environmental problems.

	CH 606 (A): Polymer chemistry	1. define terms like monomer, polymer, polymerization, poly dispersity index, etc., classify polymers based on their origin, native backbone chain, and thermal response. 2. know glass transition temperature and its determination, various ways to express molecular weights of polymers and poly dispersity index. 3. identify different mechanisms of polymerizations *viz*. free radical, ionic, and condensation polymerizations. 4. distinguish techniques of polymerization based on physical conditions required for the preparation of polymers in laboratory or industry. 5. familiar with preparation, properties, and applications of industrially important selected polymers.

M.Sc. Chemistry

Year	**Course**	**Outcome** Students will be able to :-
2017-2020	M.Sc. Part I CH-P-110: Physical Chemistry I	1. understand the terms eigen function, eigen value, operator and postulates of quantum mechanics. 2. understand mechanics of particle in one, two and three dimensional box. 3. learn parent–daughter relationship, application of radioactivity, naa, ida. effect of radiation and units of radiation. 4. learn the fricke and cerric sulphate dosimeter. 5. understand the terms ionic strength, activity coefficient. dho equation. 6. understand the adsorption of gases by solid types of isotherms.
	CH130: Inorganic chemistry Paper I	1. learn molecular orbitals and its orientation. 2. understand about geometry and shape of the molecule 3. learn and find out bond order and dipole moments of the inorganic molecule. 4. learn 18 electron rule and application. 5. determine the point group of inorganic molecules. 6. understand preparation and properties of transition metal carbonyls. 7. understand concept of symmetry elements in molecules.
	CH -150 :Basic Organic Chemistry	1. understand stereochemical principles, enantiomeric relationship r and s, e and z nomenclature in c, n, s, p containing compound. 2. understand sn1, sn2 and sni mechanism and stereochemistry. 3. understand ngp by pi and sigma bonds, classical and non -classical carbocations. 4. understand alkylation and acylation reaction. 5. compare the differ between types of addition, elimination and substitution reaction. 6. learn and solve problem type of elimination
	CH-P-210: Physical Chemistry II	1. understand the thermodynamic description of mixtures state function, exact, inexact differential. 2. understand the colligative properties of solutions, depression in f.p., elevation in b.p, osmotic pressure. 3. understand the statistical thermodynamics and various partition functions. 4. understand the consecutive elementary reactions, rate determining steps, steady state approximation, pre-equilibria, michaelis-menten mechanism, lindemann-hinshelwood mechanism, chain reactions. 5. understand the molecular spectroscopy: ir, raman, electronic and

		mossbauer and its application.
	CH: 230 - Inorganic chemistry Paper II	1. learn mechanism in transition metal complexes. 2. learn radius ratio rule of coordination no3,4, 3. understand the born-haber cycle to calculate lattice energy. 4. understand about classification and use of catalyst. 5. understand about structure of atom, hunds rule, term symbol, calculation of microstates, orbital selection rule. 6. know metal complexes involved in biological systems.vitamin-b12, chlorophyll, heamoglobin.
	CH-250 Name Reactions, Synthetic Organic Chemistry & Spectroscopy	1. learn various name reaction with example. 2. use synthetic reagents of oxidation and reduction for solving the example. 3. understand mechanism of rearrangements reaction. 4. learn factors affecting on uv absorption spectra. 5. interpret ir spectra on basic values ir frequencies. 6. solve problems of uv, ir and nmr.
	CH-290- General Chemistry	1. solve the problems on chemometrics mean and standard deviation. 2. learn theory of electrogravimetric analysis, electrolytic separation and determination of metals. 3. know instrumentation, choice of mobile phase, solvent treatment systems, pumping systems, sample injection systems, columns for high performance liquid 4. chromatography. 5. learn principle, theory of glass membrane potential, the alkaline and acid error, standard buffers, accuracy of ph, measurements with the ph-meter, types of ion-selective electrodes. 6. learn voltammetric electrodes, detectors, amperometric sensors, amperometric titrations. 7. understand phosphorescence, fluorescence and photo luminescent phenomena used for determination of mixtures.
	CH-P-1 : Physical Chemistry Practical	1. prepare molar and normal solutions of various concentrations. 2. determine concentration of unknown solutions and degree of hydrolysis and hydrolysis constant by spectrophotometry. 3. determine stability constant of a complex ion and standard free energy change g0 and equilibrium constant by potentiometry. 4. investigate the rate constant for depolymerization, energy of activation and order of the reaction 5. calculate hammett constant and amount of aspirin in the given tablet by ph-measurement. 6. determine specific rotation and percentage of two optically active substances by polarimetrically.
	CH: I-1: Practical course Inorganic chemistry:	1. perform gravimetric and volumetric analysis ores. 2. analyse binary mixtures by gravimetric and volumetric method. 3. prepare various inorganic complexes and determination of its percent purity. 4. analyse iron from given drug sample and calcium in milk sample. 5. perform paper chromatographic technique. 6. estimate phosphate from waste water by spectrophotometry.

	CH –O- 1 Organic Chemistry practical	1. know uses of chemistry softwares like isi draw, chem draw, chem sketch. 2. draw the different structure of organic compound. 3. perform thin layer chromatography technique for completion of reaction. 4. perform single and two stage preparation. 5. apply knowledge of green principle for organic synthesis 6. make use of soxhlet extractor and steam distillation assembly for purification of organic compound.
2017-2018	M.Sc. II Organic Chemistry Organic CH 350: Organic Reaction Mechanism	1. compare the major and minor product of variety of organic reaction. 2. understand accepted mechanism of organic reaction including all intermediates 3. solve the problems on taft and hammet constant. 4. understand concave upward and downward deviation. 5. learn the types hydrolysis of ester. 6. solve problems on anchimetric assisted reaction.
	CH-351: Spectroscopic Methods in Structure Determination	1. understand principle and instrumentation of 1hnmr, 13cnmr and mass spectroscopy. 2. investigate structures on these techniques. 3. resolve structure of organic compounds by 2d nmr techniques. 4. analyze reaction sequences by using spectroscopic technique.
	CH-352 Organic stereochemistry	1. understand the basic concepts of stereochemistry 2. assign structure of organic molecules. 3. learn three dimensional structure of cyclic and acyclic compounds 4. use selectivity of reagents for chemical reactions. 5. compare the major and minor product of asymmetric synthesis. 6. solve the examples on ord, cd.
	CH-353: Free radical, photochemistry, pericyclic reaction and their applications	1. understand term quantum yield, and electronic states and transitions in molecules. 2. understand norrish-i and norrish-ii cleavages, paterno-buchi reaction. 3. understand photochemistry of olefins and arenes: 1,2-,1,3-and1,4-additions. 4. understand free radical reaction contain halogen, sulphur, and, selenium group transfer reaction. 5. understand selection rule for thermal and photochemical reactions. 6. understand frontier molecular orbital approach [fmo] and aromatic transition state approach according to huckel-mobius system.
	CH-450: Chemistry of Natural Products	1. know concept of biogenesis of natural products. 2. classify sources of various vitamins. 3. learnbiologicalimportanceofvitaminsb1,b2,b6,folicacid,b12,c,d1,e,k1, andk 4. understand and apply the role of enzyme in reactions. 5. synthesize natural organic compounds by chemical methods. 6. learn the stereochemistry of natural product.
	CH-451: Synthetic Methods in Organic Chemistry	1. understand transition metal complexes in organic synthesis, grubb‟s catalyst, ziegler natta catalyst. 2. design the organic compounds by use of synthetic reagents 3. understanding role of umpolung in organic synthesis. 4. understanding protection and deprotection in the synthesis of polypeptide and polynucleotide. 5. know basic principles of green chemistry and design green synthesis. 6. use ecofrindly green reagents, solvents, catalysts and reaction conditions.

	CH-452: Heterocyclic chemistry, Chiron approach, chiral drugs and Medicinal Chemistry	1. know the main synthetic routes and reactivity for variety of heterocyclic compounds and applications. 2. understand important terms–receptor, therapeutic index, bioavailability, drug assay and drug potency used in medicinalchemistry. 3. understand structure of triose, pentose, hexose, stereochemistry and reaction of glucose. 4. understand synthesis and pharmacological activity of s-ibuprofen, s-metaprolol, (+) ephedrime 5. understand basic pharmacokinetics of drugs, anti-microbial drugs, antifungal, antibacterial, anti-viral, anti-protozoals.
	CH-O2 Ternary Mixture Separation	1. separate organic compounds in different phases. 2. perform qualitative test to analyze functional group of organic compounds. 3. learn distillation technique. 4. detect elements n, s, and x in organic compounds. 5. use purification techniques of organic compounds.
	CH -O-3: Three stage preparations	1. perform three stage preparation. 2. draw the reaction mechanism. 3. purify the organic compounds by crystallization. 4. perform chromatographic technique to check completion of reaction. 5. apply the knowledge about different reaction conditions.
	CHO-4: Short Research Project	1. survey literature for the topic of the project. 2. learn to apply reaction conditions for synthesis, isolation of product and give mechanism. 3. handle instruments for analysis and discuss their experimental results. 4. used ict tools to prepare project reports and present it using power point presentation. 5. work within a small team to achieve a common research goal.
2017-2018	M. Sc. II : Analytical chemistry CH-391: Concepts of Analytical Chemistry	1. familiar with the history and concepts and objectives of analytical chemistry. 2. handling of analytical data at industrial level. 3. understand electronic circuits of analytical instruments. 4. use of computer for the interpretation of analytical data. 5. learn decomposition and dissolution method of inorganic samples. 6. learn decomposition and dissolution method of organic samples.
	CH 392: Modern Separation Science	1. understand the general principles of chromatography. 2. know the types of detectors used in chromatographic techniques. 3. learn the various techniques of separation and analysis. 4. understand the scope and applications of separation techniques. 5. learn the various techniques involved in qualitative and quantitative analysis.
	CH-393:Instrumental Methods Of Analysis	1. learn the perspectives of electro gravimetric methods of analysis. 2. learn the instrumentation and working of various techniques such as polarography, coulometry, voltammetry. 3. learn the laboratory and industrial level instrumental techniques. 4. understand the various techniques of quantitative and qualitative analysis such as voltammetry, high frequency titrations, polarimetry. 5. learn the various terminologies involved in instrumental techniques. 6. understand types of chemical analyzers.

	CH-381: Analysis of Organics and Medicinal	1. learn the estimation methods of organic compounds. 2. learn the analysis of petroleum products. 3. understand the analysis of polymers. 4. understand the analysis of agrochemicals. 5. understand the analysis of medicinal and drugs. 6. understand the analysis of pesticides and their toxicological effect.
	CH-491: Spectroscopic Methods of Analysis	1. understand various spectroscopic techniques for quantitative and qualitative analysis. 2. understand the working principles of spectroscopic techniques such as uv-visible-ir, nmr spectroscopy. 3. understand the instrumentation and working of spectroscopic instruments like atomic mass and fluorescence. 4. learn the application of coupled techniques for quantization of data. 5. learn the prediction and quantization of unknown compounds. 6. learn the application and working of moss-bauer spectroscopy.
	CH-492: Special Analytical Methods and Analysis of Complex Materials	1. know various methods and solve problems on radiochemical analysis. 2. learn neutron activation analysis. 3. learn various gas volumetric methods of analysis and solve problems onit. 4. know different method for analysis of minerals and ores. 5. know different method for analysis of various alloy. 6. learn the separation method for solvent thinnable and waterborne coatings into polymeric binders and pigments.
	CH-481: Bio Analysis and Analysis of Food	1. aware about the biological values of food. 2. know the analysis of food products. 3. familiar with the working of food preservatives. 4. know the analysis and use of food additives. 5. learn the techniques used for the determination of food products. 6. proper use of various techniques of forensic analysis.
	CH- A1: ANALYTICAL Chemistry Practical Course I	1. prepare molar and normal solutions of various concentrations. 2. describe the instrumentation required for the various separation techniques and their associated operating principles. 3. determines na, k, ca, li by flame photometric method 4. learn quantitative and quantitative analytical techniques. 5. learn interpretation of data of analysis. 6. know applications and limitations of instrumental methods.
	CH-A-2 Analytical chemistry Practical	1. prepare molar and normal solutions of various concentrations 2. analyse compounds by titrimetric, gravimetric methods. 3. understand techniques chromatography for separation of components in the mixture. 4. estimate glucose and fructose by lane and eynone method.
	CH: A-3: A Short Research Project:	1. working within a small team to achieve a common research goal. 2. carry out project based on the use instrumental methods. 3. search the literature for the project. 4. handle instruments neatly for analysis and discuss their experiment results. 5. know specification of instrumental techniques and interpretation data. 6. use ict tools to write project reports and power point presentation.
2018-2021	M.Sc. II Organic chemistry Organic CH 350: Organic	1. compare the major and minor product of variety of organic reaction. 2. understand accepted mechanism of organic reaction including all intermediates 3. solve the problems on taft and hammet constant. 4. understand concave upward and downward deviation.

	Reaction Mechanism	5. learn the types hydrolysis of ester. 6. solve problems on anchimetric assisted reaction.
	CH-351: Spectroscopic Methods in Structure Determination	1. understand principle and instrumentation of ^{1}hnmr, ^{13}c nmr and mass spectroscopy. 2. investigate structures on these techniques. 3. resolve structure of organic compounds by 2d nmr techniques. 4. analyze reaction sequences by using spectroscopic technique.
	CH-352 (Organic stereochemistry)	1. understand the basic concepts of stereochemistry 2. assign structure of organic molecules. 3. learn three dimensional structure of cyclic and acyclic compounds 4. use selectivity of reagents for chemical reactions. 5. compare the major and minor product of asymmetric synthesis.
	CH-353: Free radical, Photochemistry, Pericyclic Reaction and their applications	1. understand term quantum yield, and electronic states and transitions in molecules. 2. understand norrish-i and norrish-ii cleavages, paterno-buchi reaction. 3. understand photochemistry of olefins and arenes: 1,2-,1,3-and1,4-additions. 4. understand free radical reaction contain halogen, sulphur, and selenium group transfer reaction. 5. understand selection rule for thermal and photochemical reactions. 6. understand frontier molecular orbital approach [fmo] and aromatic transition state approach according to huckel and mobius system.
	CH-450: Chemistry of Natural Products	1. know concept of biogenesis of natural products. 2. classify sources of various vitamins. 3. learn biological importance of vitamins b1,b2,b6,folicacid, b12, c, d1,e,k1,andk 4. understand and apply the role of enzyme in reactions. 5. synthesize natural organic compounds by chemical methods. 6. learn the stereochemistry of natural product.
	CH-451: Synthetic Methods in Organic Chemistry	1. understand transition metal complexes in organic synthesis, grubb's catalyst, ziegler natta catalyst. 2. design the organic compounds by use of synthetic reagents. 3. understanding role of umpolung in organic synthesis. 4. understanding protection and deprotection in the synthesis of polypeptide and polynucleotide. 5. know basic principles of green chemistry and design green synthesis. 6. use ecofriendly green reagents, solvents, catalysts and reaction conditions.
	CH-452: Heterocyclic chemistry, Chiron approach and Medicinal Chemistry	1. know the main synthetic routes and reactivity for variety of heterocyclic compounds and applications. 2. understand important terms–receptor therapeutic index, bio-availability, drug assay and drug potency used in medicinal chemistry. 3. understand structure of triose, pentose, hexose, stereochemistry and reaction of glucose. 4. understand synthesis and pharmacological activity of s-ibuprofen, s-metaprolol, fluorouracil, ampicilline, troglitazone. 5. understand basic pharmacokinetics of drugs anti-microbial drugs, anti-fungal, anti-bacterial, anti-viral, anti-protozoals.

	CH-O2: Separation of ternary mixture using micro-scale techniques	1. separate organic compounds in different phases. 2. perform qualitative test to analyze functional group of organic compounds. 3. learn distillation technique. 4. detect elements n, s, and x in organic compounds. 5. use purification techniques of organic compounds.
	CH -O-3: Three stage preparations	1. perform three stage preparation. 2. draw the reaction mechanism. 3. purify the organic compounds by crystallization. 4. perform chromatographic technique to check completion of reaction. 5. apply the knowledge about different reaction conditions.
	CHO-4: Short Research Project	1. literature survey for the topic of the project. 2. learn to apply reaction conditions for synthesis, isolation of product and give mechanism. 3. handle instruments for analysis and discuss their experimental results. 4. learn to use ict tools to prepare project reports and present it using power point presentation. 5. work within a small team to achieve a common research goal.
2018-2021	M. Sc. II : Analytical Chemistry Sem-III CH-391: Concepts of Analytical Chemistry	1. familiar with the history, concepts and objectives of analytical chemistry. 2. handling of analytical data at industrial level. 3. understand electronic circuits of analytical instruments. 4. learn to use of computer for the interpretation of analytical data. 5. will be able to get knowledge of intellectual property rights (ipr) and plagiarism. 6. will be able to get knowledge of patent process for different products.
	CH 392: Modern Separation Science	1. understand the general principles of chromatography. 2. know the types of detectors used in chromatographic techniques. 3. learn the various techniques of separation and analysis such as gc, hplc and lcms. 4. understand the scope and applications of separation techniques such as reverse osmosis, electro dialysis, zone refining and ultra centrifugation. 5. learn the various techniques involved in qualitative and quantitative analysis.
	CH-393:Instrumental Methods Of Analysis	1. learn the instrumentation and working of various techniques such as polarimetry and high frequency titrations. 2. learn the laboratory and industrial level instrumental techniques. 3. knowledge about instrumentation, performance, verification and callibration of ph meter and karl fischer apparatus. 4. learn the various terminologies involved in automated analysis. 5. understand types of automated analyzers.
	CH-381: Analysis of Organics and Medicinal	1. learn the estimation methods of hydrocarbons, carbonyl, nitrogen and sulphur compounds. 2. learn the analysis of petroleum products. 3. understand the analysis of polymers. 4. understand the analysis of medicinal and drugs. 5. knowledge about assay method of different vitamins.
	M.Sc. II Analytical Chemistry SEM-IV CH-491:	1. understand various spectroscopic techniques for quantitative and qualitative analysis. 2. understand the working principles of spectroscopic techniques such as uv-visible, ir, nmr spectroscopy. 3. understand the instrumentation and working of spectroscopic

	Spectroscopic Methods of Analysis	instruments like atomic mass spectroscopy and atomic fluorescence spectroscopy. 4. learn the application of coupled techniques for quantization of data. 5. learn the prediction and quantization of unknown compounds. 6. learn the application and working of mossbauer spectroscopy.
	CH-492: Special Analytical Methods and Analysis of Complex Materials	1. learn various gas volumetric methods of analysis and solve problems on it. 2. will be able to get knowledge about dissolution apparatus and its method validation. 3. know different method for analysis of minerals and ores. 4. know different method for analysis of various alloy. 5. learn to decomposition and dissolution method of inorganic samples. 6. learn decomposition and dissolution method of organic samples. 7. learn various gas volumetric methods of analysis and solve problems on it.
	CH-481: Bio Analysis and Analysis of Food	1. aware about the biological values of food. 2. know the analysis of food products. 3. familiar with the working of food preservatives. 4. know the analysis and use of food additives. 5. learn the techniques used for the determination of food products. 6. proper use of various techniques of forensic analysis. 7. learn the techniques used for the analysis of biological fluids such as blood, urine.
	CH- A-1: Analytical Chemistry Practical Course I	1. prepare molar and normal solutions of various concentrations. 2. will be able to describe the instrumentation required for the various separation techniques and their associated operating principles. 3. determines na, k, ca, li by flame photometric method 4. learn quantitative and quantitative analytical techniques. 5. learn interpretation of data of analysis. 6. know applications and limitations of instrumental methods.
	CH-A-2 Analytical chemistry Practical	1. prepare molar and normal solutions of various concentrations 2. analyse compounds by titrimetric, gravimetric methods. 3. understand techniques chromatography for separation of components in the mixture. 4. estimate glucose and fructose by lane and eynone method.
	CH: A-3: A Short Research Project:	1. working within a small team to achieve a common research goal. 2. carry out project based on the use instrumental methods. 3. search the literature for the project 4. handle instruments neatly for analysis and discuss their experimental results. 5. know specification of instrumental techniques and interpretation data. 6. use ict tools to write project reports and power point presentation.
	M.SC II Sem III AnalyticalChem.CH-391: Concepts of Analytical Chemistry	1. familiar with the history and concepts and objectives of analytical chemistry. 2. understand electronic circuits of analyticalinstruments. 3. learn decomposition and dissolution method of organic samples. 4. use of computer for the interpretation of analytical data
	CH 392: Modern Separation Science	1. understand the general principles ofchromatography. 2. know the types of detectors used in chromatographic techniques. 3. understand the scope and applications of separation techniques 4. learn the various techniques involved in qualitative and quantitative

		analysis.
	CH-393:Instrumental Methods Of Analysis	1. learn the perspectives of electro gravimetric methods of analysis. 2. learn the laboratory and industrial level instrumental techniques. 3. learn the various terminologies involved in instrumental techniques.
	CH-381: Analysis of Organics and Medicinal	1. learn the estimation methods of organiccompounds. 2. understand the analysis ofpolymers. 3. understand the analysis ofagrochemicals. 4. understand the analysis of medicinal anddrugs.
	CH-491: Spectroscopic Methods of Analysis	1. understand various spectroscopic techniques for quantitative and qualitativeanalysis. 2. ii)understand the instrumentation and working of spectroscopic instruments like atomic mass andfluorescence. 3. learn the prediction and quantization of unknown compounds. 4. iv)learn the application of coupled techniques for quantization ofdata.
M.SC II Sem IV Analytical Chem.	CH-492: Special Analytical Methods and Analysis of Complex Mate	1. know various methods and solve problems on radiochemical analysis. 2. know different method for analysis of minerals and ores 3. iii)know different method for analysis of various alloy. 4. learn the separation method for solvent thinnable and waterborne coatings into polymeric binders and pigments..
	CH-481: Bio Analysis and Analysis of Food	1. aware about the biological values of food. 2. familiar with the working of food preservatives 3. know the analysis and use of food additives 4. learn the techniques used for the determination of foodproducts.
	CH- A1: ANALYTICAL Chemistry Practical Course I	1. prepare molar and normal solutions of various concentrations. 2. determines na, k, ca, li by flame photometric method 3. learn quantitative and quantitative analytical techniques. 4. learn interpretation of data ofanalysis
	CH-A-2 Analytical chemistry Practical	1. prepare molar and normal solutions of various concentrations 2. understand techniques chromatography for separation of components in the mixture. 3. estimate glucose and fructose by lane and eynone method.
	CH: A-3: A Short Research Project:	1. working within a small team to achieve a common research goal. 2. handle instruments neatly for analysis and discuss their experiment results. 3. know specification of instrumental techniques and interpretationdata. 4. use ict tools to write project reports and power pointpresentation.
	Certificate course in Analytical Chemistry	5. describe the various chromatographic techniques and analyze a given chromatogram. 6. idemonstrate an understanding of electrochemistry and the methods used to study the response of an electrolyte through current of potential.

B.Voc. (Bachelor of Voc.)

Year	**Course**	**Outcome** Students will be able to :-

2020-21	F.Y.B.Voc CPAC101, Structure of atom and chemical bonding	1. understand the basic concepts of chemistry. 2. understand the structure of atom and concept of shells, sub shells and dual nature of matter and light. 3. understand the chemical bonding and molecular structure. 4. learn the concept of hybridization involving s, p and d orbital's and shapes of some simple molecules. 5. learn the electronic configuration of atoms and bonding nature of molecules.
	CPAC102, Organic Chemistry-Some basic principles and techniques	1. understand the methods of purification qualitative, quantitative analysis and types of organic reactions. to learn the methods of preparation: chemical reactions: addition of hydrogen, halogen, hydrogen halides and addition reaction of-hydrogen, halogens. 2. understand the aromatic hydrocarbons, alcohols, phenols and ethers. 3. to learn the electrophilic substitution: nitration, halogenation and sulphonation. 4. understand the condensation, cannizzaro's reaction, wittig reaction and wolff Kishner reduction
	CPAC103, Computer for Chemist	1. understand the operating system ms window, basic components and functions of windows. 2. understand the ms -word, introduction to office automation, creating & editing document and formatting document. 3. learn the ms-excel, creating & editing worksheet, formatting and essential operations, formulas and functions, charts, advance features of ms-excel-pivot table. 4. learn the ms-powerpoint: presentations, creating, manipulating & enhancing slides, organizational, charts and excel charts. 5. understand the importance of computer knowledge in chemical analysis field.
	CPAC104, Basic concept of solution preparation - I	1. introduction to solution preparation in chemical analysis. 2. solve the problem of solution preparation in industry 3. perform the analysis of samples using instrumental methods 4. to know types of solutions, solubility, temperature and solubility, effects of pressure on the solubility of gases: henry's law, solid hydrates. 5. to introduction the weight/weight (weight per unit weight), solution weight/weight example, weight/volume (weight per unit volume), solution weight / volume example.
	CPAC105, Introduction to sample and data analysis - I	1. introduction the method of data collection, precision of the results, availability of a sampling frame and resources required to maintain the frame. 2. introduction to the data analysis, terms and concepts and types of analysis 3. solve the problems on chemometrics mean and standard deviation. 4. apply the data analysis on the experimental data 5. know the importance of sampling methods and ways of interpretation of results of analysis.
	CPAC106, Physical principle in Instrumentation - I	1. perform the analysis of samples using instrumental methods 2. understand the concepts of ph meter, know the principles of instruments and their applications 3. understand principle, working and applications of potentiometer. 4. understand principle, instrumentation and application of conductometer

		5. understand the Measurement of Conductance of a Solution
	CPACP111, Practical based on General Education Components	1. identification, importance and used of laboratory glassware, micropipetting and requited apparatus in chemical analysis. 2. preparation of normal solution, molar solution and molal solution in chemical analysis. 3. use of analytical balance, monopan balance & calibrated weight box. 4. learn and know the instrument identification, usage logs, sop, calibration / maintenance 5. learn the basic type of titration in chemical analysis.
	CPACP112, Practical based on Skill Components	1. learn the calibration of volumetric apparatus like pipette and volumetric flask. 2. learn the analysis of inorganic compound containing one cation and anion 3. learn the determination of dissociation constant and equivalent weight. 4. learn the applications of types of titrations for various estimations 5. determine the loss per gram and percentage purity using gravimetrically. 6. carry out quantitative analysis by volumetric method
	CPACP113, Industrial visits and assignments	1. know and working processes in actual situation in chemical industry. 2. know the importance of each department like qa, qc, r&d and production in chemical industry. 3. know and learn the analysis of products. 4. understand the chemical process in large quantity in chemical reactor. 5. know and learn on process analysis at time reaction progress in chemical reactor. 6. know and learn the importance of analysis report and documentation in chemical industry.
	CPAC201,Hydrogen, S and P block elements	1. understand the hydrogen occurrence, isotopes, properties and uses of hydrogen; hydrides ionic, covalent and interstitial, physical and chemical properties of water. 2. know and learn on s-block elements (alkali and alkaline earth metals) 3. understand the industrial use of lime and limestone, biological importance of mg and ca. 4. understand the p-block elements, general introduction, electronic configuration and occurrence. 5. understand the boron, some important compounds: borax, boric acids, boron hydrides. Aluminium: uses, reactions with acids.
	CPAC202, Concept of Analytical chemistry	1. understand the qualitative and quantitative aspects of analysis. accuracy and precision and methods of their expression. 2. understand the principle of acid–base titration, henderson-hasselbalch equation, transition range of indicators. 3. study of following acid base titrations with respect to: neutralization curve, selection of indicators and calculation of ph. 4. study the principle, precipitation titration curve, use of indicators in detection of end point. 5. learn the mohr's method and fajan's method. 6. understand the applications of acid base titrations and precipitation titrations.

	CPAC203, Chemical mathematics	1. understand the rules of logarithm, characteristic and mantissa of logarithm. understand the graphical representation of equations: rules for drawing graph co-ordinates. understand the equation of straight line, slope and intercept, plotting the graph from the data of chemical properties and problems. 2. learn the derivative: rules of algebraic, logarithmic and exponential functions and numerical. 3. understand the rules of integration, algebraic, logarithmic and exponential functions.
	CPAC204, Basic concept of solution preparation – II	1. understand and study the preparation of buffers and other solutions and control the ph of a solution 2. solve the problem of solution preparation in industry 3. perform the analysis of samples using instrumental methods 4. know the accuracy and precision of measurements of solutes and general guidelines for Preparation of Solutions
	CPAC205, Introduction to sample and data analysis – II	1. solve the problems on chemometrics mean and standard deviation. 2. apply the data analysis on the experimental data 3. know the importance of sampling methods and ways of interpretation of results of analysis. 4. introduction: analytical chemistry, its interdisciplinary nature, importance of analytical chemistry, 5. introduction the good laboratory practices: material safety data sheet ,fire safety, Handling of chemicals
	CPAC206, Physical principle in sophisticated instruments – II	1. perform the analysis of samples using instrumental methods 2. understand the concepts of spectrometry, know the principles of instruments. 3. understand principle, working and applications of uv-visible spectroscopy. 4. understand principle, instrumentation and application of conductometer 5. study the application of Conductometer and spectroscopy.
	CPACP211, Practical based on General Education	1. learn and understand the calibration & preventive maintenance -- balance, micropipette, ph meter, colorimeter and muffale furnace. 2. understand and learn recording of temperature & humidity 3. learn the determination heat of solution and relative viscosity. 4. carry out qualitative analysis of organic compounds. 5. learn the basic type of titration in chemical analysis.
	CPACP212, Practical based on Skill Components	1. determination of normality and strength of acid conductometrically. 2. determination of number of molecules of water of crystallization. 3. carry out qualitative analysis of organic compounds. 4. handle instruments neatly for analysis and discuss their experiment results. know and learn the chromatographic technique.
	CPACP213, Industrial visits and assignments	1. learn and understand the processes in actual situation in chemical industry. 2. learn and understand the department work documentation in chemical industry. 3. know and learn the analysis of final products as per sop. 4. understand the final packing and dispatch check list as per costmer . 5. know and learn on process analysis at time reaction progress in chemical reactor.
	CH -O-3: Three stage preparations	1. perform three stage preparation. 2. purify the organic compounds by crystallization. 3. perform chromatographic technique to check completion of reaction.

	CHO-4: Short Research Project	1. survey literature for the topic of the project. 2. Learn to apply reaction conditions for synthesis, isolation of product and givemechanism. 3. Used ICT tools to prepare project reports and present it using Power pointpresentation. 4. Work within a small team to achieve a common researchgoal.

Year	Course	Outcome Students will be able to :-
2020-21	**F.Y.B.voc** CPAC101, Structure of atom and chemical bonding	1. understand the basic concepts of chemistry. 2. understand the structure of atom and concept of shells, sub shells and dual nature of matter and light. 3. understand the chemical bonding and molecular structure. 4. learn the concept of hybridization involving s, p and d orbital's and shapes of some simple molecules. 5. learn the electronic configuration of atoms and bonding nature of molecules.
	CPAC102, Organic Chemistry-Some basic principles and techniques	1. understand the methods of purification qualitative, quantitative analysis and types of organic reactions. to learn the methods of preparation: chemical reactions: addition of hydrogen, halogen, hydrogen halides and addition reaction of-hydrogen, halogens. 2. understand the aromatic hydrocarbons, alcohols, phenols and ethers. 3. to learn the electrophilic substitution: nitration, halogenation and sulphonation. 4. understand the condensation, cannizzaro's reaction, wittig reaction and wolff kishner reduction
	CPAC103, Computer for Chemist	1. understand the operating system ms window, basic components and functions of windows. 2. understand the ms -word, introduction to office automation, creating & editing document and formatting document. 3. learn the ms-excel, creating & editing worksheet, formatting and essential operations, formulas and functions, charts, advance features of ms-excel-pivot table. 4. learn the ms-powerpoint: presentations, creating, manipulating & enhancing slides, organizational, charts and excel charts. 5. understand the importance of computer knowledge in chemical analysis field.
	CPAC104, Basic concept of solution preparation - I	1. introduction to solution preparation in chemical analysis. 2. solve the problem of solution preparation in industry 3. perform the analysis of samples using instrumental methods 4. to know types of solutions, solubility, temperature and solubility, effects of pressure on the solubility of gases: henry's law, solid hydrates. 5. to introduction the weight/weight (weight per unit weight), solution weight/weight example, weight/volume (weight per unit volume), solution weight / volume example.
	CPAC105, Introduction to sample and data analysis - I	1. to introduction the method of data collection, precision of the results, availability of a sampling frame and resources required to maintain the frame. 2. introduction to the data analysis, terms and concepts and types of analysis 3. solve the problems on chemometrics mean and standard deviation. 4. apply the data analysis on the experimental data 5. know the importance of sampling methods and ways of interpretation of results of analysis.
	CPAC106,	1. perform the analysis of samples using instrumental methods

	Physical principle in Instrumentation - I	2. understand the concepts of ph meter, know the principles of instruments and their applications 3. iunderstand principle, working and applications of potentiometer.understand principle, instrumentation and application of conductometer 4. understand the measurement of conductance of a solution
	CPACP111, Practical based on General Education Components	1. identification, importance and used of laboratory glassware, micropipetting and requited apparatus in chemical analysis. 2. to preparation of normal solution, molar solution and molal solution in chemical analysis. 3. use of analytical balance, monopan balance & calibrated weight box. 4. learn and know the instrument identification, usage logs, sop, calibration / maintenance 5. learn the basic type of titration in chemical analysis.
	CPACP112, Practical based on Skill Components	1. learn the calibration of volumetric apparatus like pipette and volumetric flask. 2. learn the analysis of inorganic compound containing one cation and anion 3. learn the determination of dissociation constant and equivalent weight. 4. learn the applications of types of titrations for various estimations 5. determine the loss per gram and percentage purity using gravimetrically. 6. carry out quantitative analysis by volumetric method
	CPACP113, Industrial visits and assignments	1. know and working processes in actual situation in chemical industry. 2. know the importance of each department like qa, qc, r&d and production in chemical industry. 3. know and learn the analysis of products. 4. understand the chemical process in large quantity in chemical reactor. 5. know and learn on process analysis at time reaction progress in chemical reactor. 6. know and learn the importance of analysis report and documentation in chemical industry.
	CPAC201, Hydrogen, S and P block elements	1. understand the hydrogen occurrence, isotopes, properties and uses of hydrogen; hydrides ionic, covalent and interstitial, physical and chemical properties of water. 2. know and learn on s-block elements (alkali and alkaline earth metals) 3. understand the industrial use of lime and limestone, biological importance of mg and ca. 4. understand the p-block elements, general introduction, electronic configuration and occurrence.understand the boron, some important compounds: borax, boric acids, boron hydrides. aluminium: uses, reactions with acids.
	CPAC202, Concept of Analytical chemistry	1. understand the qualitative and quantitative aspects of analysis. accuracy and precision and methods of their expression. 2. understand the principle of acid–base titration, henderson-hasselbalch equation, transition range of indicators. 3. study of following acid base titrations with respect to: neutralization curve, selection of indicators and calculation of ph.

		4. study the principle, precipitation titration curve, use of indicators in detection of end point. 5. learn the mohr's method and fajan's method. 6. understand the applications of acid base titrations and precipitation titrations.
	CPAC203, Chemical mathematics	1. understand the rules of logarithm, characteristic and mantissa of logarithm. 2. understand the graphical representation of equations: rules for drawing graph co-ordinates. 3. understand the equation of straight line, slope and intercept, plotting the graph from the data of chemical properties and problems. 4. learn the derivative: rules of algebraic, logarithmic and exponential functions and numerical. 5. understand the rules of integration, algebraic, logarithmic and exponential functions.
	CPAC204, Basic concept of solution preparation – II	1. understand and study the preparation of buffers and other solutions and control the ph of a solution 2. solve the problem of solution preparation in industry 3. perform the analysis of samples using instrumental methods 4. know the accuracy and precision of measurements of solutes and general guidelines for preparation of solutions
	CPAC205, Introduction to sample and data analysis – II	1. solve the problems on chemometrics mean and standard deviation. 2. apply the data analysis on the experimental data 3. know the importance of sampling methods and ways of interpretation of results of analysis. 4. introduction: analytical chemistry, its interdisciplinary nature, importance of analytical chemistry, 5. introduction the good laboratory practices: material safety data sheet ,fire safety, handling of chemicals
	CPAC206, Physical principle in sophisticated instruments – II	1. perform the analysis of samples using instrumental methods 2. understand the concepts of spectrometry, know the principles of instruments. 3. understand principle, working and applications of uv-visible spectroscopy. 4. iunderstand principle, instrumentation and application of conductometer 5. study the application of conductometer and spectroscopy.
	CPACP211, Practical based on General Education	1. learn and understand the calibration & preventive maintenance -- balance, micropipette, ph meter, colorimeter and muffale furnace. 2. understand and learn recording of temperature & humidity 3. learn the determination heat of solution and relative viscosity. 4. carry out qualitative analysis of organic compounds. 5. learn the basic type of titration in chemical analysis.
	CPACP212, Practical based on Skill Components	1. determination of normality and strength of acid conductometrically. 2. determination of number of molecules of water of crystallization. 3. carry out qualitative analysis of organic compounds. 4. handle instruments neatly for analysis and discuss their experiment results. 5. know and learn the chromatographic technique.
	CPACP213, Industrial visits	1. learn and understand the processes in actual situation in chemical industry.

	and assignments	2. to learn and understand the department work documentation in chemical industry. 3. know and learn the analysis of final products as per sop. 4. understand the final packing and dispatch check list as per costmer . 5. to know and learn on process analysis at time reaction progress in chemical reactor.
	S.Y.B.voc CPAC301 Solutions, Electrochemistry and Colligative Properties	1. understand colligative properties and its application calculation of molecular weight of solutes 2. understand concept of electromotive force and its measurement 3. understand about classification of electrode
	CPAC302 Stereoisomerism and Heterocyclic compound	1. review the concept of isomers and discuss the isomer which results from free rotation of c-c single bond, from achirallity, from restricted rotation, r,s and e,znomenclature.
	CPAC303 Electronics for chemist	1. understand the electronic structures, size of atoms and ions, ionization energy, metallic and non-metallic properties
	CPACP311 Practical based on General Education Components	1. determination of molecular weight of solute (acetanilide / m-dinitrobenzen, sulphur) by depression of freezing point method.
	CPAC304 Sample preparation and analytical extraction techniques - I	1. learn to know about different volumetric techniques for quantitative analysis 2. understand techniques chromatography for separation of components in the mixture. 3. learn to know about conductometric and potentiometric titration
	CPAC305 Basic functions of QA, QC and HRD in industry - I	1. know the role of laboratory quality assurance program, quality assurance coordinator , sample clerk. 2. qualityassurance in sampling, quality assurance in measurements, methods 3. concept of human recoursedevelopment,
	CPAC306 Principle of separation techniques in chemical analysis - I	1. mechanism of extraction: extraction by solvation and chelation 2. qualitative and quantitative aspects of solvent extraction. 3. chromatographic separation of the active ingredients of plants, flowers and juices by tlc.

B.Sc. (Bachelor of Botany)

Year	Course	Outcome Students will be able to :-

2017 to 2018	T.Y B.Sc Sem I and Sem II BOT. 351 Diversity of Lower Cryptogams	1. study salient features of cryptogamic plants. 2. make students aware of the status of cryptogams as a group in plant kingdom. 3. study the life cycles of selected genera. 4. study economic importance of cryptogamic plants.
	BOT. 352 Paper II: Taxonomy of Angiosperms	1. study origin of angiosperms with respect to age and probable ancestors. 2. study pre-darwinian and post- darwinian systems of classification. 3. study various angio spermic families emphasizing their morphology, biology, phylogeny and interrelationship. 4. study functions and botanical features of botanical gardens. 5. know role of anatomy, embryology and palynology in taxonomy.
	BOT. 353 Paper III: Genetics and Molecular Biology	1. introduce the students with “science of heredity”. 2. study the role of genes in evolution of species. 3. study linkage, segregation and mutation of genes during evolution. 4. study the scope and importance of molecular biology. 5. study the biochemical nature of nucleic acids, their role in living systems, experimental evidences to prove dna as a genetic material. 6. understand the process of synthesis of proteins and role of genetic code in polypeptide formation. 7. study the concept of gene, its classical nature, comparison with modern approach. 8. understand organization of nucleic acids in prokaryotes and eukaryotes
	BOT. 354 Paper IV: Advanced Plant Physiology	1. understand about mineral nutrition in plants. 2. study the growth and developmental processes in plants. 3. learn about movement in plants. 4. study fat metabolism under primary metabolism of plant
	BOT. 355 Paper V : Plant Ecology and Phytogeography	1. know scope and importance of the discipline. 2. study the ecological techniques. 3. know about plant communities. 4. know about conservation of natural resources, energy and pollution. 5. study botanical regions of india. 6. study vegetation types of maharashtra
	BOT. 356 Paper VI : OPTIONAL (Only One) BOT. 356.2: Gardening	1. know the concept of garden. 2. study the different characters of garden. know about regular activities in gardening. study the different ornamental garden plants. 3. study about the techniques of pot culture, bonsai, topiary, lawn, rockery.
	Sem II BOT. 361 Paper I: Diversity of Higher Cryptogams	1. study salient features of cryptogamic plants. make students aware of the status of cryptogams as a group in plant kingdom. study the life cycles of selected genera. 2. study economic importance of cryptogamic plants.
	BOT. 362 Paper II: Gymnosperms & Paleobotany	1. study gymnosperms with respect to distinguishing characters, comparison with angiosperms, and classification. 2. study the life cycles of pinus and gnetum. 3. study the scope of paleobotany, types of fossils 4. study the various fossil genera representing different fossil groups
	BOT. 363 Paper	1. know science of plant breeding

	III: Plant Breeding	2. introduce the student with branch of plant breeding for the survival of human being from starvation. study the techniques of production of new superior crop verities
	BOT. 364 Paper IV: Plant Biochemistry	1. introduce the students with current status of biochemistry. 2. recognize the impact of biochemistry on socioeconomic aspects of life. 3. develop the knowledge of industrial application of biochemist
	BOT. 365 Paper V: Embryology & Palynology	1. know scope and importance of embryology and palynology. 2. study structure and development in microsporangium and megasporangium. 3. study microsporogenesis and megasporogenesis. 4. study male and female gametophytes. 5. study fertilization, endosperm, embryo formation and polyembryony. 4. study structure of pollen morphology and aerobiology
	BOT. 366 Paper VI: OPTIONAL (Only One) BOT. 366.4: Horticulture	1. know horticulture, its scope, importance and its disciplines. 2. know the horticultural zones of india and maharashtra 3. understand different horticultural practices and their methods. 4. study importance, principles and types of bahar treatment. 5. study role played by green and poly-houses in horticulture. 6. study production technology, harvesting and marketing of crops grown especially in khandesh region of maharashtra. 7. understand methods of preservation and preparation of preserved products
	BOT. 301 Practical Paper I: (Based on Paper I & III)	1. learn diversity of cryptogams 2. able to take fine sections of plant material 3. learn hybridization techniques 4. get skills of plant breeding techniques 5. knowledge about field crops, crop varieties
	302 Practical Paper II: (Based on Paper II & IV	1. identify the diversity and 2. gymnosperms with respect to distinguishing characters, comparison with angiosperms, and classification. 3. correct identification of fossils 4. perform skillfully the practical based on biochemistry
2018-2019	F.Y B.Sc. Sem I and II BOT. 101: Microbial Diversity, Algae and Fungi	1. understanding the microbial diversity 2. know the knowledge about causal factor responsible for plant diseases and how to control the plant diseases 3. learn characters microbes, of algae, fungi
	BOT102: Plant Taxonomy	1. learn system of classification 2. learn some families from monocot and dicot plants 3. plant identification 4. know the scientific names of plants 5. get awareness on conservation of plant diversity
	BOT103 Practical Based on Bot 101,102	1. know the equipment used in microbiology 2. study symptoms and control measures of the plant viral, bacterial and fungal diseases 3. determine the ph of soil 4. learn adaptations 5. gain the knowledge on host parasite interaction process
	BOT – 202: Plant Ecology	1. approaches to the study of ecology 2. floristic region of india 3. gain knowledge about food web and food chain 4. succession process 5. environment sustainability awareness

	BOT203: Practical Based on Bot 201, 202.	1. know how to handle the equipment 2. adopt bacterial staining technique 3. know how to study the vegetation pattern
2019-20	S.Y B.Sc. Sem I and II BOT. 301: Plant Anatomy	1. know scope and importance of plant anatomy 2. study of tissue, types, functions 3. know primary structure of dicot and monocot root stem, leaf 4. understand the concept of secondary growth
	BOT. 301: Plant Physiology	1. know scope and importance of plant physiology 2. learn plant and plant cell in relation to water 3. understand mechanism of absorption of water, gases and solutes 4. learn growth at various level 5. know different process in relation with structure of organism and its environment 6. know transpiration. mineral nutrition and phytohormones.
	BOT. 304: Mushroom Culture Technology (Skill Enhancement Course)	1. know about nutritional values and medicinal value of edible mushroom 2. differentiate between edible and nonedible mushrooms 3. obtain the skill about the cultivation technique of button mushrooms. 4. gain the knowledge on present status of mushroom industry, and centers of cultivation in 8ndia 5. know the preservation techniques of mushroom 6. recipe of mushrooms
	BOT. 401: Plant Embryology	1. know scope and importance of plant embryology 2. study structure of micro and megasporangium 3. study pollination, fertilization, endosperm and embryo development process
	BOT. 402: Plant Metabolism	1. know scope and importance of plant metabolism 2. understand the process and mechanism of photosynthesis, respiration, nitrogen metabolism 3. learn enzymes, structure, enzyme action
	BOT. 403: Practical Based on BOT: 401 and BOT: 402	1. learn to do skillfully the experiments on photosynthesis and respiration
	Bot. 404: Nursery and Gardening (Skill Enhancement Course)	1. learn concept of nursery and gardening 2. improve skills for growing fresh and safe vegetable 3. create awareness about home gardening 4. develop different skills for gardening operations, 5. indoor gardening
2020 to 2021	T.Y.B.Sc Sem I & II Bot. 501: Lower Cryptogams	1. study silent features of cryptogamic plants 2. lean the classification system of algae up to division 3. study importance of algae, fungi 4. lean about life cycle study of algae
	Bot. 502: Morphology and Systematics of Angiosperms	1. study vegetative, floral morphology of angio spermic plants 2. learn the origin of angiosperms 3. study various families emphasing their morphological and floral features 4. know the role of anatomy and embryology in taxonomy
	Bot. 503: Cell biology and Genetics	1. study prokaryotic and eukaryotic types of cells 2. study the components and their functions 3. learn cell, cell organelles, functions, cell cycle cell division

		4. know the science of heredity 5. know linkage, crossing over segregation mutation 6. lean the mendelian principles
	Bot.504: Plant Physiology and Biochemistry	1. study growth patten of plant 2. study physiology of flowering 3. learn phenomenon of photoperiodism and effect of phytohormones on flowering 4. know the path of translocation 5. study biomolecules in plants 6. study secondary metabolites and their role inplants
	Bot. 505: Biofertilizers (SKILL ENHANCEMENT COURSE)	1. know the concept of biofertilizers and biofertilizer technology in agriculture 2. know organic farming, green manuring 3. know the mycorrhizal association 4. create self-employment opportunities among the students
	Bot. 506B: Horticulture (ELECTIVE COURSE)	1. understand the scope, disciplines and importance of horticulture 2. understand the different horticultural practices like pruning, training, budding, grafting, layering 3. preservation of fruits and vegetables
	Bot. 507: Practical - I: Based on BOT. 501 & BOT. 505	1. study features of cryptogamic plants 2. can culture blue green algae 3. learn to prepare of compost 4. can established their own ventures based on biofertilizers
	Bot. 508: Practical - II: Based on BOT. 502 & BOT. 506B	1. observation of morphological and floral features of angiosperms. 2. know the role of anatomy and embryology in taxonomy 3. understand the adopt different skills in horticultural practices like pruning, training, budding, grafting, layering 4. preservation of fruits and vegetables
	Bot. 509: Practical - III: Based on BOT. 503 & BOT. 504	1. solve the examples on monohybrid and dihybrid ratio. 2. know the science of heredity and variation
	Bot. 601, Paper - I: Higher Cryptogams	1. study silent features of higher cryptogamic plants 2. study the life cycle of marchantia, anthoceros, polytrichum.psilotum, lycopodium,marselia
	Bot. 602, Paper - II: Gymnosperms & Paleobotany	1. study gymnosperms with respect to distinguishing characters 2. study of life cycle of pinus and gentium 3. to study scope paleobotany, fossils, types of fossils
	Bot. 603, Paper - III: Molecular Biology	1. study molecular biology in relation to genetic material, its inheritance, modifications, replication 2. study the mitochondria and chloroplast dna 3. study protein synthesis 4. learn gene regulation in prokaryotic and eukaryotic
	Bot. 604, Paper - IV: Economic Botany	1. know useful bio resources of prime importance to mankind 2. know botanical, chemical and nutritional value and value of legumes, sugar, vegetable, fruits, spices 3. learn general account and uses of rubber, fibre and timber
	Bot. 605, Paper - V: Floriculture (SKILL ENHANCEME	1. lean management and routine garden operations 2. know the commercial floriculture. 3. know scope and importance of floriculture 4. study methods of propagation

	NT COURSE	5. study diseases and pest of ornamental plants
	Bot. 606.B, Paper - VI: Plant Breeding (ELECTIVE COURSE)	1. know in detail about breeding system 2. learn the techniques of hybridization 3. understand the role of mutation in plant breeding 4. learn methods of self-pollinated, cross-pollinated plants
	Bot. 607, Practical - I: Based on BOT. 601 and BOT. 605	1. can take fine sections of following and develop to describe the anatomical features of these cryoptogams polytrichum.psilotum, lycopodium,marselia 2. adopt garden operations skills 3. learn how to take care of ornamental plants and techniques how to increase shelf life of delicate flowers 4. develop aesthetic and creativity to prepare floral bouquets
	Bot. 608, Practical - II: Based on BOT. 602 and BOT 606	1. learn life cycle of pinus and gentium 2. learn the techniques of hybridization 3. practical knowledge about plant breeding 4. identify fossils and its types fossils
	Bot. 609, Practical - III: Based on BOT. 603 and BOT. 604	1. perform the experiment based on molecular biology know the importance of natural resources to mankind. 2. know botanical, chemical and nutritional value and value of legumes, sugar, vegetable, fruits, spices 3. learn general account and uses of rubber, fibre and timber

M.Sc. Botany

Year	**Course**	**Outcome** Students will be able to :-
2021-22	M.Sc. Botany I BOT -101:Plant Systematics-I(Algae, Fungi &Bryophytes)	1. able to differentiate cryptogamic plants 2. able to describe life cycle patterns in cryptogams. 3. higher cognitive skills will develop
	BOT-102 - Taxonomy of Angiosperms	1. student provide with importance of classification in angiosperms. 2. they will get the knowledge of recent system of classification in angiosperms. 3. this course helps to make them aware of wild plants their habit and habitat from field tour. 4. student will know biological adaption and evolutionary trends of angiosperm.
	BOT 105 – Applied Plant Biotechnology	1. the fundamentals of totipotency, plant tissue culture techniques. 2. study transgenic technology for the improvement of quality and quantity of plant and there by product. 3. understand the advantages of in vitro propagation in various areas. 4. understand the application and importance of plant tissue culture and transgenic plant in the field of botany
	AC-101: Practicing Cleanliness	1. make students aware of clean india mission and inculcate cleanliness practices among them.
	Bot. 201: Plant Systematics- II	1. examine the distribution, morphology, anatomy & reproduction mentioned in the syllabus 2. students will know about economic importance of pteridophytes &

	(Pteridophytes, Gymnosperms and Palaeobotany)	gymnosperms 3. understand the significance of palaeobotany. 4. familiarize the basic skills to identify cryptogams & gymnosperms.
	BOT 202 : Plant Physiology and Biochemistry	1. the students are aware about the knowledge of the process such as diffusion, osmosis and imbibition that occurs in the plant cells 2. students will get the knowledge of the important process like photosynthesis and respiration in plants. 3. the students will able to know the stepwise reactions occur in plant process like photosynthesis, respiration and fatty acid synthesis as well as catabolic activities. 4. students will aware about the basic concepts of biochemistry. 5. students will get the structure, composition of primary and secondary metabolites
	AC 201: Soft skills	1. enhance leadership quality among the students 2. adopt communication skills
	BOT 203: Cytogenetics and Molecular Biology	1. to study structural organization and variation in the chromosome as well as karyotype analysis. 2. to study extra-chromosomal inheritance in the plant system. 3. to study molecular biology about genetic material, its inheritance, modification, replication, and repair. 4. to study transcription, translation post-translation modification of a protein. 5. to study gene regulation in prokaryotes and eukaryotes.

M.Sc. Microbiology

Year	**Course**	**Outcome** Students will be able to :-
2021-22	M.Sc. Micro I MB - 101: Microbial Taxonomy and Diversity	1. differentiate various groups of microbes and microbial taxonomy 2. acquire knowledge on adaptability of extremophiles and microbial diversity 3. acquaint with the scope of microbiology in different diversified areas.
	MB-102: Microbial Physiology and Biochemistry	1. acquire knowledge on metabolism of biomolecules 2. familiarise with amino acids, proteins, lipids, nucleic acids and enzymes 3. understand biochemical reactions in microbial cells and metabolic pathway diversity
	MB-103: Methods in Microbiology	1. develop expertise in basic analytical techniques of microbiology. 2. get knowledge in the analysis of biomolecules 3. carry out microbial techniques related to isolation, identification of algae, fungi, archea
	MB - 104: Methods in Microbial Chemistry	1. acquire expertise in basic biochemical techniques 2. get knowledge in the analysis and estimation of biomolecules 3. carry out biochemical analysis
	MB - 105: Bioinstrumentation	1. acquire knowledge on basic biophysical and biochemical aspects 2. learn purification of molecules, analytical tools, electrophoretic separation
	AC-101: Practicing	1. identify need at of cleanliness at home/office and other public places. 2. plan and observe cleanliness programs at home and other places.

	Cleanliness	3. practice japanese 5-s practices in regular life.
	MB – 201: Molecular Biology and Bioinformatics	1. receive elaborate knowledge on nucleic acids and molecular mechanisms in bacteria 2. understand gene expressions and signal sequences in bacteria 3. get thorough knowledge about fundamental aspects on bioinformatics
	MB - 202: Microbial Enzymology	1. understand fundamental as well as kinetics of enzyme catalysed reactions 2. apply the knowledge to explore applications of various enzymes 3. identify how extremophiles act as a source of extremozyme.
	MB - 203: Immunology	1. understand fundamental basis of immune system and immune response 2. apply host defence, allergy, organ transplant and immunological diseases 3. use various immunochemical techniques for diagnosis of diseases.
	MB - 204: Methods in Molecular Biology and Immunology	1. undertake gene transfer in different bacteria and make use of pcr amplification of dna. 2. apply molecular diagnostic and immunodiagnostic techniques.
	MB - 205: Methods in Enzymology	1. isolate, purify enzyme of interest from microbial system,characterize the enzyme and trace out application(s) of that enzyme 2. use the technique of enzyme assay to determine its specific activity, ph and temperature optima, km, vmax, kcat of enzyme and activation energy using arrhenius plot. 3. immobilize enzyme for particular application and familiarize with algorithm for protein.
	AC-201(A): Soft Skills	1. identify their lacunas about some soft skills and try to overcome the same. 2. practice learned soft skills in real life and do their jobs more effectively.

B.Sc. (Bachelor of Zoology)

Year	**Course**	**Outcome** Students will be able to :-
2017-2020	**FYBSc I ZOO 111 Non Chordates I**	1. systematic position, habitat and habits external characters and sexual dimorphism of prawn. 2. study the anatomy of vital systems with respect to functions.
	ZOO 112 Cell Biology	1. learn the scope of cell biology, distinguishing characters between plant cell and animal cell. 2. understand the cell cycle, nucleic acids, gene and genetic code, protein biosynthesis.
	ZOO 121 Chordate I	**1.** systematic position, habitat and habits external characters and sexual dimorphism of garden lizards. to study anatomy of vital systems w.r.to functions.
2017-2020	**Sybsc** ZOO 231 Non-Chordates II	1. comprehend with the characters of leech with help of animal sea star w.r.to its external morphology. it gives insight into basic concepts like locomotion in protozoa and foot in mollusca.
	ZOO 232 Medical	1. understanding of fundamental complement of numerous diseases

	Zoology	which have significant impact on human health.
2017-2020	**TYBSc I** Zoo 351 Non-chordates III	1. study of animal type from non-chordates.
	Zoo 352 Cell and Molecular biology	1. student will acquaint with basic knowledge of cell and its components, application of dna technology and molecular biology for research.
	Zoo 353 Mammalian Histology and Physiology I	1. imparts knowledge about various embryonic and developmental mechanisms of the human body.
	Zoo 354 Biochemistry	1. interactions and interdependence of physiological and biochemical processes.
	Zoo 355 Systematics, Evolution and Palaeontology	1. with the study of this paper students gain knowledge in the areas of responses to systematic position, general organization, concepts of evolution and phylogeny.
	Zoo 356 A) Biotechnology	1. it gives insight into various cell/tissues culture techniques, understanding of in vitro culturing of organisms and production of transgenic animals.
	Zoo 357 Practicals related to Zoo 351 and Zoo 353	1. this practical course will impart demonstration of anatomy of different vital systems, physiological mechanisms of type animals as well as human. 2. imparts knowledge about various embryonic and developmental mechanisms of the human body.
	Zoo 358 Practicals related to Zoo 352 and Zoo 355	1. study of 3-d microphotographs of cell organelles and study of evolutionary history of mankind. practical knowledge of taxonomic keys.
	Zoo 359 Practicals related to Zoo 354 and Zoo 356	1. students will get acquainted with various biochemical reactions ex-situ, estimation of nucleic acids
	IIZoo 361 Chordates III	1. study of animal type *scoliodon* as representative from chordates
	Zoo 362 General Embryology	1. comprehensive, detailed understanding of the chemical basis of heredity. comprehensive and detailed understanding of genetic methodology and how quantification of heritable traits in families and populations provides insight into cellular and molecular mechanisms. 2. understanding the role of genetic mechanisms in evolution.
	Zoo 363 Mammalian Histology and Physiology II	1. with the study of this paper students gain knowledge in the areas of responses to systematic position, general organization, concepts of evolution and phylogeny.
	Zoo 364 Research Methodology	1. impart the knowledge of animals for the benefit of mankind. it includes culturing animals for mass production for human use and to control or eradicate animals that are injurious to man directly or indirectly.
	Zoo 365 Microtechnique	1. get knowledge about techniques of microscopy, microtomy and immunological techniques.
	Zoo 366 C) Applied Zoology	get knowledge about harmful and agricultural pests and their control.

		III (Vermiculture, Poultry and Fisheries)	
		Zoo 367 Practicals related to Zoo 361 and Zoo 363	1. this practical course will impart demonstration of anatomy of different vital systems, physiological mechanisms of type animals as well as human.
		Zoo 368 Practicals related to Zoo 362 and Zoo 365	1. this practical course will helpful to learn the concepts of chick embryology in laboratory; 2. how to process tissue for preparation permanent histological slides.
		Zoo 369 A) Practicals related to Zoo 364 , Zoo 366 and Project work	1. this practical course enables students with acquaintance for project design, scientific report writing and research ethics. 2. understand use of fishing tools and poultry equipments.

Year	**Courses**	**Outcome** Students will be able to :-
2018-2019	FYBSc I ZOO 101 Animal Diversity I	1. analyse and study complex interactions among the non-chordates of different phyla, their distribution and their relationship with the environment.
	ZOO 102 Animal Diversity II	1. analyse and study complex interactions among the chordates of different classes, their distribution and their relationship with the environment.
	Practical ZOO 103 Animal Diversity I & II	1. apply knowledge of morphological characteristics of animals to classify them taxonomically
	II ZOO 201 Comparative Anatomy of Vertebrates	1. students gain knowledge and skill in the fundamentals of animal sciences, understands the complex interactions among various vertebrates along with their affinities.
	ZOO 202 Developmental Biology of Vertebrates	1. basic concepts of developmental biology with respect to formation of gametes, early and late embryonic development
	Practical ZOO 203 Comparative Anatomy & Developmental Biology of Vertebrates	1. understands the complex evolutionary processes and development in vertebrates.

Year	**Courses**	**Outcome** Students will be able to :-
2019-2020	SYBSc I ZOO 301 Physiology	1. students gain fundamental knowledge of human 2. physiology. students are taught the detailed 3. concepts of functioning of vital systems.

	ZOO 302 Biochemistry	1. basic concepts of bio-molecules, fundamentals of 2. enzyme kinetics etc.
	ZOO 304 SEC I Apiculture	1. understanding of background of apiculture, 2. biology of bees and the applications of biological 3. sciences in apiculture.
	ZOO 303 Physiology & Biochemistry	1. perform procedures as per laboratory standards in 2. the areas of physiology, clinical science and 3. biochemistry.
	II ZOO 401 Genetics	1. student will acquaint with mendelian and non 2. mendelian inheritance, concept behind genetic 3. disorder, gene mutations- various causes 4. associated with inborn errors of metabolism.
	ZOO 402 Evolutionary Biology	1. theories of evolution, knowledge of eras, epochs, periods and evolution of species, zoogeography.
	ZOO 404 SEC II Medical Diagnostics	1. understanding the importance of medical investigations to recognize the cause behind illness. different instruments, equipments and methods of clinical investigation.
	ZOO 403 Genetics & Evolutionary Biology	1. with the study of this practical course students 2. gain knowledge in the areas of responses to 3. genetic concepts, study of diff. evolutionary 4. phenomena.

Year	**Courses**	**Outcome** **students will be able to :-**
2020-2021	TYBSc I Zoo-501 Reproductive Endocrinology	1. after successful completion of this course, students are expected to: 2. understand the functioning of male and female reproductive systems particularly in humans. 3. comprehension of the interplay of various hormones in the functioning and regulation of the male and female reproductive systems. know about modern contraceptive devices.
	Zoo-502 Cell and Molecular Biology (CMB)	1. after successful completion of this course, students are expected to: 2. achieve the knowledge of cell structure and cellular system. predict the outcome of various cellular reactions carried out in cell and cellular system under various conditions. 3. predict the role of genes and its relevance to human genetics and diseases.
	Zoo-503 Mammalian Histology	1. after successful completion of this course, students are expected to: 2. enrich themselves with histology of different tissues and systems for research and job opportunities in pathology and cancer research centers.
	Zoo-504 Animal Biotechnology	1. after successful completion of this course, students are expected to: 2. acquire knowledge about animal cell and tissue culture techniques. become familiar with genetically engineered products for human animal welfare. 3. developing embryo - transfer technology, cloning, transgenic animals. 4. understand applications of hybridoma technique and functions of antibodies. acquire knowledge about stem cell research and its ethical issues
	Zoo-505 Public health and hygiene	1. after successful completion of this course, students are expected to: 2. get familiarised with various aspects of environmental risks and hazards.

		3. acquire knowledge regarding epidemiology, prevention, control and management of diseases of public health importance. 4. learn about diagnosis of various diseases and methods to prevent them.
	Zoo506 (A) Pest Management	1. after successful completion of this course, students are expected to: 2. impart basic awareness regarding pest problem and crop loss due to their dominance. 3. understand various pests affecting our local crops and select the best method for their control. 4. acquire basic knowledge and skills in agriculture management to enable the learner for self-employment.
	Zoo-507 Practical related to Zoo-501& Zoo502 (CB)	1. after successful completion of this course, students are expected to: understand the functioning of male and female reproductive systems particularly in humans. 2. achieve the knowledge of cell structure and cellular system.
	Zoo-508 Practical related to Zoo 502 (MB)& Zoo 503	1. after successful completion of this course, students are expected to: predict the outcome of various cellular reactions carried out in cell and cellular system under various conditions. 2. enrich with histology of different tissues and systems for research and job opportunities in pathology and cancer research centers.
	Zoo-509 Practical related to Zoo504	1. after successful completion of this course, students are expected to: acquire knowledge about animal cell and tissue culture techniques.become familiar with genetically engineered products for human animal welfare, developing embryo - transfer technology, cloning, transgenic animals. 2. understand applications hybridoma technique and functions of antibodies. 3. acquire knowledge about stem cell research and its ethical issues.
	II Zoo-601 Study of Leech & Calotes	1. after successful completion of this course, students are expected to: understand the systematic position, habit and habitat of leech and calotes. 2. acquire the knowledge about structural and functional details about leech as invertebrates and calotes as vertebrates. 3. compare structural and functional details in leech and calotes.
	Zoo-602 Chick Embryology	1. after successful completion of this course, students are expected to:understand various stages involved in the developing embryo. 2. understand the initial developmental procedures involved in chick. 3. understand the processes involved in embryonic development and practical applications of studying the chick embryology.
	Zoo-603 Applied Zoology	1. after successful completion of this course, students are expected to: practice of vermicomposting,vermiculturing and poultry farming. 2. aspire to work in preparing bio compost, vermicomposting and vermiculturing and get employment accordingly. 3. start business for rearing and production of birds and get employment accordingly.
	Zoo-604 Microtechnique	1. cell tissue structure, histology of tissues and details of morphology of animals. 2. job opportunities in health institutes, hospitals and pathological labs.
	Zoo-605 Research Methodology	1. after successful completion of this course, students are expected to: understand some basic concepts of research and its methodologies. 2. differentiate between the quantitative and qualitative research and understand different types of research design. 3. select and define appropriate research problem and parameters. organize and conduct research project in a more appropriate manner.

		4. writing of dissertations, project proposals, project reports, research papers. 5. understand intellectual property rights, biopiracy, copyrights, patent and traditional knowledge and plagiarism.
	Zoo606 (B) Sericulture	1. after successful completion of this course, students are expected to: develope an expert manpower to handle the own sericulture units/entrepreneurship/corporate sector units. 2. provide gainful employment, economic development and improvement in the quality of life to the people in rural area.
	Zoo-607 Practical related to Zoo-601	1. after successful completion of this course, students are expected to: understand the systematic position, habit and habitat of leech and *calotes*. acquire the knowledge about structural and functional details about leech as invertebrates and *calotes* as vertebrates. 2. compare structural and functional details in leech and *calotes*.
	Zoo-608 Practical related to Zoo 602 & Zoo 603	1. after successful completion of course, students are expected to: 2. practice of vermin-composting, vermiculturing and poultry farming. aspire to work in preparing bio compost, vermicomposting and get employment accordingly. rearing and production of birds and get employment accordingly.
	Zoo-609 Practical related to Zoo 604	1. cell tissue structure, histology of tissues and details of morphology of animals. 2. job opportunities in health institutes, hospitals and pathological labs.

B.Sc. (Physics)

Year	**Course**	**Outcome** Students will be able to :-
2015-2018	FYBSc PHY-111: MECHANICS AND PROPERTIES OF MATTER	1. apply the concept of use of knowledge of mechanics and properties of matter to real life problems. 2. understanding of the course will create scientific temperament.
	PHY-112: ELECTRICITY AND MAGNETISM	apply knowledge of electricity and magnetism to expect natural physical process and related ethnological advances. 2. understanding of the course will create scientific temperament.
	PHY-113: PRACTICAL COURSE - I	1. understand the basic laws and explore the fundamental concepts of physics 2. understand the concepts and significance of the various physical phenomena. 3. carry out experiments to understand the laws and concepts of physics. 4. apply the theories learnt and the skills acquired to solve real time problems.
	PHY-121: HEAT AND THERMODYNAMICS	1. apply the concept of use of knowledge of heat and thermodynamics real life problem
	PHY-122: THEORETICAL PHYSICS	2. understanding of the course will create scientific temperament. and understand roll of the internal energy, enthalpy, entropy, temperature.
	PHY123:Practical Course -II	1. understand the basic laws and explore the fundamental concepts of physics 2.understand the concepts and significance of the various physical phenomena. 3. carry out experiments to understand the laws and concepts of physics. 4. apply the theories learnt and the skills acquired to solve real time problems.

2018-19, 19-20, 20-21	FYBSc PHY-101:Basic Mechanics	1.apply the concept of use of knowledge of mechanics to real life problems. 2.understanding of the course will create scientific temperament.
	PHY-102:Dynamics and Elasticity	1.develope the ability to form mathematical models of physical situations. 2. understand physical properties of solid,liquid and gases.
	PHY-201: Electricity and Electrostatics	1.apply the concept of use of knowledge of electricity and magnetism to real life problems. 2.understanding of the course will create scientific temperament.
	PHY-202:Magnetism and Electromagnetism	1. introduce the basic mathematical concepts related to electromagnetic vector fields. 2. impart knowledge on the concepts of electrostatics, electric potential, energy density and their applications. 3.impart knowledge on the concepts of magnetostatics, magnetic flux density, scalar and vector potential and its applications.
	PHY-103 :LAB -I PHY-203:LAB - II	1. understand the basic laws and explore the fundamental concepts of physics 2. understand the concepts and significance of the various physical phenomena. 3. carry out experiments to understand the laws and concepts of physics. 4. apply the theories learnt and the skills acquired to solve real time problems.

Year	**Course**	**Outcome** Students will be able to :-
2017-2018, 18-19	SYBSc PHY-231: Waves and Oscillations	1.understan the concept of mechanics, acoustics and the property of matter. 2. understand the physical characteristics of shm and optioning solution optioning solution of the oscillator using differential equations
	PHY- 232 (A): Electronics- I	1.gainknowledge on the basic concept of pn junction. 2. understand the concept of basic electronics and application of digital electronics. 3.optain knowledge oscillators, transistor and h-parameter.
	PHY- 232 (B) – Instrumentation –I	1. after the completion of the course the students will be able to major power energy and deign worries ac bridge. 2.cumper various electromechanically indicating instruments like temperature, presser, magnetic induction. 3.analis various waveform with the health of storage oscilloscope.
	PHY – 241: Modern Physics	1. to understand the difference between atomic and molecular spectroscopies. 2. understand the intuitive ideas of the quantum physics and nuclear physics. 3. to understand dual nature of matter
	PHY-242: Optics	1.gain knowledge on various theories of light 2. acquire skills to identify and apply formulas of optics and wave physics 3. understand the applications of diffraction and polarization.
	PHY 233: PRACTICAL COURSE-I PHY 243: PRACTICAL COURSE-II	1.to understand the basic laws and explore the fundamental concepts of physics 2.to understand the concepts and significance of the various physical phenomena. 3. to carry out experiments to understand the laws and concepts of physics. 4. to apply the theories learnt and the skills acquired to solve real time problems.
	PHY 301 Thermodynamics and Kinetic theory of gases	1. apply the concept of use of knowledge of thermodynamics and kinetic theory of gases to real life problems. 2. understanding of the course will create scientific temperament.

2019-20, 20-21	PHY 302(A) OR PHY Electronics-I OR	1. apply the concept of use of knowledge of electronics to real life problems. 2.understanding of the course will create scientific temperament.
	PHY 302(B)Instrumentation	1.apply the concept of use of knowledge of instrumentation to real life problems. 2.understanding of the course will create scientific temperament.
	PHY 401 Waves, Oscillations and acoustics	1.apply the concept of use of knowledge of waves and sound to real life problems 2.understanding of the course will create scientific temperament.
	PHY 402 Optics and LASERS	1.apply the concept of use of knowledge of optics and lasers to real life problems. 2.understanding of the course will create scientific temperament.
	PHY 303 LAB-III PHY 403 Lab IV	1. understand the basic laws and explore the fundamental concepts of physics 2. understand the concepts and significance of the various physical phenomena. 3. carry out experiments to understand the laws and concepts of physics. 4. apply the theories learnt and the skills acquired to solve real time problems.
	PHY 304: (Skill Enhancement course I) Renewable energy and Energy Harvesting PHY 404: (Skill Enhancement course II) Electrical Circuits and Network Skills	1.use non- conventional energy source. 2. design and analyze various electrical and electronic circuits.

Year	**Course**	**Outcome** Students will be able to :-
2017-18, 18-19, 19-20	TYBSc PHY 351: Mathematical Physics	1.students will demonstrate competence with the basic ideas of linear algebra including concepts of linear systems, independence, theory of matrices, linear transformations, bases and dimension, eigenvalues, eigenvectors and diagonalization 2.use the method of laplace transforms to solve initial-value problems for linear differential equations with constant coefficients. 3. solve a cauchy problem for the wave or diffusion equations using the fourier transform.
	PHY-352: Classical Mechanics	1.students learn about lagrangian and hamiltonian formulation of classical mechanics. 2. state the conservation principles involving momentum, angular momentum and energy and understand that they follow from the fundamental equations of motion 3. have a deep understanding of newton's laws, 4. students learn about motion of a particle under central force field.
	PHY- 353: Atomic and Molecular	1.they should be able to calculate the zeeman effect and the lande g-factor 2. they should be able to calculate the effects of an electric field on the energy levels of the hydrogen atom (the stark effect).

	Physics	3. they should be able to discuss the rotational spectra of molecules.
	PHY: 354(A): Electronics II	1.ic fabrication is very imp. for the electronic industry.this will give the knowledge of many circuits. 2.the study of semiconductor devices makes the base of student in the electronic field. 3. zener diode study tells that it act as a voltage regulator and how to control the voltage.
	PHY-354(B): Instrumentation II	1.apply the concept of use of knowledge of instrumentation to real life problems. 2.understanding of the course will create scientific temperament.
	PHY 355: Solid State Physics	1. explains phono-crystal interactions, monoatomic and diatomic linear chain and w-k relationship. 2.explains optic and acoustic phonon modes. 3. defines thermal properties of phonons, heat capacity of phonons, density of states and density of states models of debye and einstein.
	PHY: 356(D): Microprocessor-I or	1.assess and solve basic binary math operations using the microprocessor and explain the microprocessor's internal architecture and its operation within the area of manufacturing and performance. 2. apply knowledge and demonstrate programming proficiency using the various addressing modes and data transfer instructions of the target microprocessor. 3. compare accepted standards and guidelines to select appropriate microprocessor (8085 & 8086). 4. analyze assembly language programs; select appropriate assemble into machine a cross assembler utility of a microprocessor.
	PHY 361: Classical Electrodynamics	1.solve boundary-value problems in electrostatics in a variety of coordinate systems. 2.demonstrate a basic understanding of green functions and their applications 3. solve problems using special functions, such as bessel functions and legendre polynomials. 4. have a basic understanding of magneto-statics.
	PHY 362: Quantum Mechanics	1.basic non-relativistic quantum mechanics 2.the time-dependent and time-independent schrödinger equation for simple potentials like for instance the harmonic oscillator and hydrogenlike atoms, as well as the interaction of an electron with the electromagnetic field 3.quantum mechanical axioms and the matrix representation of quantum mechanics 4.approximate methods for solving the schrödinger equation
	PHY 363: Nuclear Physics	1.express the basic concepts of nuclear physics. 2.can tell a chronology of some of the major events in nuclear physics. 3.can identify some introductory terminology 4.can use the units and dimensions. can express the radioactive decays 5.can express the radioactive decays
	PHY: 364: Statistical Mechanics and Thermodynamics	1.converse with correct concepts of thermodynamics and statistical mechanics. 2. understand statistics of particles and statistics of fields, 3. perform mean field calculations. 4. understand various models in statistical mechanics, 5. understand the significance and characteristics of critical phenomena.
	PHY 365: Elements of Material Science	1. apply the concept of use of knowledge of material science to real life problems. 2. understanding of the course will create scientific temperament.

	PHY: 366(D): Microprocessor-II or	1.assess and solve basic binary math operations using the microprocessor and explain the microprocessor's internal architecture and its operation within the area of manufacturing and performance. 2. apply knowledge and demonstrate programming proficiency using the various addressing modes and data transfer instructions of the target microprocessor. 3. compare accepted standards and guidelines to select appropriate microprocessor (8085 & 8086). 4. analyze assembly language programs; select appropriate assemble into machine a cross assembler utility of a microprocessor.
	PHY 357: Practical Course-I	1 apply the theories learnt and the skills acquired to solve real time problems. 2.develop ability to apply the basic concepts of physics. 3. implement the innovative ideas.
	PHY 358: Practical Course-II	
	PHY 359: Project work-I	
	PHY 367: Practical Course – III	
	PHY 368: Practical Course – IV	
	PHY 369: Project work- II	

YEAR	COURSE	Outcomes Students will be able to :
2020-21	TYBSc PHY 501: Mathematical Physics	1. apply the concept and knowledge of mathematical physics to understand and solve real life problems. 2. understanding of the course will create scientific temperament.
	PHY502: Solid State Physics	1. apply the concept and use of knowledge of solid state physics understand and solve the real life problems. 2. understanding of the course will create scientific temperament.
	PHY 503 Atomic and molecular physics	1. apply the concept and knowledge of atomic and molecular physics to understand and solve the real life problems. 2. understanding of the course will create scientific temperament.
	PHY 504:(A) Electronics-II Or	1. apply the concept and use of knowledge of electronics and digital electronics to real life problems. 2. understanding of the course will create scientific temperament
	PHY 504:(B) Instrumentation -II	1. apply the concept and use of knowledge of instrumentation to understand and to solve real life problems. 2. understanding of the course will create scientific temperament.
	PHY 505: Solar Energy and applications	1. apply the concept of use of knowledge of energy resources, solar radiations and conversion to real life problem. 2. understanding of the course will create scientific temperament. 3. to impart knowledge of basic concepts of solar cell fundamentals. 4. to provide the knowledge and methodology of conversion of solar energy into electricity.
	PHY 506(D): Microprocessor-I or	1. apply the concept and use of knowledge of microprocessor to understand and to solve real life problems.

		2. understanding of the course will create scientific temperament.
	PHY 601: Quantum mechanics	1. apply the concept and use of knowledge of quantum mechanics to real life problems. 2. understanding of the course will create scientific temperament.
	PHY602: Material Science	1. apply the concept of use of knowledge of material science to real life problems. 2. understanding of the course will create scientific temperament.
	PHY 603: Nuclear Physics	1. apply the concept and use of knowledge of nuclear physics to understand and solve the real life problems. 2. understanding of the course will create scientific temperament.
	PHY 604: Modern Physics	1. apply the concept and use of knowledge of modern and applied physics to understand and solve the real life problems. 2. understanding of the course will create scientific temperament.
	PHY 605 Basic Instrumentation Skills	1. handle and use various basic mechanical and electrical measuring instruments 2. understanding of the course will create scientific temperament.
	PHY 606 (D) Microprocessor-I or	1. apply the concept and use of knowledge of microprocessor to understand and to solve real life problems. 2. understanding of the course will create scientific temperament.
	PHY 507: Physics Practical I	1 apply the theories learnt and the skills acquired to solve real time problems. 2. developed ability to apply the basic concepts of physics. 3.implement the innovative ideas.
	PHY 508: Physics Practical II	
	PHY 509: Physics Practical III or Project	
	PHY 607 Physics Practical I	
	PHY 608 Physics Practical II	
	PHY 609 Physics Practical III or Project	

M. Sc. Physics

Year	**Course**	**Outcome** Students will be able to :-
20018-21	M. Sc.-I PHY 101: Mathematical Methods for Physics	1.model physical systems in mechanics, hydrodynamics, electrodynamics and quantum mechanics by the wave and heat transfer equations, Poisson, Laplace and Schrödinger equations. 2.explore the methods of the solutions of these equations in rectangular, cylindrical and sphericalcoordinates with corresponding boundary and initialconditions 3. know the properties and how to use in practice the Bessel functions, Legendre polynomials, associative Legendre polymomials, Lagerre and Hermitian polynomials; analyze and visualize the solutions in terms of special functions. 4.get knowledge of the methods of the random processes theory from the description of correlations in mesoscopic systems.

	PHY 102: Classical Mechanics	1.Students will demonstrate competence with the basic ideas of linear algebra including concepts of linear systems, independence, theory of matrices, linear transformations, bases and dimension, eigenvalues, eigenvectors and Diagonalization. 2. Use the method of Laplace transforms to solve initial-value problems for linear differential equations with constant coefficients. 3. Solve a Cauchy problem for the wave or diffusion equations using the Fourier Transform.
	PHY 103: Quantum Mechanics	1.basic non-relativistic quantum mechanics 2.the time-dependent and time-independent Schrödinger equation for simple potentials like for instance the harmonic oscillator and hydrogenlike atoms, as well as the interaction of an electron with the electromagnetic field 3.quantum mechanical axioms and the matrix representation of quantum mechanics 4.approximate methods for solving the Schrödinger equation (the variational method, perturbation theory, Born approximations) 5.spin, angular momentum states, angular momentum addition rules, and identical particles
	PHY 104: Solid State Physics	1.Defines Atomic packing, Crystal, Lattice, Unit cell and Translation vectors. 2.Explains Crystal systems, Crystal planes and directions, Miller indices, Diffraction of waves by crystals and Bragg's law. 3.Knows Reciprocal space, Reciprocal lattice, Construction of reciprocal lattice, Reciprocal lattice vectors and Diffraction condition. 4. Explains Reciprocal space and Laue equations and Brillouin zone. 5.Can explain Properties of semiconductors. 1.Defines semiconductor crystals. 2.Defines Direct and indirect band gap semiconductors. 3.Knows Effective mass and E-k relationship.
	PHY 201: Statistical Mechanics	1)define and discuss the concepts of microstate and macrostate of a model system 2)define and discuss the concepts and roles of entropy and free energy from the view point of statistical mechanics 3)define and discuss the Boltdsmann distribution and the role of the partition function 4)apply the machinery of statistical mechanics to the calculation of macroscopic properties resulting from microscopic models of magnetic and crystalline systems.
	PHY 202: Classical Electrodynamics	1.Interpret the deeper meaning of the Maxwellian field equations and account for their symmetry and transformation properties, domain of validity, and limitations. 2. master the technique of deriving and evaluating formulae for the electromagnetic fields from very general charge and current distributions. 3.calculate the electromagnetic radiation from radiating systems (aerials, localised charge and current distributions) at rest. 4.Formulate and solve electrodynamic problems in relativistically covariant form in four-dimensional space-time.
	PHY 203: Material Science	1.Explain importance of materials in materials science and engineering field. 2.Relate between material and engineering. 3.Classify materials according to their types. 4.describe basic definition and conception of materials and physical

		properties of materials. 5.follow new developments in materials application field.
	PHY 204 (B) : Electronic Instrumentation	1.Analyze the performance characteristics of each instrument 2. Illustrate basic meters such as voltmeters and ammeters. 3. Explain about different types of signal analyzers. 4. Explain the basic features of oscilloscope and different types of oscilloscopes 5. Apply the complete knowledge of various electronics instruments/transducers to measure the physical quantities in the field of science, engineering and technology.
	PHY 105: Basic Physics Lab. – I	1.Design, development and testing of electronic circuits with OP amps, discrete electronic components and integrated circuit chips. 2.Designing amplifier, oscillator, and wave shaping circuits for defined specifications. 3.Designing electronic filters and understanding phase sensitive lockin detection technique. 4.Understanding micro-controller programming for software driven electronic circuits
	PHY 205: Basic Physics Laboratory – II	

Year	**Course**	**Outcome** Students will be able to :-
20018-21	M. Sc.-II PHY 301 Atomic and Molecular Physics	1. describe the atomic spectra of one and two valance electron atoms. 2. explain the change in behavior of atoms in external applied electric netic field. 3. explain rotational, vibrational, electronic and raman spectra of es. 4. describe electron spin and nuclear magnetic resonance spectroscopy applications..
	PHY 302 (A) Materials Synthesis Methods	1.describe techniques for deposition of thin films and discuss the pros and cons of the techniques, and suggestion for a suitable technique for a given application. 2.describe techniques for synthesis of powder materials 3.describe techniques for synthesis of nanostructured materials. 4.explain how precursor molecules for the various materials synthesis techniques must be designed for a successful materials synthesis. 5.explain how materials synthesis can be improved by modification of the properties of the precursor molecules. 6.apply some important materials synthesis methods. 7.discuss materials synthesis from a green chemistry perspective.
	PHY 303 (A) Systematic Materials Analysis	1.students will get to know the different classes of materials used in engineering applications and would be able to choose the right materials for specific applications.
	PHY 401 NuclearPhysics	1.analyse production and decay reactions for fundamental particles, applying conservation principles to determine the type of reaction taking place and the possible outcomes. 2. describe the role of colour in the strong force, and appreciate why going from strong interactions between quarks to nuclear structure is a currently unsolved problem. 3. describe the role of spin-orbit coupling in the shell structure of atomic nuclei, and predict the properties of nuclear ground and excited states based on the shell model. 4. apply quark mixing models to analyse weak interaction physics such

		as beta and kaon decay. 5. read, understand and explain scholarly journal articles in nuclear and particle physics.
	PHY 402 (B) LASERand it's Applications	1.aabsorption and spontaneous and stimulated emission in two level system, the effects of homogeneous and inhomogeneous line broadening, and the conditions for laser amplification. 2. operations of the fabry-perot cavity including mode separation and line-widths, laser gain conditions, gain clamping in both homogeneous and inhomogeneous line broadened media. 3. the four-level laser system, the simple homogeneous laser and its output behavior and optimal operating conditions. 4. spectral properties of a single longitudinal mode, mode locked laser operation, schemes for active and passive mode locking in real laser system. 5. operations and basic properties of the most common laser types, he-ne, argon-ion, and carbon-dioxide, ruby, titanium sapphire, neodymium yag and glass, knowledge of other main laser types.
	PHY 403 (A) RenewableEnergy Sources	1.understand the need of energy conversion and the various methods of energy storage. 2. explain the field applications of solar energy. 3. identify winds energy as alternate form of energy and to know how it can be tapped. 4.explain bio gas generation and its impact on environment.
	PHY 304 Special Laboratory-I	1.understand the core concept of physics subjects 2. acquire analytical and logical skill for higher education. 3. excel in experimental and theoretical physics. 4. trained to take up jobs in allied fields. 5. confident to take up competitive exams 6. implement the innovative ideas.
	PHY 404 SpecialLaboratory-II	
	PHY 305 Project Work-I (LiteratureSurvey, Definition of Problem, Experimental work, Oraletc.)	
	PHY 405 Project Work-II (Characterization, Analysis ofResult, Conclusions, Project Report, Oral etc.)	

Electronics

BSc

YEAR	COURSE	Outcomes Students will be able to :
2015-2018	FYBSc ELE-111: Analog Electronics – I	1.acquire basic knowledge of physical and electrical conducting properties of semiconductors. 2. develop the ability to understand the design and working of bjt / fet amplifiers. 3. able to design amplifier circuits using bjt s and fet's. and observe the amplitude and frequency responses of common amplifier circuits

		4. observe the effect of negative feedback on different parameters of an amplifier and different types of negative feedback topologies.
	ELE- 112 - Digital Electronics – I	1.have a thorough understanding of the fundamental concepts and techniques used in digital electronics. 2. to understand and examine the structure of various number systems and its application in digital design. 3. the ability to understand, analyze and design various combinational and sequential circuits. 4. ability to identify basic requirements for a design application and propose a cost effective solution.
	ELE-113: Practical Course-I ELE-123: Practical Course-II	1.to identify and handle electronic component. 2. ability to verify working of different electronic components and messurig instruments.
	ELE- 121: Analog Electronics – II	1.acquire basic knowledge of physical and electrical conducting properties of semiconductors. 2. develop the ability to understand the design and working of bjt / fet amplifiers. 3. able to design amplifier circuits using bjt s and fet's. and observe the amplitude and frequency responses of common amplifier circuits 4. observe the effect of negative feedback on different parameters of an amplifier and different types of negative feedback topologies.
	ELE -122 - Digital Electronics – II	1.have a thorough understanding of the fundamental concepts and techniques used in digital electronics. 2. understand and examine the structure of various number systems and its application in digital design. 3. the ability to understand, analyze and design various combinational and sequential circuits. 4. ability to identify basic requirements for a design application and propose a cost effective solution.

YEAR	**COURSE**	**OUTCOME** **students will be able to :-**
2018-2021	FYBSc ELE-101 Network Analysis and Semiconductor Diodes	1.apply knowledge to develop circuits using electronic devices. 2. apply the concept and knowledge of electronics devices to real life problems. 3. simulate complex circuits and understand the behaviour of the systems.
	ELE-102Digital Integrated Circuits	1.understand and analyse, linear and digital electronic circuits. 2. review, prepare and present technological developments.
	ELE-201Analog Electronics	1.apply the concept and knowledge of integrated circuit chips to develop new systems. 2. apply practical knowledge to solve real life problems of the society. 5. handle simulation software to analyse electronics circuits
	ELE-202Linear Integrated Circuits	1. understand of the course and create scientific temperament and give exposure to the students for independent use of integrated circuit chips for innovative applications. 2. model complex circuits and simulate them.

	ELE-103ELECTRONICS LAB -I ELE-203 ECTRONICS LABII	1.to identify and handle electronic component. 2. ability to verify working of different electronic components and messurig instruments. 3. to simulate electronic circuits using simulation softwares like p-spice , multisim.

YEAR	COURSE	OUTCOME students will be able to :
2017-2019	SYBSc ELE 231: Analog Circuits and Applications	1.define semiconductor device and different operating condition and their performance parameter. 2. choose proper semiconductor devices depending upon application considering economic and technology up-gradation. 3. employ mathematical and graphical analysis considering different practical issues modeling of semiconductor device; analyze the performance parameter of the system. 4. recognize different signal processing circuit and the use in industrial, real life, modern control system application. 5. use modeling/simulation parameters with standard equivalent circuit models to predict correctly the expected performance of various general-purpose electronic circuits.
	ELE 232: Instrumentation	1. after the completion of the course the students will be able to major power energy and deign worries ac bridge. 2.cumper various electromechanically indicating instruments like temperature, presser, magnetic induction. 3.analis various waveform with the health of storage oscilloscope.
	ELE-203-Practical Paper – III ELE – 243 PRACTICAL COURSE - IV	1.use matlab software to simulate communication experiments 2.to setup programming strategies and select proper mnemonics and run programs.
	ELE 241: LINEAR INTEGRATED CIRCUITS & APPLICATIONS	1.learn about the basic concepts for the circuit configuration for the design of linear integrated circuits and develops skill to solve engineering problems 2 : develop skills to design simple circuits using op-amp. 3 : gain knowledge about various multiplier circuits, modulators and demodulators. 4 : gain knowledge about pll. 5: learn about various techniques to develop a/d and d/a convertors.
	ELE 242: 8085 Microprocessor	1.assess and solve basic binary math operations using the microprocessor and explain the microprocessor's internal architecture and its operation within the area of manufacturing and performance. 2. apply knowledge and demonstrate programming proficiency using the various addressing modes and data transfer instructions of the target microprocessor. 3. compare accepted standards and guidelines to select appropriate microprocessor (8085). 4. analyze assembly language programs; select appropriate assemble into machine a cross assembler utility of a microprocessor.

YEAR	COURSE	OUTCOME students will be able to :

2019-2021	SYBSc ELE-301Analog Communication	1.apply knowledge to develop circuits of analog modulation and demodulation. 2.apply the concept and knowledge of microprocessors to real life problems. 3.analyse modulation circuits and understand the behaviour of the systems.
	ELE-302Microprocessors and Applications	1.understand and analyse 8085 microprocessor and its programming. 2.review, prepare and present technological developments.
	ELE-303ELECTRONICS LAB -III ELE-303ELECTRONICS LAB -IV	1.use matlab software to simulate communication experiments 2.to setup programming strategies and select proper mnemonics and run programs.
	ELE-304Electrical Circuits and Network Skills	1.to design and analyze various electrical and electronic circuits. 2.to develop experimental skill.
	ELE-401Digital Communication	1.apply the concept and knowledge of digital communication to develop new systems. 2. apply practical knowledge of microcontrollers to solve real life problems of society.
	ELE-402 Microcontrollers and Applications	1. understanding of the course and create scientific temperament and give exposure the students for independent use of microcontroller for innovative applications. 2.gain knowledge of microcontroller programming. 3.handle hardware and software to shoot problems of the society.
	ELE-403 ELECTRONICS LAB –IV Techniques in Electronics	at the and of course students will be able to 1) identify relevant in formula to supplement to the microprocessor & microcontroller.

YEAR	**COURSE**	**OUTCOME** **The students will be able to :**
2017-2020	**TYBSc** ELE 351: Semiconductor Physics	1.explain the basic properties of semiconductors including the band gap, charge carrier concentration, doping and charge carrier injection/excitation. 2.explain the working, design considerations and applications of various semiconducting devices including p-n junctions, bjts and fets. 3. describe the working and design considerations for the various photonic devices like photodetectors, solar-cells and leds
	ELE 352: Basic Communication Systems	1.analyze and design basic communications systems, particularly with application to noise-free analog and digital communications. 2. develop the ability to compare and contrast the strengths and weaknesses of various communication systems. 3.assess and evaluate different analogue and digital modulation and demodulation techniques. 4.evaluate the influence of noise on communications signals. 5.define the basic principles, and network architectures and communication services. 6.identify and describe telephone, mobile phone and public data networks and resolve network-level related problems.

	ELE 353: Microprocessor I	1. apply the concept and use of knowledge of microprocessor to understand and to solve real life problems. 2. understanding of the course will create scientific temperament.
	ELE 354: Programming in 'C'	1. acquire knowledge of object and class. 2. explore polymorphism using function overloading and operator overloading. 3. understand the different aspects of the hierarchy of classes and their extensibility 4. understands the concept of virtual function, streams, and files, generic programming. 5. write programs for handling run time errors using exceptions
	ELE 355: Microcontrller 8051	1.compare microprocessors and microcontroller. 2.know the structural differences between microprocessors and microcontrollers. 3.xpress that both microprocessors and microcontrollers are used as controlling unit in similar industrial applications and there is a grand similarity in programme logic. 4.explain to set up microprocessors and microcontrollers system.
	ELE 356: Consumer Electronics	1.fundamentals of engineering: graduates shall be able to understand and apply the basic mathematical and scientific concepts in the field of electronics and communication engineering. 2. design of experiments: graduates shall imbibe the professional and ethical responsibilities of their profession.
	PHY-357: Practical Course-I	1.setup programming strategies and select proper mnemonics and run programs 2. able to simulate electronic circuit using simulators like pspice.
	PHY-358: Practical Course-II	
	PHY-359: Practical Course-I	
	ELE 367: General Lab - II Advanced Communication, Power and Industrial Electronics	
	ELE 368: General Lab - II Microprocessor, Microcontroller & C	
	ELE 359: Project Part-I (Guidelines are provided in .	

YEAR	COURSE	OUTCOME students will be able to :
2017-18	TYBSc ELE 361: Electrodynamics	1.use maxwell equations in analysing the electromagnetic field due to time varying charge and current distribution. 2.describe the nature of electromagnetic wave and its propagation through different media and interfaces. 3.explain charged particle dynamics and radiation from localized time varying electromagnetic sources.
	ELE 362: Advance Communication System	1.appreciate the importance of microwave signal and learn important microwave devices. 2. describe the working principle of different radar systems and their applications. 3. understand the satellite fundamentals and types of satellite. 4. explain the working of a satellite communication system and its other subsystems. 5. know the applications of satellites in different areas. 6. explain the working principle of mobile communication and gsm services
	ELE 363: Microprocessor II	1. apply the concept and use of knowledge of microprocessor to understand and to solve real life problems. 2. understanding of the course will create scientific temperament.
	ELE 364: Numerical Simulation in Electronics	to use different simulaton methods for electronic circuts.
	ELE 365: Embedded Systems	1. gain the knowledge about the 8051-microcontroller programming such as timer & counter and serial port programming 2.understand the basic concept of interfacing with microcontroller 3.understand the interfacing principle with stepper motor and temperature sensor 4.gain the knowledge about the serial peripheral interface and two wire interface.
	ELE 366: Industrial &Power Electrnonics	1.demonstrate the characteristics of power semiconductor devices. 2. design firing circuit for thyristors 3. analyse the operation of converters. 4. develop power semiconductor circuits to electrical power system 5. construct power semiconductor circuits for industrial applications 6. analyse power semiconductor circuits for domestic applications
	ELE 367: General Lab - II Advanced Communication, Power and Industrial Electronics	1.tsetup programming strategies and select proper mnemonics and run programs 2. able to simulate electronic circuit using simulators like pspice.
	ELE 368: General Lab - II Microprocessor, Microcontroller & C	

	ELE 359: Project Part-I (Guidelines are provided in syllabus	

YEAR	COURSE	OUTCOME students will be able to :-
2020-21	TYBSc ELE-501 Semiconductor Electronics	1.estimate the number of carriers at a given temperature for a semiconductor. 2.understand the importance of doping to change carrier density.
	ELE -502 Advanced Digital System Design using VHDL	1.students will able to design digital circuits according to requirements. 2.student will able to write vhdl code for digital circuit with the help of different modeling style.
	ELE-503 Advanced Microprocessor	1.student will be able to aware about the microprocessor and its architecture considerations & 2.capable to analyze the operating modes 3.understand the assembly language programming 4. student will be able to understand the advanced microprocessor 80386 and operation of paging mechanism. 5. gain the knowledge about the pentium series processor
	ELE-504 Electronic Instrumentation	1.understand the concept of measurement systems and its various characteristics 2.learn about different types of transducers and their working principle. 3.know the different electronics measuring instruments and develop the skill to handle them. 4.aquent the knowledge of testing instruments.
	ELE-505 Medical Electronics	1.familiarize with human assist devices 2.learn biological signals present in human body 3.learn the various blocks of biomedical sensors 4.the electrodes which are normally used to measure the biological signals 5.understand the working principles of various therapeutic and monitoring systems 6.understand recording and analysis of prominent biosignals of human 7.understand the measurement and analysis techniques for physiological parameters 8.understand the patient imaging and monitoring systems
	ELE-506 (A) Embedded C	1. learn structure oriented programming concepts required in all other languages. 2. after completion of this course students are able to built real world applications based on embedded system and automation.
	ELE-506 (B) Basics Fiber Optic Communication	1.recognize and classify the structures of 2.optical fiber and types. 3. classify the optical sources, detectors and to discuss their principle. 4. understanding losses and dispersion. 5.awareness of analog and digital links.
	ELE-507 Practical Lab I	1.setup programming strategies and select proper mnemonics and run programs

	ELE-508 Practical Lab II	2. able to simulate electronic circuits using simulators like p-spice.
	ELE-509 Project Part I	

YEAR	COURSE	Outcomes Students will be able to :
2020-21	**TYBSC**ELE-601 Power Electronics	1.familiarize the students to the construction details, operation and characteristics of different semiconductor power electronics devices along with their few applications. 2.introduction of different power conversion circuits. 3. to make strong base of students for further study of power electronics circuits and systems
	ELE-602 Consumer Electronics	1.understand the various type of microphones and loud speakers. 2.to identify the various digital and analog signal. 3.understand the various type of consumer goods and acquaint the skill of fault findings. 4.develop the skill of electronics appliances like set top box, catv and dish tv, water purifier, air conditioner etc. 5.acquaint the knowledge of different types of television technology.
	ELE-603 Microprocessor Interfacing Techniques	1.student will be able to aware about the concept of microprocessor and its interfacing & capable to analyze the operation and priorities of interrupt 2.understand the concept of memory mapping & dma 3.student will be able to understand the adc & dac interfacing 4.to gain the knowledge about the programmable interval timer and communication interface 8251 & analyze the operating modes.
	ELE-604 Computer Network	1.recognize the technological trends of computer networking. 2.discuss the key technological components of the network. 3.evaluate the challenges in building networks and solutions to those.
	ELE-605 Embedded Systems	1.to gain the knowledge about the 8051-microcontroller programming such as timer & counter and serial port programming 2.understand the basic concept of interfacing with microcontroller 3.understand the interfacing principle with stepper motor and temperature sensor 4.to gain the knowledge about the serial peripheral interface and two wire interface.
	ELE-606 (A) Electrodynamics	1.apply gauss law, amperes force law, lorentz's force, biot-savarts law, faraday's lawfor solving the problems in electrostatic and electromagnetic fields. 2.apply the principle of electrostatic to the solutions of problems related to electric field andelectric potential, boundary value problem in electrostatic field. 3.understand the concept of faradays law, lenz's law and maxwell equation 4.apply the maxwell's equation in free space, linear isotropic media and varying fields, energy and ectrostatic fields.
	ELE-606 (B) Antenna & Wave Propagation	1.the student will be able to understand how the electromagnetic wave propagate from an antenna 2.learn the concept of rf feeding to an antenna 3.calculate the various parameters of antenna to know its efficiency. 4.study the various types of antennas used in recent communication systems.
	ELE-607 Practical Lab I	1 apply the theories learnt and the skills acquired to solve real time problems. 2. devolope ability to apply the basic conceps of electronics.

	ELE-608 Practical Lab II	3.implement the innovative ideas. 4. able to interface various peripherals for eal time applications. 5.test circuits and diagnose faults in electronic circuits.
	ELE-609 Project Part II	

Mathematics :-

YEAR	COURSE	Outcomes Students will be able to :
2017-18	T. Y. B. Sc. MTH-351: Topics in Metric Spaces	1. ametricspaceisasetforwhichdistancesbetweenallmembersofthesetare defined 2. it is used in fixed point theorem and mappingprinciples. 3. continuous functions on metricspaces. 4. learn connected metricspaces. 5. understand complete metricspaces. 6. study compact metricspaces.
	MTH-352: Integral Calculus	1. it is useful for measuring areas andvolumes. 2. it is used in all branches ofengineering. 3. study differentiability andintegrability. 4. learn mean value theorem of integralcalculus. 5. learn how to solve improperintegrals. 6. understand the importance of legendrepolynomials.
	MTH-353: Modern Algebra	1. algebra is science ofoperations 2. it is widely used in computer science and informationtechnology 3. it is also useful for logic and fuzzy settheory 4. learn normalsubgroups. 5. studypermutations. 6. know about quotient and polynomialrings.
	MTH-354: Lattice Theory	1. it is primarily useful for understanding sets, logic and probabilitytheory. 2. it is widely used in discrete mathematics, computer science andt. 3. understand posets andchains. 4. understandlattices. 5. understand various types oflattices. 6. learn about ideals andhomomorphism.
	MTH-355(B): Elementary Number Theory	1. it is a branch of pure mathematics which studies integers and itsproperties. 2. it is used in cryptography, computer science,etc. 3. understand prime numbers and relevantconjectures. 4. learn theory ofcongruences. 5. know about perfect numbers and fermat‟stheorem. 6. understanding fibanoccinumbers.
	MTH-356(B): Integral Transform	1. these methods are useful for solving ordinary and partial differentialeuations. 2. it is widely used in many engineeringfields. 3. learn about integralequations 4. learn about fouriertransforms. 5. study calculus ofvariations. 6. studyz-transforms.

	MTH-361: Measure and Integration Theory	1. it is a branch of puremathematics. 2. it is used in statistics, probability andanalysis. 3. learn measurablesets. 4. learn measurablefunctions. 5. understand lebesgueintegrals. 6. learn fatou‟slemma.
	MTH-362: Method of Real Analysis	1. it is a branch of puremathematics. 2. it is useful and statistics, probability, operations research,etc. 3. studysequences. 4. study series of realfunctions. 5. know the fourierseries. 6. study half rangeseries.
	MTH-363: Linear Algebra	1. it is a branch ofalgebra. 2. it is used in computer science, electrical engineering,etc. 3. learn about vectorspaces. 4. understand theorems on basis anddimension. 5. know about eigen values and eigenvectors. 6. study lineartransformations.
	MTH-364: Ordinary and Partial Differential Equation	1. understand the importance of ordinary and partial differentialequations. 2. it is used in solving many problems of engineering andphysics. 3. learn about exact differential equations and varioustypes. 4. learn about second order linear differentialequations. 5. study series method ofsolution. 6. study about linear partial differentialequations.
	MTH-365(A): Optimization Techniques	1. optimization techniques is a branch of operationsresearch. 2. it deals with minimization of cost or maximization ofprofit. 3. it is used in production engineering, mathematics of finance, networking,etc. 4. study linear programmingproblems. 5. learn about transportationproblems. 6. know the fundamentals of gametheory.
	MTH-366(A): Applied Numerical Methods	1. it is a branch of numericalanalysis 2. itisusedforsolvingasystemofequationsandusedinallbranchesofengineering. 3. solve a system of linearequations. 4. learn numerical differentiation andintegration. 5. learn about interpolationpolynomials. 6. apply numerical methods for differentialequations.

M. Sc.

YEAR	**COURSE**	**Outcomes** **Students will be able to :**
2017-2018	**M. Sc.** Part I MT101 Advanced Real Analysis	1. mainly deals with differentiation and integration. 2. used in all branches ofengieeering. 3. learn measurablesets 4. learn aboutintegrablefunctins. 5. know about differentiation offunctions. 6. understand monotonefunctions.

	MT102 Topology	1. it is used in functional analysis and realanalysis. 2. ithasapplicationsinmanyfieldssuchastheoreticalphysics,generalrelativity,etc. 3. learn about topologicalspaces. 4. learn aboutconnectedness. 5. understand compactspaces. 6. understand countability and separationaxioms.
	MT103 Abstract Algebra	1. it is science ofoperations. 2. used in discrete mathematics, computer science, information technology.,etc. learn about subgroups. 3. learn aboutfactorisation. 4. understand noetherianrings. 5. understand hilbert basistheorem.
	MT104 Ordinary and Partial Differential Equations	1. differential equations are used in mathematicalmodelling. 2. useful for solving many engineeringproblems. 3. learn about second order differentialequations. 4. learn about linear partial differential equations of orderone. 5. understand non-linear partial differential equations of orderone 6. under partial differential equations with constantcoefficients
	MT106 Programming in C++	1. programme is a logical sequence to solve aproblem. 2. widely used in computer science and informationtechnology. 3. learn basics of programming inc++. 4. learn about conditionalstatements. 5. learn about loopstructures. 6. learn about arrays andfunctions.
	MT201 General Measure Theory	1. it is a branch of puremathematics. 2. it is used in statistics, probability andanalysis. 3. learn measurablespaces. 4. learn measurablefunctions. 5. understand lp spaces andintegration. 6. learn measure anddifferentiation
	MT202 Complex Variables	1. it is widely used in fluid mechanics and electricalengineering. 2. learn properties of complexnumbers. 3. learn about powerseries. 4. learn the importance of riemann-stieltjesintegration 5. gain knowledge of singularities andresidues. 6. apply the knowledge of residues in complexintegration.
	MT203 Linear Algebra	1. it is a branch ofalgebra. 2. used in discrete mathematics, computer science, information technology,etc. 3. learn aboutmodules. 4. learn about canonicalforms. 5. understand primary decomposition ofmodules.
	MT204 Mathematical Methods	1. it is widely used in mathematicalmodelling. 2. itisalsousedinfourierseries,boundaryvalueproblemsandmanyengineeringfields. 3. learn about boundary value and initial valueproblems. 4. learn about orthogonality and fourierseries. 5. learn about method of separation ofvariables. 6. study besselfunctions.

	MT205 Number Theory	1. it is a branch of pure mathematics which studies integers and itsproperties. 2. it is used in cryptography, computer science,etc. 3. learn about arithmeticfunctions. 4. learn aboutcongruences. 5. study quadraticresidues. 6. understand primitiveroots.
2018 -19	MTH 101: Matrix Algebra	1. understanding of operations onmatrices 2. understanding the concept of inverse of amarix 3. matrices are used in solving linearequations. 4. linear equations are vital for solving any differentialequations 5. many areas of numerical analysis depend upon linearequations. 6. specific fields of applications are computer graphics, cryptographyetc.
	MTH 102: Calculus	1. it is used in almost all branches ofengineering. 2. it is a science that deals with rate ofchange. 3. understanding the concept ofdifferentiation. 4. understanding the concept ofintegration. 5. applications of differentiation include measuring velocity, acceleration,etc. 6. applications of integration include estimating areas, volumes,etc.
	MTH 103 (A): Co-ordinate Geometry	1. understanding the concept of distance between twopoints 2. understanding the concept ofslope 3. understanding the change of origin and change ofscale. 4. learn various forms of straightlines. 5. learn about various conicsections. 6. it is used in mechanics andastronomy.
	MTH 103 (B): Graph Theory	1. understand the basics of graphtheory. 2. learn operations ongraphs. 3. learn about connectedgraphs. 4. understand various problems related with planargraphs 5. understand trees and spanningtrees. 6. it is used in genomics, networks,etc.
	MTH 201: Ordinary Differential Equations	1. understand the necessity of differentialequations 2. learn about forming differential equations from physicalsituations 3. know various types of differentialequations 4. practice methods of solution for various types of differentialequations. 5. it is useful for methods of momentum and energytransfer. 6. it is used in all branches ofengineering.
	MTH 202: Theory of Equations	1. know about numbersystem 2. learn division algorithm and itsapplication 3. know about congruenceclasses 4. understand the famous fermat‟stheorem. 5. learn how to solve various types ofequations. 6. it is used in cryptography, computer science,etc.
	MTH 203 (A): Laplace Transform	1. toknowmethodofchangingequationsfromoneformtoanothereasierform 2. it is used to solve both ordinary and partial differentialequations. 3. applications are in all branches ofengineering. 4. learn properties of laplacetransforms.

		5. learn properties of inverse laplacetransforms.
	MTH 203 (B): Numerical Analysis	1. it is used for solving a system ofequations 2. it has application in all branches ofengineering. 3. know how to find the roots of transcendentalequations. 4. learn how to interpolate the given set ofvalues 5. understand the curve fitting for variouspolynomials 6. learn numerical solution of differentialequations.
	MT301 Topics in Functional Analysis	1. it is a branch of puremathematics. 2. it is useful in harmonic analysis, distribution theory, numerical analysis,etc. 3. learn about normed linearspaces. 4. learn about inner productspaces. 5. learn about banachspaces. 6. learn about hilbertspaces.
	MT302 Statistical Techniques	1. it is used in industries, quality control,etc. 2. learn about central tendencies anddispersion. 3. learn about mathematicalprobability. 4. study theoreticaldistributions. 5. study correlationtheory. 6. study regressiontheory. 7. learn about sampling and various statisticaltests.
	MT303 Topics in Field Theory	1. it is used in statistical mechanics, electro-magnetics,etc 2. study algebraic extension and splittingfields. 3. study about algebraicclosure. 4. study perfect fields of infinitefields. 5. learn about galoisextensions. 6. study fundamental theorem of galoistheory.
	MT304 Fluid Dynamics	1. mechanics applied to fluids is called fluidmechanics. 2. it iswidely used in civil engineering, mechanical engineering,etc. 3. learn about properties offluids. 4. learn about conservation ofmass. 5. learn about equations ofmotion. 6. study about 2-dimensionalmotion. 7. study luminaryflow.
	MT306 Theory of Lattices	1. it is primarily useful for understanding sets, logic andprobability. 2. understandposets. 3. understand congruencerelations. 4. learn about booleanlattices. 5. learn about modular and distributivelattices. 6. know stonealgebra.
	MT 307 Elements of Graph Theory	1. understand the basics of graphtheory. 2. learn operations ongraphs. 3. learn about connectedgraphs. 4. understand various problems related with planargraphs 5. understand trees and spanningtrees. 6. it is used in genomics, networks,etc. 7. understand the networking using graphtheory.

	MT401 Advanced Mathematical Methods	1. these methods are useful for solving ordinary and partial differentialeuations. 2. it is widely used in many engineeringfields. 3. learn about integralequations 4. learn about fouriertransforms. 5. study calculus ofvariations. 6. study z-transforms.
	MT402 Operations Research	1. it is used in industrial engineering, networks, transportation problems, game theory,etc. 2. learn about pert andcpm. 3. learn about decisiontheory. 4. study queuingtheory. 5. study replacementtheory. 6. study inventorymanagement.
	MT403 Commutative Algebra	1. used in discrete mathematics, computer science, information technology,etc. 2. learn about various types ofmodules. 3. know about noetherian and artinianmodules. 4. understand integralextensions. 5. study valuationrings. 6. understand dedekinddomain.
	MT 404Advanced Numerical Methods	1. it is a branch of numericalanalysis. 2. useful in many branches ofengineering. 3. learn about solving system ofequations. 4. learn about numerical differentiation andintegration. 5. understand numerical solution of initial valueproblems. understand numerical solution of boundary valueproblems.
	MT 406 Linear integral equation	1. students will have introduced with the and classification of linear integral equations 2. students will be known to degenerate kernels, types of kernels forexample hermitian and symmetric kernels. volterra's equations and resolvent kernel; 3. understand the applicability of convolution type of kernels. 4. understand the fourier integral, complex form of fourier integrals and fourier integral theorem; fourier transforms; 5. understand parsvals identity and relationship between fourier transforms and laplace transforms.
2019 -20	MTH 301: Calculus of Several Variables	1. it is used in almost all branches ofengineering. 2. it deals with calculus of severalvariables. 3. understand the importance of taylorsseries. 4. understand mean valuetheorem. 5. find area by doubleintegration. 6. find volume by tripleintegration.
	MTH 302(A): Group Theory	1. algebra is science ofoperations 2. it is widely used in computer science andt. 3. it is also useful for logic and fuzzy settheory 4. understand the concept ofgroups. 5. learn homomorphism andisomorphism. 6. under the structure of ring and integraldomain.

	MTH -302(B): Theory of Groups and Codes	1. to learn computations usingalgebra. 2. it is mainly used in computer science andt. 3. it is also useful for logic and fuzzy settheory 4. understand the concept ofgroups. 5. learn homomorphism andisomorphism. 6. learn group codes and how touncode.
	MTH 304: Set Theory and Logic	1. understand the set theory 2. understand laws of inclusion and exclusion 3. understand the statements and types of statement 4. understand the use of logic and logical statement
	MTH 401: Complex Variables	1. understand the significance of differentiability for complex functions and be familiar with the cauchy-riemann equations 2. evaluate integrals along a path in the complex plane and understand the statement of cauchy's theorem 3. compute the taylor and laurent expansions of simple functions, determining the nature of the singularities and calculating 4. use the cauchy residue theorem to evaluate integrals and sum series.
	MTH 402(A): Differential Equations	1. understand the exact differential equation 2. knows the necessary and sufficient condition for exactness 3. understand the wronskian of two solutions 4. understand the total differential equation
	MTH-402 (B): Differential Equations and Numerical Methods	1. understand the exactness of differential equation 2. understands the necessary and sufficient condition for exactness 3. understands and find the wronskian of two solutions 4. understand the exactness of total differential equation 5. understands the methods of finding the general integral of total differential equation
	MTH 404: Vector Calculus	1. understand scalar and vector products 2. understand the rotational and irrotational vectors 3. understand vector valued functions and their limits and continuity and use them to estimate velocity and acceleration of partials. 4. can find the vector and scalar triple product 5. calculate the curl and divergence of a vector field. 6. set up and evaluate line integrals of functions along curves.
2020-21	MTH - 501: Metric Spaces.	1. understands the properties of metric 2. understands the various types of distances on different sets and intervals 3. can understand the concept of limit and continuity on distance functions 4. understands the euclidean space and completeness and compactness in it
	MTH -502 Real Analysis - I	1. understands the completeness of real number system 2. understands the upper bound and lower bound in real number system 3. deals with the the topological concepts on real number system like open set, close set, limitpoint, limsup, liminf etc. 4. understands the convergence of sequences, cauchy’s sequences

	MTH-503 Algebra	1. understands the normal subgroup, quotient groug 2. understantds the homomorphism, isomorphism of group auto morphism, inner auto morphism of groups 3. understands the permutation group, cyclic permutation, even and odd permutation 4. understand the ring, integral domain, zero divisor, field 5. understands the polynomial ring
	MTH-504 Lattice Theory	1. understands partial order relation 2. understands the definition of poset, chain 3. deals with minimal element, maximal element, lub, glb 4. can draw the hasse diagram for the given lattice 5. understands the distributed lattice, complemented lattice dualof the lattice 6. can apply zorn's lemma to find maximal element for the lattice
	MTH-505 Integral Transform	1. understands the concept of integral transform 2. understands the component of integral transform such as kernel, interval etc and transforms formed through it. 3. applicability and use of fourier transform in wave equation 4. can solve boundary value problems, problem on heat-flow using the integral transform. 5. understand the definition of z- transform, properties of z- transform 6. applicability of z- transform, through initial value theorem and final value theorem
	MTH-506 Number Theory	1. understand the standard sets, n, w, r, c 2. understands and apply the divisibility for finding the gcd and lcm 3. understand the division algorithm, eucledean algorithm 4. understands the prime numbers and their properties 5. understands the applicability of euler's theorem and fermat's theorem
	MTH-601 Measure and Integration	1. define and learn measurable sets. 2. learn the concept of sets of measure zero. 3. understands the measurable functions 4. understand why a more sophisticated theory of integration andmeasure is needed. 5. can understand themeasurability of certain functions.
	MTH-602 Real analysis-II	1. understands the limit uperr sum and limit lower sum 2. understands the riemann upper sum and riemannn lower sum 3. knows some simple techniques for testing the convergence of sequences and series of functions, and confidence in applying them.
	MTH-603: Linear Algebra	1. understands the properties of vector spaces 2. understands the linear span of set of vectors 3. understands the basis for a vector space and dimension of vector spaces 4. undrstabds the nullity, rank, and dimesion of a vector space 5. understands applicability of spectral theorem
	MTH - 604: Ordinary and Partial Differential Equations	1. understand ths the origin of differnetialand partial differential equations 2. useful for solving many engineeringproblems. 3. learn about second order differentialequations. 4. learn about linear partial differential equations of orderone. 5. understand non-linear partial differential equations of orderone 6. under partial differential equations with constantcoefficients 7. differential equations are used in mathematicalmodelling.

	MTH - 605: Graph Theory	1. intoduction of types of graphs, 2. isomorphism of graphs, walk, path, cycles. 3. introduction operations on graphs, subgraphs, connected and disconnected graphs, bridges, cut vertices 4. edge connectivity and vertex connectivity 5. eulerian graph, hamiltonian graph, planer graph, euler's formula for planer graphs, kuratowski's two graph, geometrical dual. 6. solve problems on definition and some properties of trees, distance and centre in a tree, 7. definitions of rooted and binary trees, spanning trees, minimal spanning trees, directed graphs, some types of digraphs.
	MTH – 606(B): Operations Research	1. it is used in industrial engineering, networks, transportation problems, game theory,etc. 2. learn about pert andcpm. 3. learn about decisiontheory. 4. study queuingtheory. 5. study replacementtheory. 6. study inventorymanagement.

FY/SY/TYBSc (Computer Science and Information Technology)

YEAR	COURSE	Outcomes Students will be able to :
2017-18	T.Y.B.Sc. (Computer Science)CS-311: System Programming	1. get aware about system software's and their tools like editors and debugmonitors. 2. getfamiliarwithlanguageprocessingactivities. 3. understand detail working of assembler, macro and macro preprocessor, compiler and linker &loader.
	CS-312: Database Management System	1. getawareofdescribing&storingdata. 2. knowaboute-rmodelbyoverviewofdatabasedesign. 3. getfamiliarwithconversionofertorelationalmodel. 4. knowaboutfunctionaldependencyanddatanormalization. 5. understand databaseimplementations. 6. makeuseofconcurrencycontrol,backup&recoveryforlargeorhuge ofdatabases. 7. getawareabouthandlinghugedatabases.
	CS-313: Software Engineering	1. getawareofevaluationofsoftwareandsoftwaredevelopmentlife cycle(sdlc). 2. knowaboutsoftwaredevelopmentmodel. 3. getknowledgeofrequirementanalysisandspecificationinsoftware engineering. 4. learnuseoffactfindingtechniques,typesofrequirementmodeling and data modelingconcepts. 5. getknowledgeofdesignconceptsinsoftwareengineering. 6. know about cohesion & coupling , decision table & decisiontree, data flowdiagram 7. knowaboutsoftwarecoding&testing. 8. getawareaboutelementsofsoftwarequalityassurance.
	CS-314: Computer Aided Graphics	1. differentiatebetweeninteractiveandnon-interactivegraphics. 2. exploredifferentlineandcircledrawingalgorithms. 3. perform2dand3dtransformationondifferentimages. 4. knowaboutdetailworkingofimageclippingandwindowing. 5. understandrastergraphicsandhiddensurfaceelimination.

	CS-315 Programming in VB.NET	1. get awareabout .net platform. 2. understandloopingstructure,controlflowstatementsandexception handling invb.net 3. understandobjectorientedprograminginvb.net 4. createapplicationsthatuseadonet.
	Elective-A CS-316 A): Programming in C#	1. byusingc# codeandasp.netcreatedynamicwebpages. 2. usingmsvisualstudio.netideandcreateconsoleapplications. 3. knowaboutbasicprincipalofoop,definingclassandusingfunctions.
		1. abletouseconstructoranddestructor. 2. usepolymorphism,methodoverriding,methodhiding
	Elective -B UG-CS 316 B): JAVA Programming-I	1. students should understand, 2. get knowledge jdkenvironment. 3. explore polymorphism using function and operator overloading,overriding. 4. understand the different aspects of hierarchy of classes and their extensibility. 5. understandtheconceptsofstreamsandfiles. 6. writeprogramsforhandlingruntimeerrorsusingexception.
	CS-321: Operating System	1. knowaboutfunctionsandservicesofoperatingsystem. 2. awareaboutdifferentcpuschedulingalgorithms 3. getfamiliarwithdifferentmemorymanagementtechniques. 4. understanddifferentdiskanddrumschedulingalgorithmsaswellas deadlockconcepts. 5. getintroductoryknowledgeaboutandroidoperatingsystem.
	CS-322: MSSQL Server	1. understandfeaturesanddatatypesinsqlserver. 2. createandmanipulatedatabasesforvariousapplications. 3. use procedures and trigger for performing complex operation on databases. 4. handleerrorsusingexceptionhandlingconcepts.
	CS-323: Internet Programming using PHP	1. understandhowphpworkswithlexicalstructureofit. 2. programfordifferentapplicationsusingarrays,functionsandstrings. 3. awareaboutdifferentwebtechniquesusedinphp. 4. integratephpwithmysql.
	CS-324: Theoretical Computer Science	1. understandwhatispushdownautomataanditsapplications. 2. understand concepts of context free grammar and normalizationof cfg. 3. convertregularexpressiontofiniteautomata. 4. design turing machines for various applications like enumerator, functioncomputeranduniversalturingmachine.
	CS-325: Computer Network	1. understandapplicationsofnetwork,networkstructuresandprotocol hierarchy 2. awareaboutdetailsofphysical,datalink,networkandtransportlayer oftcp/ipnetworkmodel. 3. understandaboutdifferentaspectsofnetworksecuritylikefirewalls, ip securityand vpns. 4. awareaboutattacksandconfidentialityusedincryptography.

	Elective - A CS-326 A): Web Programming using ASP.NET	1. usingfeaturesofasp.netcreateasp.netcompilationmodel,code 2. behind model executionstages. 3. knowaboutasp.netcontrols,asp.netintrinsicobjects 4. usepagelayout,stylesandtextbalance,sitemap,masterpagesand content pages, navigation controls: tree view, site mappath (bread crumb), menunavigation. 5. byusingasp.netcreatedynamicwebpages
	Elective - BCS-326 B): JAVA Programming-II	1. programusinggraphicaluserinterfacewithswingclasses. 2. handledifferentkindsofeventsgeneratedwhilehandlingwindows. 1. createprogramsusingmenusanddialogboxes. 2. programforwebsitesusingapplets. 3. understandadvancedjavaconceptslikejdbcandservlets.
	CS-Lab-301: Lab on System Programming	1. students should understand, 2. on completion of the course, students are able to develop system programstoprovidebasic 3. applications for computinglikeeditor,interrupthandler,smacoand lexicalanalyzer.
	CS-Lab-302: Lab on Programming in VB.NET, Computer Aided Graphics	1. on completion of the course , students are able to developdifferent programsfordemonstratingdifferentcomputergraphicsalgorithms likecircle,linedrawingandclippingandfillingaswellasstudentscan 2. create dynamic web pages using vb.net.
	CS-Lab-304: Lab on MS SQLServer	1. oncompletionofthecourse,studentsareabletodevelopdatabase managementsystemusingfeaturesandservicesprovidedbymssql 2. server.
	CS-Lab-305: Lab on Internet Programming using PHP	1. oncompletionofthecourse,studentsareabletodevelopinteractivestaticaswel lasdynamicwebsites.
	Elective -A CS-Lab- 303 A): Lab on Programming in C#	1. oncompletionofthecourse,studentsareabletodevelopprograms usingc#basedonobjectorientedconceptsandwritetherobust, extensibleandefficientprogramsbyusingc#codeandasp.net 2. createdynamic web pages.
	Elective -B CS-Lab- 303 B): Lab on JAVA Programming –I	1. on completion of the course, student s areable to develop efficient programswhichprovidesgraphicaluserinterfaceforeasyhandlingof computers usingjava.

M.Sc(Computer Science)

Year	Course	Outcomes Students will be able to :
2017 to 2020	M.Sc(Compute r Science) I – CS-101: Advanced C++ Programming	1. understand advanced concepts for handling runtime errors using stackunwinding,uncaughtexceptionandautomaticcleanup. 2. study the runtime type information oft h e member variables, functionsandthemultipleinheritancesthatareusedintheprogram. 3. study advanced concepts of c++ by resolving ambiguities and duplicatesubobjectinvirtualbaseclasses. 4. understandapplicationsofc++likesmartpointer,genericpointer, objectvalidationandreferencecounting. 5. understanddetailconceptsofstl.

	CS-102: Automata Theory and Computability	1. understandwhatispushdownautomataanditsapplications. a. design turing machines for various applications like enumerator, functioncomputeranduniversalturingmachine. 2. study post correspondence problem, decidability of membership, emptinessandequivalenceproblemsofnaturallanguages. 3. getfamiliarwithcomputabilityandcomplexitymeasures. 4. understandwhatisdnaandmembranecomputing.
	CS-103: Advanced Operating System	1. studyfilessubsystemforunixoperatingsystem. 2. understanddetailworkingofunixoperatingsystem. 3. understandprocessandmemorymanagementtechniques.
	CS-104: Digital	1. students should understand,
	Image Processing	1. understandtheapplicationofdigitalimageprocessing. 2. exploreknowledgeaboutimageprocessingfundamentals. 3. getawareaboutimagesamplingandquantizationandoperationon images 4. understand histogram processing and various image filtering algorithms. 5. knowaboutvariousnoisemodelsandtransformationtechniques. 6. be aware of various morphological techniques and segmentation schemes.
	CS-105- LAB – I: Lab on Advanced OS and Digital Image Processing	1. students shouldunderstand, 2. get hands on various linuxcommands and shell script for different application. 3. familiar with matlabenvironment. 4. explore variousalgorithms for image processing. digital image processing using matlab.
	CS-106- LAB–II:Lab on Advanced C++ Programming	1. on completion of the course, students are able to developrobust, 2. extensible andefficientprogramsusingadvancedconceptsof stl inc++.
	CS-201: Advanced DBMS	1. explore ideas about centralized and client server architecture of dbms. 2. differentiateandhandleparallelanddistributeddatabases. 3. realize object oriented databases and xml databases for dynamic websitedevelopment. 4. befamiliarwithmobileandmultimediadatabases.
	CS-202: Machine Intelligence	1. understandartificialintelligenceandaiproblemsolvingtechniques. 2. explorelogicforsolvingvariousaiproblems. 3. graspthetechniquesofknowledgerepresentationinmachine. 4. comprehend advanced machine learning techniques such as fuzzy logic and geneticalgorithms.
	CS-203: Compiler Construction	1. students should understand, 2. knowroleofcompilersinprogramexecution. 3. understanddetailprogramexecutionusinglexicalandsyntaxanalysis 4. beawareofcodegenerationandoptimization.

	CS-204: Design and Analysis of Algorithms	1. students should understand, 2. design efficient algorithms using various algorithm designing techniques. 3. comprehend dynamic programming using control abstraction and longest commonsubsequence. 4. classifying any problem as np complete and np hard estimate the amount of chl-a, chl-b and total chlorophylls by spectro photometer method.
	CS-205- LAB – III: Lab on DAA and MI	1. on completion of the course, students are able to build theprogram thatcansolvetheproblemswhichrequiresintelligencetosolvethem. theycanbuildprogramswhichcangenerateoutputinlesstimeand 2. execute in less space
	CS -206-LAB - IV Lab on Advanced DBMS	1. oncompletionofthecourse,studentsareabletobuildandmaintainthedatabasesha ndlingreallifeapplicationsanddailyneeds
	M.Sc(Compute r Science) II CS-301: Software Engineering	1. know the requirements of developingsoftware. 2. beawareofvariousmodelsrequiredforsoftwaredevelopment. 3. testthedevelopedsoftwareforitsfunctionalityandperformance. 4. understandsoftwarequalityandqualitymeasures. 5. graspthesoftwareconfigurationmanagementandprojectplanning.
	CS-302: Optimization of Algorithm	1. understandingclassificationandlimitationofquantitativetechniques. 2. takeholdoflinearprogrammingproblemsolvingtechniques. 3. solve various kinds of transportation problems using different techniques. 4. exploreconceptsingametheory 5. beawareaboutthenetworkmodels,sequencingmodelsandsimulation models
	CS-303: Advanced Java Programming	1. designprogramsusingremotemethodinvocations(rm. 2. exploreprogrammingtechniquesofjavabeansandswing. 3. beawareaboutjavaenterpriseapplications. 4. knowaboutjavaservletsandjavastruts.
	CS-304: Windows, WCF and WPF Programming	1. students should understand, 2. familiarwithwindowsenvironmentandchildwindowcontrols. 3. understandwindowscommunicationfoundationusingwcfcontracts, clientsandservicessecurity. 4. understand windows presentation foundation, wpf and .net programming.
	CS-305-LAB – V: Lab on Windows, WCF and WPF Programming	1. on completion of the course, students are able to develop program havinggraphicaluserinterfaceforvariousapplications.
	CS -306-LAB–VI: Lab on Advanced Java Programming	1. on completion of the course, students will get hands on trainingfor variousjavaprogramslikejdbc,ejb,servlets,strutsetc.

	CS-401: Natural Language Processing	1. understandlanguagesandlinguisticbackground 2. befamiliarwithapplicationsandresearchbackgroundinnlp. 3. graspmathematicalfoundationrelatedtonlplikeprobability,baystheoremand machinelearning. 4. knowaboutlinguisticsessentialsandgrammaraspartofspeechandparsing and differentiating them, and aware about word morphology and n-gram models.
	CS-402: Advanced Network Programming	1. understandnetworkfundamentalswithtcp/iparchitecture. 2. awarewithclientserverprogrammingandits applicationusingsocket interface. 3. understandigmpicmpandipdatagrams. 4. understatingthemobileandadhocnetworkprogramming.
	CS-403: Data Warehousing and Data Mining	1. understanddatawarehousingforbusinessanalysisusingolap,oltp, molap androlap. 2. exploretheconceptsofdataminginganddatapreprocessing. 3. understandconceptofassociationrulemining.
		1. grasp classification and prediction and analyze different issues related to them. 2. identifydifferentclusteranalysistechniques. 3. knowaboutadvanceddataminingtechniquessuchasspatialdata miningandunderstandtheconceptofbigdataanalysis.
	CS-404- LAB – VII: Lab on Network programming and Data Mining	1. oncompletionofthecourse,studentsareabletodevelopclientserverprogramsfo rvariousserviceslikeicp,udp,telnet,ftpandhttp. 2. studentsareabletoanalyzetheprocessingandclassification techniques using wekatool.
	CS -405: Mini Project (200 marks)	1. deal with real worlddata. 2. familiaraboutrealtimeitindustryenvironment. 3. experimentaboutapplyingtheknowledgetheygotuptillnow. 4. buildawholerealtimeworkingsystemwhichwillsatisfyall customer'sneeds.

Information Technology:-
B.Sc (CS)

Year	Course	Outcomes Students will be able to :
2018-2019	F.Y.B.Sc (CS) CS 101: Essentials of Computer	1. understand the history of computers. 2. understand what computer and basic concepts of computer are. 3. aware about various types of computers, types of input and output devices. 4. preparation of algorithm and flowchart of program. 5. learn computer networks, its types and basics of internet. 6. understand computer viruses and its types.
	CS 102: C Programming - I	1. develop their programming skills. 2. be familiar with programming environment with c program structure. 3. declaration of variables and constants. 4. understand operators, expressions and preprocessors. 5. understand arrays, its declaration and uses.

	CS 201: Internet Computing	1. understand the types of website, it's structure, site organization model, site planning and testing. 2. understand how to design website with different website development models. 3. know the different page types on websites and it's navigations. 4. designing website using html language. 5. design advanced website using css.
	CS 202: C Programming - II	1. design programs using functions, pointers, structures and unions in c language. 2. write a program using file handling. 3. writing programs for drawing different graphical shapes.
	CS 103 and 203: Lab course on Paper I & II	1. on completion of the course, students are able to develop programs using c to meet real world needs and able to develop their own websites. 2. this course provides platform to enhance students basic skills required for advance programming.
2019-2020	S.Y.B.Sc (CS)COMP 211 : Data Structure I	1. students will be able to 2. knowwhatisdatastructureandbasicalgorithmicnotations. 3. analyzethetimeandspacerequirementofanyalgorithm. 4. understanddifferentlineardatastructuresforconversionof mathematicalexpressionsandpolynomial representations. 5. know the filestructures.
	COMP 212 : OOAD & Introduction toC++	1. befamiliarwithobjectorientedprogrammingenvironment. 2. differentiatebetweenstructureorientedprogrammingandobject orientedprogramming. 3. understand different object modeling techniques and analysislike generalization,aggregationandmetadata. 4. writereusable,extensibleandrobustprogramsinc++.
	COMP 221 : Data Structure II	1. know different non-linear data structures that can be used to representhierarchicalrelationshipbetweenobjects. 2. traverseandrepresentthegraphsincomputer. 3. understand the different approaches of sorting and searching elements in thearrays. 4. understanddifferenttechniquesofdesigningthealgorithms.
	CS-SEC-I(Skill Enhancement Course-I) Software & Hardware Installation Skills	1. basic operating system installations 2. device installations 3. network installation and pc maintenance
	COMP 222 : Programming in C++	1. explorepolymorphismusingfunctionandoperatoroverloading. 2. \writeprogramsforhandlingruntimeerrorsusingexception. 3. understandtheconceptsofpointersinc++. 4. understandthedifferentaspectsofhierarchyofclassesandtheir extensibility. 5. writegenericprogramsusingtemplatesandstl.

	CS SEC-II (Skill Enhancement Course-II) Network Security	1. demonstration of malware for using any antivirus software viruses, worms, intrusion tools,spyware using 2. secure client of network by using various permissions as well as password protection. 3. apply firewall rules for inbound and outbound services. 4. create user groups and perform various roles for securing network 5. demonstration of securing wireless network.
	COMP 213 and 223 : Practical Course	1. students should understand, 2. oncompletionofthecourse,studentsareabletodevelopprograms usingc++basedonobjectorientedconceptsandwritetherobust, 3. extensible and efficient
2020-21	T.Y.B.Sc (CS)CS-501: System Programming	1. get aware about system software's and their tools like editors and debugmonitors. 2. getfamiliarwithlanguageprocessingactivities. 3. understand detail working of assembler, macro and macro preprocessor, compiler and linker &loader.
	CS-502: Database Management System	1. getawareofdescribing&storingdata. 2. knowaboute-rmodelbyoverviewofdatabasedesign. 3. getfamiliarwithconversionofertorelationalmodel. 4. knowaboutfunctionaldependencyanddatanormalization. 5. understand databaseimplementations. 6. makeuseofconcurrencycontrol,backup&recoveryforlargeorhuge ofdatabases. 7. getawareabouthandlinghugedatabases.
	CS-503: Software Engineering	1. getawareofevaluationofsoftwareandsoftwaredevelopmentlife cycle(sdlc). 2. knowaboutsoftwaredevelopmentmodel. 3. getknowledgeofrequirementanalysisandspecificationinsoftware engineering. 4. learnuseoffactfindingtechniques,typesofrequirementmodeling and data modelingconcepts. 5. getknowledgeofdesignconceptsinsoftwareengineering. 6. know about cohesion & coupling , decision table & decisiontree, data flowdiagram 7. knowaboutsoftwarecoding&testing. 8. getawareaboutelementsofsoftwarequalityassurance.
	CS-504: Computer Aided Graphics	1. differentiatebetweeninteractiveandnon-interactivegraphics. 2. exploredifferentlineandcircledrawingalgorithms. 3. perform2dand3dtransformationondifferentimages. 4. knowaboutdetailworkingofimageclippingandwindowing. 5. understandrastergraphicsandhiddensurfaceelimination.
	CS-505: Python Programming- I	1. explain basic principles of python programming language 2. construct and apply various filters for a specific task. 3. apply the best features of mathematics, engineering and natural sciences to program real life problems.
	CS-506 A :Elective A - Internet Programming using PHP	1. design dynamic and interactive web pages. 2. php framework for effective design of web applications

	CS-506 B: JAVA Programming I	1. get knowledge of jdk environment 2. explore polymorphism using method overloading and method overriding 3. understand the different aspects of hierarchy of classes and their extensibility 4. understands the concept of streams and files 5. write programs for handling run time errors using exceptions
	CS-Lab-507 : Python Programming	1. installation of python 2. write a simple program and function modules in python 3. use of tuple, list and dictionary
	CS-Lab 508: Computer Aided Graphics	1. understanding graphics concept practically 2. hands on of using standard graphics library 3. hands on of implementation of dda, bresenham's line, circle drawing algorithm 4. hands on of implementation of 2d transformation: translation, scaling and rotation 5. hands on of implementation of cohen-sutherland line clipping algorithm
	CS Lab 509 A Internet Programming using PHP	1. design a simple web page using php 2. design php scripts for oops, exception handling and database 3. write php to create, retrieve and delete cookies
	CS Lab 509 B: JAVA Programming-I	1. students should understand, 2. get knowledge jdkenvironment. 3. explore polymorphism using function and operator overloading,overriding. 4. understand the different aspects of hierarchy of classes and their extensibility. 5. understandtheconceptsofstreamsandfiles. 6. writeprogramsforhandlingruntimeerrorsusingexception.
	CS-601: Operating System	1. knowaboutfunctionsandservicesofoperatingsystem. 2. awareaboutdifferentcpuschedulingalgorithms 3. getfamiliarwithdifferentmemorymanagementtechniques. 4. understanddifferentdiskanddrumschedulingalgorithmsaswellas deadlockconcepts. 5. getintroductoryknowledgeaboutandroidoperatingsystem.
	CS-602: RDBMS	1. design e-r model for given requirements and convert the same into database tables. 2. use database techniques such as sql & pl/sql. 3. explain transaction management in relational database system. 4. use advanced database programming concepts
	CS-603: Computer Network	1. students understand the information exchange done across the network with the help of osi & tcp/ip models. 2. student understands how errors are captured & handled in network. 3. student understands various attack & its prevention techniques.
	CS-604: Theoretical Computer Science	1. understandwhatispushdownautomataanditsapplications. 2. understand concepts of context free grammar and normalizationof cfg. 3. convertregularexpressiontofiniteautomata. 4. design turing machines for various applications like enumerator, functioncomputeranduniversalturingmachine.

	CS-605: Python Programming-II	1. explain basic principles of python programming language 2. implement object oriented concepts, database applications. 3. construct regular expressions for pattern matching and apply them to various filters for a specific task. 4. design and implement database application and content providers. 5. apply the best features of mathematics, engineering and natural sciences to program real life problems.
	CS-606 A: Elective A - Web Programming using ASP.NET	1. upon completion of this course the students should be able to understand the .net framework · 2. develop a proficiency in the asp.net · 3. develop asp.net web applications on any given scenario.
	CS-606B): JAVA Programming II Semester-VI	1. program using graphical user interface with swing classes 2. handle different kinds of events generated while handling gui components 3. create programs using menus and dialog boxes 4. program to create applets 5. understand advanced java concepts like jdbc, java beans
	CS-Lab 607: Python Programming II	1. define and demonstrate the use of built-in data structures “lists” and “dictionary”. 2. design and implement a program to solve a real world problem. 3. design and implement gui application and how to handle exceptions and files. 4. make database connectivity in python programming language
	CS- Lab 608 RDBMS	1. use sql & pl/sql. 2. perform advanced database operations. 3. create database tables in postgresql. 4. write and execute simple, nested queries
	CS-Lab 609 A Elective ASP.NET	1. use of html controls 2. write asp.net programs 3. make database connection using asp.net connectivity
	CS-Lab-609 BB: JAVA Programming-II	1. programusinggraphicaluserinterfacewithswingclasses. 2. handledifferentkindsofeventsgeneratedwhilehandlingwindows. 3. createprogramsusingmenusanddialogboxes. 4. programforwebsitesusingapplets. 5. understandadvancedjavaconceptslikejdbcandservlets.

Year	**Course**	**Outcomes** **Students will be able to :**
2018-2019	FYBSc. (IT IT 111: Web Design –I	1. understandaboutanalog&digitalcommunication. 2. understandaboutoverviewofinformationsecurity- 3. viruses & worms, threats. 4. getting knowledge of computer network andfor using internet. 5. understandthetypesofwebsite,itsstructure,site organization model, and site planning and testing. 6. understandhowtodesignwebsitewithdifferent website developmentmodels. 7. knowthedifferentpagetypesonwebsitesandits navigations. 8. designing website using htmllanguage. 9. design advanced website usingcss.

	IT 112: OOP (Object Oriented Programming -I)	1. understandtheconceptsofbasiccprogramming language. 2. develop the skill ofprogramming. 3. be familiar with object orientedprogramming. 4. differentiatebetweenstructureorientedprogramming and object oriented programming. 5. understand different object orientedmodeling techniques. 6. writereusable,extensibleandrobustprogramsin c++. 7. able to use constructor anddestructor.
	IT 121: Advanced Web Design - II	1. understandandlearnaboutevaluationofscripting languages. 2. learn about java scripting function andobjects. 3. understandandlearnjavascriptobjecthierarchy. 4. able to design and develop dynamic web pages. 5. getting knowledge to develop web portalsthrough xml.
	IT 122: Object Oriented Programming -II	1. explorepolymorphismusingfunctionandoperator overloading. 2. write programs for handling runtime errorsusing exception. 3. understand the concepts of pointers inc++. 4. understand the different aspects of hierarchyof classes and their extensibility. 5. writegenericprogramsusingtemplatesandstl.
	IT103 and 203 LAB Course on Paper I and II	1. develop programs usingc++ to meet real world and able to develop their own websites. 2. this course provides platform to enhance student's basic skills required for advanced programming.
2019-2020	S.Y.B.Sc(IT) IT 211 : Data Structure – I	1. know what is data structure and basicalgorithmic notations. 2. analyzethetimeandspacerequirementofany algorithm. 3. understanddifferentlineardata structuresfor conversion of mathematical expressionsand polynomial representations. 4. know the filestructures.
	IT-212:Programming in C#	1. workbyusingc#codeandasp.netcreatedynamic web pages. 2. usemsvisualstudio.netideandcreateconsole applications. 3. knowaboutbasicprincipalofoop, definingclass and using functions. 4. use constructor anddestructor. 5. use polymorphism, method overriding,methodhiding.
	IT-221: Data Structure – II	1. know different non-linear data structures that canbe used to represent hierarchical relationship between objects. 2. traverse and represent the graphs incomputer. 3. understandthedifferentapproachesofsortingand searching elements in the arrays. 4. understand different techniques of designingthe algorithms.
	IT 222 : Web Programming using ASP.NET	1. usefeaturesofasp.netcreateasp.netcompilation 2. model, code behind model execution stages. 3. knowaboutasp.netcontrols,asp.netintrinsic objects 4. use page layout, styles and text balance, site map, masterpagesandcontentpages,navigationcontrols: tree view, site map path (bread crumb),menu navigation. 5. use asp.net create dynamic webpages
	IT SEC-II (Skill Enhancement	1. demonstration of malware for using any antivirus software,viruses,worms 2. intrusion tools,spyware using

	Course-II) Network Security	3. secure client of network by using various permissions as well as password protection. 4. apply firewall rules for inbound and outbound services. 5. create user groups and perform various roles for securing network 6. demonstration of securing wireless network.
	IT 213 and 223 : Practical Course	1. students should understand, 2. oncompletionofthecourse,studentsareabletodevelopprograms usingc++basedonobjectorientedconceptsandwritetherobust,extensible and efficient
	IT 213 and 223: Practical Course	1. writetherobust,extensibleandefficient programsandusingdatastructure. byusingc#code and asp.net create dynamic web pages.

M. Sc. I

Year	Course	Outcomes Students will be able to :
2017 to 2020	M.Sc.(Compute r Science) I CS-101: Advanced C++ Programming	1. understand advanced concepts for handling runtime errors using stackunwinding,uncaughtexceptionandautomaticcleanup. 2. study the runtime type information ofthemember variables, functionsandthemultipleinheritancesthatareusedintheprogram. 3. study advanced concepts of c++ by resolving ambiguities and duplicatesubobjectinvirtualbaseclasses. 4. understandapplicationsofc++likesmartpointer,genericpointer, objectvalidationandreferencecounting. 5. understanddetailconceptsofstl.
	CS-102: Automata Theory and Computability	1. understandwhatispushdownautomataanditsapplications. a. design turing machines for various applications like enumerator, functioncomputeranduniversalturingmachine. 2. study post correspondence problem, decidability of membership, emptinessandequivalenceproblemsofnaturallanguages. 3. getfamiliarwithcomputabilityandcomplexitymeasures. 4. understandwhatisdnaandmembranecomputing.
	CS-103: Advanced Operating System	1. studyfilessubsystemforunixoperatingsystem. 2. understanddetailworkingofunixoperatingsystem. 3. understandprocessandmemorymanagementtechniques.
	CS-104: Digital Image Processing	1. students should understand, 2. understandtheapplicationofdigitalimageprocessing. 3. exploreknowledgeaboutimageprocessingfundamentals. 4. getawareaboutimagesamplingandquantizationandoperationon images 5. understand histogram processing and various image filtering algorithms. 6. knowaboutvariousnoisemodelsandtransformationtechniques. 7. be aware of various morphological techniques and segmentation schemes.

	CS-105- LAB – I: Lab on Advanced OS and Digital Image Processing	1. students shouldunderstand, 2. get hands on various linuxcommands and shell script for different application. 3. familiar with matlabenvironment. 4. explore variousalgorithms for digitalimage processing using matlab.
	CS-106-LAB– II:Lab on Advanced C++ Programming	1. on completion of the course, students are able to developrobust, extensibleandefficientprogramsusingadvancedconceptsof stl inc++.
	CS-201: Advanced DBMS	1. explore ideas about centralized and client server architecture of dbms. 2. differentiateandhandleparallelanddistributeddatabases. 3. realize object oriented databases and xml databases for dynamic websitedevelopment. 4. befamiliarwithmobileandmultimediadatabases.
	CS-202: Machine Intelligence	1. understandartificialintelligenceandaiproblemsolvingtechniques. 2. explorelogicforsolvingvariousaiproblems. 3. graspthetechniquesofknowledgerepresentationinmachine. 4. comprehend advanced machine learning techniques such as fuzzy logic and geneticalgorithms.
	CS-203: Compiler Construction	1. students should understand, 2. knowroleofcompilersinprogramexecution. 3. understanddetailprogramexecutionusinglexicalandsyntaxanalysis 4. beawareofcodegenerationandoptimization.
	CS-204: Design and Analysis of Algorithms	1. students should understand, 2. design efficient algorithms using various algorithm designing techniques. 3. comprehend dynamic programming using control abstraction and longest commonsubsequence. 4. classifying any problem as np complete and np hard estimate the amount of chl-a, chl-b and total chlorophylls by spectro photometer method.
	CS-205- LAB – III: Lab on DAA and MI	1. on completion of the course, students are able to build theprogram thatcansolvetheproblemswhichrequiresintelligencetosolvethem. theycanbuildprogramswhichcangenerateoutputinlesstimeand 2. execute in less space
	CS -206-LAB - IV Lab on Advanced DBMS	1. oncompletionofthecourse,studentsareabletobuildandmaintainthedatabaseshandlingreallifeapplicationsanddailyneeds
	M.Sc(Computer Science) II CS-301: Software Engineering	1. know the requirements of developingsoftware. 2. beawareofvariousmodelsrequiredforsoftwaredevelopment. 3. testthedevelopedsoftwareforitsfunctionalityandperformance. 4. understandsoftwarequalityandqualitymeasures. 5. graspthesoftwareconfigurationmanagementandprojectplanning.

	CS-302: Optimization of Algorithm	1. understandingclassificationandlimitationofquantitativetechniques. 2. takeholdoflinearprogrammingproblemsolvingtechniques. 3. solve various kinds of transportation problems using different techniques. 4. exploreconceptsingametheory 5. beawareaboutthenetworkmodels,sequencingmodelsandsimulation models
	CS-303: Advanced Java Programming	1. designprogramsusingremotemethodinvocations(rm. 2. exploreprogrammingtechniquesofjavabeansandswing. 3. beawareaboutjavaenterpriseapplications. 4. knowaboutjavaservletsandjavastruts.
	CS-304: Windows, WCF and WPF Programming	5. students should understand, 6. familiarwithwindowsenvironmentandchildwindowcontrols. 7. understandwindowscommunicationfoundationusingwcfcontracts, clientsandservicessecurity. 8. understand windows presentation foundation, wpf and .net programming.
	CS-305-LAB – V: Lab on Windows, WCF and WPF Programming	1. on completion of the course, students are able to develop program havinggraphicaluserinterfaceforvariousapplications.
	CS -306-LAB–VI: Lab on Advanced Java Programming	1. on completion of the course, students will get hands on trainingfor variousjavaprogramslikejdbc,ejb,servlets,strutsetc.
	CS-401: Natural Language Processing	1. understandlanguagesandlinguisticbackground 2. befamiliarwithapplicationsandresearchbackgroundinnlp. 3. graspmathematicalfoundationrelatedtonlplikeprobability,baystheoremand machinelearning. 4. knowaboutlinguisticsessentialsandgrammaraspartofspeechandparsing and differentiating them, and aware about word morphology and n-gram models.
	CS-402: Advanced Network Programming	1. understandnetworkfundamentalswithtcp/iparchitecture. 2. awarewithclientserverprogramminganditsapplicationusingsocket interface. 3. understandigmpicmpandipdatagrams. 4. understatingthemobileandadhocnetworkprogramming.
	CS-403: Data Warehousing and Data Mining	1. understanddatawarehousingforbusinessanalysisusingolap,oltp, molap androlap. 2. exploretheconceptsofdataminginganddatapreprocessing. 3. understandconceptofassociationrulemining. 4. grasp classification and prediction and analyze different issues related to them. 5. identifydifferentclusteranalysistechniques. 6. knowaboutadvanceddataminingtechniquessuchasspatialdata miningandunderstandtheconceptofbigdataanalysis.
	CS-404- LAB – VII: Lab on Network	1. oncompletionofthecourse,studentsareabletodevelopclientserverprogramsf orvariousservicesliketcp,udp,telnet,ftpandhttp. 2. studentsareabletoanalyzetheprocessingandclassification techniques using wekatool.

	programming and Data Mining	
	CS -405: Mini Project (200 marks)	1. deal with real worlddata. 2. familiaraboutrealtimeitindustryenvironment. 3. experiment aboutapplyingtheknowledgetheygotuptillnow. 4. buildawholerealtimeworkingsystemwhichwillsatisfyall customer'sneeds.

M.Sc.

Year	Course	Outcomes Students will be able to :
2021 to onwards	**M.Sc.(Computer Science) I** CS-102 Database Management System (DBMS)	1. analyze database design methodology. 2. acquire knowledge of fundamentals of database management system. 3. analyze the difference between traditional file system and dbms. 4. deal with different database languages. 5. draw various data models for database, writing and executing queries to get expected results.
	CS-103 Automata Theory and Computability	1. understand, design, construct, analyze and interpret regular languages, expression andgrammars. 2. design different types of finite automata and machines as acceptor, verifier and translator. 3. understand, design, analyze and interpret languages, expression and grammars. 4. design different types of push down automata and turing machine.
	CS-104 Operating Systems	1. understand different types of operating systems. 2. gain extensive knowledge on principles and modules of the operating systems. 3. understand key mechanisms in the design of operating systems modules. 4. understand process management, thread management, memory management, filemanagement and deadlock handling. 5. compare performance of different processor scheduling algorithms. 6. produce algorithmic solutions to process synchronization problems 7. understand the issues related to protection and security.
	CS-105 Object Oriented Programming using JAVA	1. understands the fundamentals of java programming language and its constructs. 2. understand concept of object-oriented programming concept using java. 3. implement the applications using the concept of the inheritance, interfaces, lambda 4. expressions, and inner classes. 5. design and implement the real-world application using the concept of the exceptions and generic programming 6. understand how to use concept of the graphics programming, event handling, swing 7. components, and jdbc in their application.

	CS LAB-I LAB on JAVA programming	1. write java application programs using oop principles and proper program 2. structuring 3. implementing user interface: 2d shapes, events, dialog box, menu and popup menu 4. developing applets, multithreaded programs 5. implementing generic and jdbc programming 6. demonstrate the concepts of polymorphism and inheritance 7. write java programs to implement error handling techniques using exception 8. handling
	CS LAB-II LAB on DBMS	1. understand database design methodology. 2. acquire knowledge in fundamentals of database management system. 3. work with popular database languages. 4. realize various data models for database and write queries in sql. 5. familiar with basic database storage structures and access techniques.
	CS-201 Compiler Construction	1. understanding of basic structure of compiler, concepts and terminology in programming languages, lexical analysis, finite state techniques, scanner generator, parsing, kindsof parsers, designing lexical analyzer, scanner and parsers, principal ideas with intermediate code generation, optimizations. 2. understanding of all concepts essential to design compiler in general for programminglanguages.
	CS-202 Artificial Intelligence	1. identify problems that are amenable to solution by ai methods. 2. identify appropriate ai methods to solve a given problem. 3. design smart system using different informed search / uninformed search or heuristicapproaches. 4. apply the suitable algorithms to solve ai problems.
	CS-203 Design and Analysis of Algorithms	1. analyze the asymptotic performance of algorithms. 2. write rigorous correctness proofs for algorithms. 3. design and analyze divide-and-conquer based algorithms. 4. devise and synthesize greedy and dynamic-programming based algorithms. 5. employ graphs to model problems solvable using traversal techniques. 6. able to model problems using backtracking 7. able to classify nondeterministic polynomial time algorithms
	CS-205 Python Programming	1. understand the basic concepts of python programming. 2. write python programs that supports some constructs of functional programming likemap, reduce, filter. 3. understand the use of strings, lists, tuples, dictionaries, and files and able to manipulatesdata available within them with help of various functions. 4. understand how to write user defined classes, methods as well as module creation andhandle exceptions while implementing python programs. 5. use regular expression for validating email address or domain name.
	CS- LAB-III LAB on Design and Analysis of Algorithms (DAA)	1. able to construct logic for the algorithms designed using designing techniques. 2. able to do posterior analysis of the algorithms. 3. able to debug the algorithms. 4. modify to improve performance of the algorithms. 5. able to test and profile the algorithms.
	CS-LAB-IV LAB on Python	1. implement python programs that demonstrates all types of sorting and searchingtechniques. 2. write programs that demonstrate the concepts of functions scoping,

	Programming	recursion, listmutability, regular expression and support of function programming constructs through python programming. 3. write python programs that defines user defined classes, methods and module form solving real world problems as well as use of exception handling concepts whenevernecessary. 4. implement programs that uses regular expression for searching patterns and validatingdata. 5. develop gui programs using tkinter.
	CS-301 Web Application Development Technology	1. successful students will able to design web applications using asp.net 2. successful students will be able to use asp.net controls in web applications. 3. successful students will be able to debug and deploy asp.net web applications 4. successful students will be able to create database driven asp.net web applicationsand web services.
	CS-302 Digital Image Processing	1. developed scientific and strategic approach to solve complex problems computer inthe domain of computer graphics and digital image processing. 2. demonstrated various algorithms for scan conversion and filling of basic primitive'sobjects and their comparative analysis and applied 2-d and 3-d geometrictransformations, viewing and clipping on graphical objects. 3. built the mathematical foundations for digital image representation, image acquisition,image transformation, image enhancement and restoration. 4. developed a theoretical foundation of fundamental concepts of digital imageprocessing. 5. exposed students to matlab image processing toolbox.
	CS-303 Software Engineering	1. understand and demonstrate basic knowledge in software engineering 2. define various software application domains and remember different process model usedin software development. 3. explain needs for software specifications also they can classify different types of softwarerequirements and their gathering techniques. 4. convert the requirements model into the design model and demonstrate use of software anduser interface design principles. 5. distinguish among scm and sqa and can classify different testing strategies and tacticsand compare them. 6. justify role of sdlc in software project development 7. generate project schedule and can construct, design and develop network diagram fordifferent type of projects.
	CS-304(A) Big Data Analytics	1. recognize the characteristics, applications of big data that make it useful to real-worldproblems. 2. process available data using big data tools hadoop file system and predict outcomes to solvegiven problem. 3. study & design various case studies using big data tools/commands and analyze it.
	CS LAB-V LAB on Web Application Development Technology	1. students will get hands-on experience on basic concepts in web applicationsdevelopment using asp.net technology. 2. students can develop or undertake professional looking real life web sites usingasp.net technology. 3. it will help students to grasp other web application developmenttechnologies/platforms easily through learn-by-comparison approach so that thelearning curve will be smooth and faster.
	CS LAB-VI	1. developed scientific and strategic approach to solve complex problems

	LAB on Digital Image Processing	computer inthe domain of computer graphics and digital image processing using c++ andmatlab respectively. 2. implemented various algorithms for scan conversion and filling of basic primitive'sobjects and their comparative analysis and applied 2-d and 3-d geometrictransformations, viewing and clipping on graphical objects. 3. exposed students to matlab and image processing toolbox. 4. used various tools in matlab to implemented image transformation, imageenhancement in spatial and frequency domain. 5. developed the programs on various digital image processing techniques.
	CS-401 Natural Language Processing	1. students will get idea about know-hows, issues and challenge in natural languageprocessing and nlp applications and their relevance in the classical and modern context. 2. student will get understanding of computational techniques and approaches for solvingnlp problems and develop modules for nlp tasks and tools such as morph analyzer,pos tagger, chunker, parser, wsd tool etc. 3. students will also be introduced to various grammar formalisms, which they can applyin different fields of study. 4. students can take up project work or work in r&d firms working in nlpand its alliedareas
	CS-402 Data Warehousing and Data Mining (DWDM)	1. explain organization of data warehousing and data marts. 2. differentiate between oltap and olap 3. apply data pre-processing techniques 4. write basic algorithms for extracting patterns from data (association mining, classification and clustering) 5. solve problems related with various aspects of data mining.
	CS-403(A) Optimization Algorithms	1. write about or and decision making. 2. differentiate between feasible and optimal solution 3. apply solving techniques to all types of lpp. 4. apply solving techniques to network problems and game theory problems as well.
	CS LAB-VII LAB Data Warehousing and Data Mining(DW DM)	1. organize strategic data in an enterprise and build a data warehouse.
	CS-401 Mini Project Guidelines	1. capability to acquire and apply fundamental principles of computers science. 2. become master in one's specialized technology. 3. become updated with all the latest changes in technological world. 4. ability to communicate efficiently. 5. knack to be a multi-skilled computer science professional with good technicalknowledge, management, leadership and entrepreneurship skills. 6. ability to identify, formulate and model problems and find engineering solution based ona systems approach. 7. capability and enthusiasm for self-improvement through continuous professionaldevelopment and life-long learning

Msc IT

Year	**Course**	**Outcomes** **Students will be able to :**
2021	**Msc IT I**IT-	1. developed scientific and strategic approach to solve complex

to onwards	101 Digital Image Processing	problems computer in the domain of computer graphics and digital image processing. 2. demonstrated various algorithms for scan conversion and filling of basic primitive's objects and their comparative analysis and applied 2-d and 3-d geometric transformations, viewing and clipping on graphical objects. 3. built the mathematical foundations for digital image representation, image acquisition, image transformation, image enhancement and restoration. 4. developed a theoretical foundation of fundamental concepts of digital image processing. 5. exposed students to matlab image processing toolbox.
	IT-102 Web Designing	1. design and implement web pages. 2. design web forms and apply client side validation. 3. demonstrate various css features. 4. display xml file using css, xsl, and dso. 5. create a drawing application with canvas using html5. 6. display the location's coordinates of longitude and latitude on google map. 7. create a web page for shopping cart using drag and drop events.
	IT-103 Operating Systems	1. get familiar with the fundamental concepts and algorithms used in existing operating systems.
	IT-104 Object Oriented Programming using JAVA	1. understand the concept of oop as well as the purpose and usage principles of inheritance, polymorphism, encapsulation and method overloading. 2. identify classes, objects, members of a class and the relationships among them needed for a specific problem. 3. create java application programs using sound oop practices and proper program structuring. 4. develop programs using java standard class library for manipulating databases, handling threads, gui applications, and event driven applications. 5. create the applications that demonstrates exception handling and generic programming in java.
	IT LAB-I LAB on Digital Image Processing and JAVA Programming	1. create graphics applications in c++ that draws line, ellipse, circle, polygon using various algorithms. 2. create graphics applications in c++ that draws an object like line and apply 2-d and 3-d transformations on it. 3. create graphics applications in c++ that draws an object like polygon and clip it using various polygon clipping algorithm. 4. create a matlab application that apply different image enhancement techniques, interpolation techniques, filtering techniques on the given image.
	IT LAB-II LAB on Web Designing	1. implement the web pages using various web designing features. 2. implement the web pages using xml and html5.
	IT-201 Computer Networks	1. have a good understanding of the osi reference model and have an upright knowledge oflayers 1-3. 2. to be familiar with contemporary issues in networking technologies 3. analyze the requirements for a given organizational structure and select the most appropriatenetworking architecture and technologies; 4. specify and identify deficiencies in existing protocols, and then go

		onto formulate new andbetter protocols;
	IT-202 Linux Administration and Programming	1. understand and demonstrate basic knowledge in linux operating system. 2. apply and change the ownership and file permissions using linux commands. 3. implement shell scripts and apply basic of administrative task. 4. to understand the networking, internet servers and installation, configuration, 5. administration of internet servers.
	IT-203 Database Management System (DBMS)	1. analyze database design methodology. 2. acquire knowledge of fundamentals of database management system. 3. analyze the difference between traditional file system and dbms. 4. deal with different database languages. 5. draw various data models for database, writing and executing queries to get expected results.
	IT- 204 Programming with Windows Technologies	1. explain the concepts of windows programming. 2. hands on experience using visual studio to create service-oriented applications using windows communication foundation (wcf) and c#. 3. use the wcf routing service for load balancing, content-based routing, and protocol bridging. 4. create windows applications using the classes provided by wpf 5. use the layout features of wpf to create flexible and attractive user interfaces
	IT LAB-III LAB on Linux Administration and Programming	1. implement the installation of linux system. 2. understand the basic commands of linux operating system and can write shell scripts. 3. create file systems, directories and operate them and to implement in c some standard linux utilities like mv,cp,ls etc. 4. implement system administration tasks, installation, configuration and administration of internet servers.
	IT LAB-IV LAB on Database Management System (DBMS) and Windows Programming	1. ability to practically work of database management system software to perform basic sql operations, triggers, procedures, views along with development of forms and reports with database connectivity. 2. successful students will able to write the window program and create the wcf and wpf applications.
	Msc IT II IT-301 Mobile Application Development	1. describe android platform, architecture and features. 2. design user interface and develop activity for android app. 3. use intent, broadcast receivers and internet services in android app. 4. design and implement database application and content providers. 5. use multimedia, camera and location based services in android app. 6. discuss various security issues in android platform
	IT-302 Software Engineering	1. identify problems that are amenable to solution by ai methods. 2. identify appropriate ai methods to solve a given problem. 3. design smart system using different informed search / uninformed search or heuristic approaches. 4. apply the suitable algorithms to solve ai problems 5. understand and demonstrate basic knowledge in software engineering 6. define various software application domains and remember different process model used in software development. 7. explain needs for software specifications also they can classify

		different types of software requirements and their gathering techniques. 8. convert the requirements model into the design model and demonstrate use of software and user interface design principles. 9. distinguish among scm and sqa and can classify different testing strategies and tactics and compare them. 10. justify role of sdlc in software project development 11. generate project schedule and can construct, design and develop network diagram for different type of projects.
	IT-303 Web Application Technology	1. successful students will able to design web applications using asp.net 2. successful students will be able to use asp.net controls in web applications. 3. successful students will be able to debug and deploy asp.net web applications 4. successful students will be able to create database driven asp.net web applications and 5. web services.
	IT-304(A) Ruby on Rails	1. familiar with ruby programming language by understanding lexical and syntactic structure of 2. ruby programs, datatypes and objects, expressions and operators, statements and control 3. structures, methods, procs, lambdas, and closures, classes and modules, reflection and metaprogramming. 4. familiar with web application development using rails framework.
	IT 304(B) Theoretical Computer Science	1. understand, design, construct, analyze and interpret regular languages, expression and grammars. 2. design different types of finite automata for regular grammars. 3. understand, design, analyze, interpret and simplify context free languages and grammars. 4. design different types of push down automata for context free languages and able to convert from context free grammars to push down automata and vice versa. 5. understand basic turing machine and design different types of turing machines. 6. compare, understand and analyze different languages, grammars, automata and machines and appreciate their power
	IT LAB-V LAB on Mobile Application Development	1. experiment on integrated development environment for android application development. 2. design and implement user interfaces and layouts of android app. 3. use intents for activity and broadcasting data in android app. 4. design and implement database application and content providers. 5. experiment with camera and location based service. develop android app with security features.
	IT LAB-VI LAB on Web Application Technology	1. successful students will able to design web applications using asp.net 2. successful students will be able to use asp.net controls in web applications. 3. successful students will be able to debug and deploy asp.net web applications 4. successful students will be able to create database driven asp.net web applications and web services.
	SEMISTER-IV CS-401 Python	1. understand the basic concepts of python programming. 2. write python programs that supports some constructs of functional programming like map, reduce, filter.

	Programming	3. understand the use of strings, lists, tuples, dictionaries, and files and able to manipulates data available within them with help of various functions. 4. understand how to write user defined classes, methods as well as module creation and handle exceptions while implementing python programs. 5. use regular expression for validating email address or domain name.
	IT-402 Data Warehousing and Data Mining (DWDM)	1. explain organization of data warehousing and data marts. 2. differentiate between oltap and olap 3. apply data pre-processing techniques 4. write basic algorithms for extracting patterns from data (association mining, classification and clustering) 5. solve problems related with various aspects of data mining.
	CS-403(A) Natural Language Processing	1. students will get idea about know-hows, issues and challenge in natural language processing and nlp applications and their relevance in the classical and modern context. 2. student will get understanding of computational techniques and approaches for solving nlp problems and develop modules for nlp tasks and tools such as morph analyzer, pos tagger, hunker, parser, wsd tool etc. 3. students will also be introduced to various grammar formalisms, which they can apply in different fields of study. 4. students can take up project work or work in r&d firms working in nlp and its allied areas
	CS-403(C) Optimization Algorithms	1. write about or and decision making 2. differentiate between feasible and optimal solution 3. apply solving techniques to all types of lpp. 4. apply solving techniques to network problems and game theory problems as well.
	IT LAB-V LAB on Python and Data Warehousing and Data Mining(DW DM)	1. implement python programs that demonstrates all types of sorting and searching techniques. 2. write programs that demonstrate the concepts of functions scoping, recursion, list mutability, regular expression and support of function programming constructs through python programming. 3. write python programs that defines user defined classes, methods and module for solving realworld problems as well as use of exception handling concepts whenever necessary. 4. implement programs that uses regular expression for searching patterns and validating data. 5. develop gui programs using tkinter. 6. organize strategic data in an enterprise and build a data warehouse.
	IT-401 Mini Project	1. capability to acquire and apply fundamental principles of computers and information technology. 2. become master in one's specialized technology. 3. become updated with all the latest changes in technological world. 4. ability to communicate efficiently 5. knack to be a multi-skilled it professional with good technical knowledge, management, leadership and entrepreneurship skills. 6. ability to identify, formulate and model problems and find engineering solution based on a systems approach. 7. capability and enthusiasm for self-improvement through continuous professional development and life-long learning

FY/SY/TYBSc (Computer Science and Information Technology)

Year	Course	Outcomes Students will be able to :
2017-18	T.Y.B.Sc. (Computer Science)CS-311: System Programming	1. get aware about system software's and their tools like editors and debugmonitors. 2. getfamiliarwithlanguageprocessingactivities. 3. understand detail working of assembler, macro and macro preprocessor, compiler and linker &loader .
	CS-312: Database Management System	1. getawareofdescribing&storingdata. 2. knowaboute-rmodelbyoverviewofdatabasedesign. 3. getfamiliarwithconversionofertorelationalmodel. 4. knowaboutfunctionaldependencyanddatanormalization. 5. understand databaseimplementations. 6. makeuseofconcurrencycontrol,backup&recoveryforlargeorhuge ofdatabases. 7. getawareabouthandlinghugedatabases.
	CS-313: Software Engineering	1. getawareofevaluationofsoftwareandsoftwaredevelopmentlife cycle(sdlc). 2. knowaboutsoftwaredevelopmentmodel. 3. getknowledgeofrequirementanalysisandspecificationinsoftware engineering. 4. learnuseoffactfindingtechniques,typesofrequirementmodeling and data modelingconcepts. 5. getknowledgeofdesignconceptsinsoftwareengineering. 6. know about cohesion & coupling , decision table & decisiontree, data flowdiagram 7. knowaboutsoftwarecoding&testing. 8. getawareaboutelementsofsoftwarequalityassurance.
	CS-314: Computer Aided Graphics	1. differentiatebetweeninteractiveandnon-interactivegraphics. 2. exploredifferentlineandcircledrawingalgorithms. 3. perform2dand3dtransformationondifferentimages. 4. knowaboutdetailworkingofimageclippingandwindowing. 5. understandrastergraphicsandhiddensurfaceelimination.
	CS-315 Programming in VB.NET	1. get awareabout .net platform. 2. understandloopingstructure,controlflowstatementsandexception handling invb.net 3. understandobjectorientedprograminginvb.net 4. createapplicationsthatuseadonet.
	Elective-A CS-316 A): Programming in C#	1. byusingc#codeandasp.netcreatedynamicwebpages. 2. usingmsvisualstudio.netideandcreateconsoleapplications. 3. knowaboutbasicprincipalofoop,definingclassandusingfunctions.
		4. abletouseconstructoranddestructor. 5. usepolymorphism,methodoverriding,methodhiding
	Elective -B UG-CS 316 B): JAVA Programming-I	1. students should understand, 2. get knowledge jdkenvironment. 3. explore polymorphism using function and operator overloading,overriding. 4. understand the different aspects of hierarchy of classes and their extensibility.

		5. understandtheconceptsofstreamsandfiles. 6. writeprogramsforhandlingruntimeerrorsusingexception.
	CS-321: Operating System	1. knowaboutfunctionsandservicesofoperatingsystem. 2. awareaboutdifferentcpuschedulingalgorithms 3. getfamiliarwithdifferentmemorymanagementtechniques. 4. understanddifferentdiskanddrumschedulingalgorithmsaswellas deadlockconcepts. 5. getintroductoryknowledgeaboutandroidoperatingsystem.
	CS-322: MSSQL Server	1. understandfeaturesanddatatypesinsqlserver. 2. createandmanipulatedatabasesforvariousapplications. 3. use procedures and trigger for performing complex operation on databases. 4. handleerrorsusingexceptionhandlingconcepts.
	CS-323: Internet Programming using PHP	1. understandhowphpworkswithlexicalstructureofit. 2. programfordifferentapplicationsusingarrays,functionsandstrings. 3. awareaboutdifferentwebtechniquesusedinphp. 4. integratephpwithmysql.
	CS-324: Theoretical Computer Science	1. understandwhatispushdownautomataanditsapplications. 2. understand concepts of context free grammar and normalizationof cfg. 3. convertregularexpressiontofiniteautomata. 4. design turing machines for various applications like enumerator, functioncomputeranduniversalturingmachine.
	CS-325: Computer Network	1. understandapplicationsofnetwork,networkstructuresandprotocol hierarchy 2. awareaboutdetailsofphysical,datalink,networkandtransportlayer oftcp/ipnetworkmodel. 3. understandaboutdifferentaspectsofnetworksecuritylikefirewalls, ip securityand vpns. 4. awareaboutattacksandconfidentialityusedincryptography.
	Elective - A CS-326 A): Web Programming using ASP.NET	1. usingfeaturesofasp.netcreateasp.netcompilationmodel,code 2. behind model executionstages. 3. knowaboutasp.netcontrols,asp.netintrinsicobjects 4. usepagelayout,stylesandtextbalance,sitemap,masterpagesand content pages, navigation controls: tree view, site mappath (bread crumb), menunavigation. 5. byusingasp.netcreatedynamicwebpages
	Elective - BCS-326 B): JAVA	1. programusinggraphicaluserinterfacewithswingclasses. 2. handledifferentkindsofeventsgeneratedwhilehandlingwindows.
	Programming-II	1. createprogramsusingmenusanddialogboxes. 2. programforwebsitesusingapplets. 3. understandadvancedjavaconceptslikejdbcandservlets.
	CS-Lab-301: Lab on System Programming	1. students should understand, 2. on completion of the course, students are able to develop system programstoprovidebasic 3. applicationsforcomputinglikeeditor,interrupthandler,smacoand lexicalanalyzer.

	CS-Lab-302: Lab on Programming in VB.NET, Computer Aided Graphics	1. on completion of the course , students are able to developdifferent programsfordemonstratingdifferentcomputergraphicsalgorithms likecircle,linedrawingandclippingandfillingaswellasstudentscan 2. create dynamic web pages using vb.net.
	CS-Lab-304: Lab on MS SQLServer	1. oncompletionofthecourse,studentsareabletodevelopdatabase managementsystemusingfeaturesandservicesprovidedbymssql 2. server.
	CS-Lab-305: Lab on Internet Programming using PHP	1. oncompletionofthecourse,studentsareabletodevelopinteractivestaticaswellasdynamicwebsites.
	Elective -A CS-Lab- 303 A): Lab on Programming in C#	1. oncompletionofthecourse,studentsareabletodevelopprograms usingc#basedonobjectorientedconceptsandwritetherobust, extensibleandefficientprogramsbyusingc#codeandasp.net 2. createdynamic web pages.
	Elective -B CS-Lab- 303 B): Lab on JAVA Programming–I	1. on completion of the course, student s areable to develop efficient programswhichprovidesgraphicaluserinterfaceforeasyhandlingof computers usingjava.

	Course	**Outcomes** **Students will be able to :**
2017-18	**FYBSc(InformationTechnology)** IT-311 System Programming	1. getinsightintothesystemsoftwareandtheirtools like editors and deb monitors. 2. get familiar with language processingactivities. 3. understanddetailworkingofassembler,macroand macro preprocessor, compiler and linker & loader.
	IT-312 Database Management System	1. get aware of describing & storingdata. 2. know about e-r model by overview ofdatabase design. 3. get familiar with conversion of er torelational model. 4. know about functional dependency anddata normalization. 5. understand database implementations. 6. make use of concurrency control, backup & recovery for large or he of databases. 7. get aware about handling he databases 8. understand databaseimplementations. 9. make use of concurrency control, backup& recovery for large or he of databases. 10. get aware about handling hedatabases.

	IT-313 Data Communication	1. know about major communication in data communicationsystem-transmissionpathandmodems. 2. get familiar with switching &multiplexing. 3. understanderrorcorrection&detectionindata communication. 4. know about wired lans, wireless lansand bluetooth. 5. get knowledge of data communicationservices. 6. get aware of evaluation of software andsoftware 7. development life cycle (sdlc). 8. know about software developmentmodel. 9. get knowledge of requirement analysisand specification in software engineering. 10. learn use of fact finding techniques, typesof requirement modeling and data modeling concepts. 11. get knowledge of design concepts insoftware engineering. 12. knowaboutcohesion&coupling,decisiontable & decision tree, data flow diagram 13. know about software coding &testing. 14. get aware about elements of softwarequality assurance.
	IT-315 Internet Programming using PHP	1. understandhowphpworkswithlexicalstructureof it. 2. program for different applications usingarrays, functions and strings. 3. aware about different web techniques used inphp. 4. integrate php withmysql.
	IT-316 JAVA Programming-I	1. get knowledge jdkenvironment. 2. explorepolymorphismusingfunctionandoperator overloading, overriding. 3. understand the different aspects of hierarchyof classes and their extensibility. 4. understand the concepts of streams and files 5. write programs for handling runtime errorsusing exception.
	IT-321 Operating System	1. know about functions and services ofoperating system. 2. aware about different cpu schedulingalgorithms 3. get familiar with different memorymanagement techniques. 4. understand different disk and drumscheduling algorithms as well as deadlock concepts. 5. get introductory knowledge about androidoperating system.
	IT-322 MS SQL Server	1. understandfeaturesanddatatypesinsqlserver. 2. create and manipulate databases forvariousapplications. 3. proceduresandtriggerforperformingcomplex operation on databases. 4. handle errors using exception handlingconcepts.

B.Sc (CS)

Year	Course	Outcomes Students will be able to :
2018-2019	F.Y.B.Sc (CS) CS 101: Essentials of Computer	1. understand the history of computers. 2. understand what computer and basic concepts of computer are. 3. aware about various types of computers, types of input and output devices. 4. preparation of algorithm and flowchart of program. 5. learn computer networks, its types and basics of internet. 6. understand computer viruses and its types.

	CS 102: C Programming – I	1. develop their programming skills. 2. be familiar with programming environment with c program structure. 3. declaration of variables and constants. 4. understand operators, expressions and preprocessors. 5. understand arrays, its declaration and uses.
	CS 201: Internet Computing	1. understand the types of website, it's structure, site organization model, site planning and testing. 2. understand how to design website with different website development models. 3. know the different page types on websites and it's navigations. 4. designing website using html language. 5. design advanced website using css.
	CS 202: C Programming – II	1. design programs using functions, pointers, structures and unions in c language. 2. write a program using file handling. 3. writing programs for drawing different graphical shapes.
	CS 103 and 203: Lab course on Paper I & II	1. on completion of the course, students are able to develop programs using c to meet real world needs and able to develop their own websites. 2. this course provides platform to enhance students basic skills required for advance programming.
2019-2020	S.Y.B.Sc (CS)COMP 211 : Data Structure I	1. knowwhatisdatastructureandbasicalgorithmicnotations. 2. analyzethetimeandspacerequirementofanyalgorithm. 3. understanddifferentlineardatastructuresforconversionof mathematicalexpressionsandpolynomial representations. 4. know the filestructures.
	COMP 212 : OOAD & Introduction toC++	1. befamiliarwithobjectorientedprogrammingenvironment. 2. differentiatebetweenstructureorientedprogrammingandobject orientedprogramming. 3. understand different object modeling techniques and analysislike generalization,aggregationandmetadata. 4. writereusable,extensibleandrobustprogramsinc++.
	COMP 221 : Data Structure II	1. know different non-linear data structures that can be used to representhierarchicalrelationshipbetweenobjects. 2. traverseandrepresentthegraphsincomputer. 3. understand the different approaches of sorting and searching elements in thearrays. 4. understanddifferenttechniquesofdesigningthealgorithms.
	CS-SEC-I(Skill Enhancement Course-I) Software & Hardware Installation Skills	1. basic operating system installations 2. device installations 3. network installation and pc maintenance
	COMP 222 : Programming in C++	1. explorepolymorphismusingfunctionandoperatoroverloading. 2. writeprogramsforhandlingruntimeerrorsusingexception. 3. understandtheconceptsofpointersinc++. 4. understandthedifferentaspectsofhierarchyofclassesandtheir extensibility. 5. writegenericprogramsusingtemplatesandstl.

	CS SEC-II (Skill Enhancement Course-II) Network Security	1. demonstration of malware for using any antivirus software,viruses,worms, intrusion tools spyware using 2. secure client of network by using various permissions as well as password protection. 3. apply firewall rules for inbound and outbound services. 4. create user groups and perform various roles for securing network 5. demonstration of securing wireless network.
	COMP 213 and 223 : Practical Course	1. students should understand, 2. oncompletionofthecourse,studentsareabletodevelopprograms usingc++basedonobjectorientedconceptsandwritetherobust, 3. extensible and efficient
2020-21	T.Y.B.Sc (CS)CS-501: System Programming	1. get aware about system software's and their tools like editors and debugmonitors. 2. getfamiliarwithlanguageprocessingactivities. 3. understand detail working of assembler, macro and macro preprocessor, compiler and linker &loader.
	CS-502: Database Management System	getawareofdescribing&storingdata. 1. knowaboute-rmodelbyoverviewofdatabasedesign. 2. getfamiliarwithconversionofertorelationalmodel. 3. knowaboutfunctionaldependencyanddatanormalization. 4. understand databaseimplementations. 5. makeuseofconcurrencycontrol,backup&recoveryforlargeorhuge ofdatabases. 6. getawareabouthandlinghugedatabases.
	CS-503: Software Engineering	1. getawareofevaluationofsoftwareandsoftwaredevelopmentlife cycle(sdlc). 2. knowaboutsoftwaredevelopmentmodel. 3. getknowledgeofrequirementanalysisandspecificationinsoftware engineering. 4. learnuseoffactfindingtechniques,typesofrequirementmodeling and data modelingconcepts. 5. getknowledgeofdesignconceptsinsoftwareengineering. 6. know about cohesion & coupling , decision table & decisiontree, data flowdiagram 7. know aboutsoftwarecoding&testing. 8. getawareaboutelementsofsoftwarequalityassurance.
	CS-504: Computer Aided Graphics	1. differentiatebetweeninteractiveandnon-interactivegraphics. 2. exploredifferentlineandcircledrawingalgorithms. 3. perform2dand3dtransformationondifferentimages. 4. knowaboutdetailworkingofimageclippingandwindowing. 5. understandrastergraphicsandhiddensurfaceelimination.
	CS-505: Python Programming- I	1. explain basic principles of python programming language 2. construct and apply various filters for a specific task. 3. apply the best features of mathematics, engineering and natural sciences to program real life problems.
	CS-506 A :Elective A - Internet Programming using PHP	1. design dynamic and interactive web pages. 2. php framework for effective design of web applications

	CS-506 B: JAVA Programming I	1. get knowledge of jdk environment 2. explore polymorphism using method overloading and method overriding 3. understand the different aspects of hierarchy of classes and their extensibility 4. understands the concept of streams and files 5. write programs for handling run time errors using exceptions
	CS-Lab-507 : Python Programming	1. installation of python 2. write a simple program and function modules in python 3. use of tuple, list and dictionary
	CS-Lab 508: Computer Aided Graphics	1. understanding graphics concept practically 2. hands on of using standard graphics library 3. hands on of implementation of dda, bresenham's line, circle drawing algorithm 4. hands on of implementation of 2d transformation: translation, scaling and rotation . 5. hands on of implementation of cohen-sutherland line clipping algorithm
	CS Lab 509 A Internet Programming using PHP	1. design a simple web page using php 2. design php scripts for oops, exception handling and database 3. write php to create, retrieve and delete cookies
	CS Lab 509 B: JAVA Programming-I	1. students should understand, 2. get knowledge jdkenvironment. 3. explore polymorphism using function and operator overloading,overriding. 4. understand the different aspects of hierarchy of classes and their extensibility. 5. understandtheconceptsofstreamsandfiles. 6. writeprogramsforhandlingruntimeerrorsusingexception.
	CS-601: Operating System	1. knowaboutfunctionsandservicesofoperatingsystem. 2. awareaboutdifferentcpuschedulingalgorithms 3. getfamiliarwithdifferentmemorymanagementtechniques. 4. understanddifferentdiskanddrumschedulingalgorithmsaswellas deadlockconcepts. 5. getintroductoryknowledgeaboutandroidoperatingsystem.
	CS-602: RDBMS	1. design e-r model for given requirements and convert the same into database tables. 2. use database techniques such as sql & pl/sql. 3. explain transaction management in relational database system. 4. use advanced database programming concepts
	CS-603: Computer Network	1. students understand the information exchange done across the network with the help of osi & tcp/ip models. 2. student understands how errors are captured & handled in network. 3. student understands various attack & its prevention techniques.
	CS-604: Theoretical Computer Science	1. understandwhatispushdownautomataanditsapplications. 2. understand concepts of context free grammar and normalizationof cfg. 3. convertregularexpressiontofiniteautomata. 4. design turing machines for various applications like enumerator, functioncomputeranduniversalturingmachine.

	CS-605: Python Programming- II	1. explain basic principles of python programming language 2. implement object oriented concepts, database applications. 3. construct regular expressions for pattern matching and apply them to various filters for a specific task. 4. design and implement database application and content providers. 5. apply the best features of mathematics, engineering and natural sciences to program real life problems.
	CS-606 A: Elective A - Web Programming using ASP.NET	1. upon completion of this course the students should be able to understand the .net framework · 2. develop a proficiency in the asp.net · 3. develop asp.net web applications on any given scenario.
	CS-606B): JAVA Programming II Semester-VI	1. program using graphical user interface with swing classes 2. handle different kinds of events generated while handling gui components 3. create programs using menus and dialog boxes 4. program to create applets 5. understand advanced java concepts like jdbc, java beans
	CS-Lab 607: Python Programming II	1. define and demonstrate the use of built-in data structures “lists” and “dictionary”. 2. design and implement a program to solve a real world problem. 3. design and implement gui application and how to handle exceptions and files. 4. make database connectivity in python programming language
	CS- Lab 608 RDBMS	1. use sql & pl/sql. 2. perform advanced database operations. 3. create database tables in postgresql. 4. write and execute simple, nested queries
	CS-Lab 609 A Elective ASP.NET	1. use of html controls 2. write asp.net programs 3. make database connection using asp.net connectivity
	CS-Lab-609 BB: JAVA Programming-II	1. programusinggraphicaluserinterfacewithswingclasses. 2. handledifferentkindsofeventsgeneratedwhilehandlingwindows. 3. createprogramsusingmenusanddialogboxes. 4. programforwebsitesusingapplets. 5. understandadvancedjavaconceptslikejdbcandservlets.

M.Sc(Computer Science)

Year	**Course**	**Outcomes** **Students will be able to :**
2017 to 2020	M.Sc(Computer Science) I CS-101: Advanced C++ Programming	1. understand advanced concepts for handling runtime errors using stackunwinding,uncaughtexceptionandautomaticcleanup. 2. study the runtime type information oft h e member variables, functionsandthemultipleinheritancesthatareusedintheprogram. 3. study advanced concepts of c++ by resolving ambiguities and duplicatesubobjectinvirtualbaseclasses. 4. understandapplicationsofc++likesmartpointer,genericpointer, objectvalidationandreferencecounting. 5. understanddetailconceptsofstl.

	CS-102: Automata Theory and Computability	1. understandwhatispushdownautomataanditsapplications. a. design turing machines for various applications like enumerator, functioncomputeranduniversalturingmachine. 2. study post correspondence problem, decidability of membership, emptinessandequivalenceproblemsofnaturallanguages. 3. getfamiliarwithcomputabilityandcomplexitymeasures. 4. understandwhatisdnaandmembranecomputing.
	CS-103: Advanced Operating System	1. studyfilessubsystemforunixoperatingsystem. 2. understanddetailworkingofunixoperatingsystem. 3. understandprocessandmemorymanagementtechniques.
	CS-104: Digital Image Processing	1. students should understand, 2. understandtheapplicationofdigitalimageprocessing. 3. exploreknowledgeaboutimageprocessingfundamentals. 4. getawareaboutimagesamplingandquantizationandoperationon images 5. understand histogram processing and various image filtering algorithms. 6. knowaboutvariousnoisemodelsandtransformationtechniques. 7. be aware of various morphological techniques and segmentation schemes.
	CS-105- LAB – I: Lab on Advanced OS and Digital Image Processing	1. students shouldunderstand, 2. get hands on various linuxcommands and shell script for different application. 3. familiar with matlabenvironment. 4. explore variousalgorithms for image processing. digital image processing using matlab.
	CS-106-LAB– II:Lab on Advanced C++ Programming	1. on completion of the course, students are able to developrobust, extensibleandefficientprogramsusingadvancedconceptsof stl inc++.
	CS-201: Advanced DBMS	1. explore ideas about centralized and client server architecture of dbms. 2. differentiateandhandleparallelanddistributeddatabases. 3. realize object oriented databases and xml databases for dynamic websitedevelopment. 4. befamiliarwithmobileandmultimediadatabases.
	CS-202: Machine Intelligence	1. understandartificialintelligenceandaiproblemsolvingtechniques. 2. explorelogicforsolvingvariousaiproblems. 3. graspthetechniquesofknowledgerepresentationinmachine. 4. comprehend advanced machine learning techniques such as fuzzy logic and geneticalgorithms.
	CS-203: Compiler Construction	1. students should understand, 2. knowroleofcompilersinprogramexecution. 3. understanddetailprogramexecutionusinglexicalandsyntaxanalysis 4. beawareofcodegenerationandoptimization.

	CS-204: Design and Analysis of Algorithms	1. students should understand, 2. design efficient algorithms using various algorithm designing techniques. 3. comprehend dynamic programming using control abstraction and longest commonsubsequence. 4. classifying any problem as np complete and np hard estimate the amount of chl-a, chl-b and total chlorophylls by spectro photometer method.
	CS-205- LAB – III: Lab on DAA and MI	1. on completion of the course, students are able to build theprogram thatcansolvetheproblemswhichrequiresintelligencetosolvethem. theycanbuildprogramswhichcangenerateoutputinlesstimeand 2. execute in less space
	CS -206-LAB - IV Lab on Advanced DBMS	1. oncompletionofthecourse,studentsareabletobuildandmaintainthedatabaseshandlingreallifeapplicationsanddailyneeds
	M.Sc(Compute r Science) IICS-301: Software Engineering	1. know the requirements of developingsoftware. 2. beawareofvariousmodelsrequiredforsoftwaredevelopment. 3. testthedevelopedsoftwareforitsfunctionalityandperformance. 4. understandsoftwarequalityandqualitymeasures. 5. graspthesoftwareconfigurationmanagementandprojectplanning.
	CS-302: Optimization of Algorithm	1. understandingclassificationandlimitationofquantitativetechniques. 2. takeholdoflinearprogrammingproblemsolvingtechniques. 3. solve various kinds of transportation problems using different techniques. 4. exploreconceptsingametheory 5. beawareaboutthenetworkmodels,sequencingmodelsandsimulation models
	CS-303: Advanced Java Programming	1. designprogramsusingremotemethodinvocations(rm. 2. explorereprogrammingtechniquesofjavabeansandswing. 3. beawareaboutjavaenterpriseapplications. 4. knowaboutjavaservletsandjavastruts.
	CS-304: Windows, WCF and WPF Programming	1. students should understand, 2. familiarwithwindowsenvironmentandchildwindowcontrols. 3. understandwindowscommunicationfoundationusingwcfcontracts, clientsandservicessecurity. 4. understand windows presentation foundation, wpf and .net programming.
	CS-305-LAB – V: Lab on Windows, WCF and WPF Programming	1. on completion of the course, students are able to develop program havinggraphicaluserinterfaceforvariousapplications.
	CS -306-LAB– VI: Lab on Advanced Java Programming	1. on completion of the course, students will get hands on trainingfor variousjavaprogramslikejdbc,ejb,servlets,strutsetc.

	CS-401: Natural Language Processing	1. understandlanguagesandlinguisticbackground 2. befamiliarwithapplicationsandresearchbackgroundinnlp. 3. graspmathematicalfoundationrelatedtonlplikeprobability,baystheoremand machinelearning. 4. knowaboutlinguisticsessentialsandgrammaraspartofspeechandparsing and differentiating them, and aware about word morphology and n-gram models.
	CS-402: Advanced Network Programming	1. understandnetworkfundamentalswithtcp/iparchitecture. 2. awarewithclientserverprogramminganditsapplicationusingsocket interface. 3. understandigmpicmpandipdatagrams. 4. understatingthemobileandadhocnetworkprogramming.
	CS-403: Data Warehousing and Data Mining	1. understanddatawarehousingforbusinessanalysisusingolap,oltp, molap androlap. 2. exploretheconceptsofdataminginganddatapreprocessing. 3. understandconceptofassociationrulemining.
		4. grasp classification and prediction and analyze different issues related to them. 5. identifydifferentclusteranalysistechniques. 6. knowaboutadvanceddataminingtechniquessuchasspatialdata miningandunderstandtheconceptofbigdataanalysis.
	CS-404- LAB – VII: Lab on Network programming and Data Mining	1. oncompletionofthecourse,studentsareabletodevelopclientserverprogramsfo rvariousserviceslikeicp,udp,telnet,ftpandhttp. 2. studentsareabletoanalyzetheprocessingandclassification techniques using wekatool.
	CS -405: Mini Project (200 marks)	1. deal with real worlddata. 2. familiaraboutrealtimeitindustryenvironment. 3. experimentaboutapplyingtheknowledgetheygotuptillnow. 4. buildawholerealtimeworkingsystemwhichwillsatisfyall customer'sneeds.

BSc.(IT)

Year	Course	Outcomes Students will be able to :
2018-2019	FYBSc. (IT) IT 111: Web Design –I	1. understandaboutanalog&digitalcommunication. 2. understandaboutoverviewofinformationsecurity- 3. viruses & worms, threats. 4. getting knowledge of computer network andfor using internet. 5. understandthetypesofwebsite,itsstructure,site organization model, and site planning and testing. 6. understandhowtodesignwebsitewithdifferent website developmentmodels. 7. knowthedifferentpagetypesonwebsitesandits navigations. 8. designing website using htmllanguage. 9. design advanced website usingcss.

	IT 112: OOP (Object Oriented Programming-I)	1. understandtheconceptsofbasiccprogramming language. 2. develop the skill ofprogramming. 3. be familiar with object orientedprogramming. 4. differentiatebetweenstructureorientedprogramming and object oriented programming. 5. understand different object orientedmodeling techniques. 6. writereusable,extensibleandrobustprogramsin c++. 7. able to use constructor anddestructor.
	IT 121: Advanced Web Design - II	1. understandandlearnaboutevaluationofscripting languages. 2. learn about java scripting function andobjects. 3. understandandlearnjavascriptobjecthierarchy. 4. able to design and develop dynamic web pages. 5. getting knowledge to develop web portalsthrough xml.
	IT 122: Object Oriented Programming-II	1. explorepolymorphismusingfunctionandoperator overloading. 2. write programs for handling runtime errorsusing exception. 3. understand the concepts of pointers inc++. 4. understand the different aspects of hierarchyof classes and their extensibility. 5. writegenericprogramsusingtemplatesandstl.
	IT103 and 203 LAB Course on Paper I and II	1. develop programs usingc++ to meet real world and able to develop their own websites. this course provides platform to enhance student's basic skills required for advanced programming.
2019-2020	S.Y.B.Sc(IT) IT 211 : Data Structure – I	1. know what is data structure and basicalgorithmic notations. 2. analyzethetimeandspacerequirementofany algorithm. 3. understanddifferentlineardata structuresfor conversion of mathematical expressionsand polynomial representations. 4. know the filestructures.
	IT-212:Programming in C#	1. workbyusingc#codeandasp.netcreatedynamic web pages. 2. usemsvisualstudio.netideandcreateconsole applications. 3. knowaboutbasicprincipalofoop, definingclass and using functions. 4. use constructor anddestructor. 5. use polymorphism, method overriding,methodhiding.
	IT-221: Data Structure – II	1. know different non-linear data structures that canbe used to represent hierarchical relationship between objects. 2. traverse and represent the graphs incomputer. 3. understandthedifferentapproachesofsortingand searching elements in the arrays. 4. understand different techniques of designingthe algorithms.
	IT 222 : Web Programming using ASP.NET	1. usefeaturesofasp.netcreateasp.netcompilation 2. model, code behind model execution stages. 3. knowaboutasp.netcontrols,asp.netintrinsic objects 4. use page layout, styles and text balance, site map, masterpagesandcontentpages,navigationcontrols: tree view, site map path (bread crumb),menu navigation. 5. use asp.net create dynamic webpages
	IT SEC-II (Skill Enhancement Course-II) Network	1. demonstration of malware for using any antivirus software,viruses,worms 2. intrusion tools, spyware using 3. secure client of network by using various permissions as well as password protection. 4. apply firewall rules for inbound and outbound services.

	Security	5. create user groups and perform various roles for securing network 6. demonstration of securing wireless network.
	IT 213 and 223 : Practical Course	1. students should understand, 2. oncompletionofthecourse,studentsareabletodevelopprograms usingc++basedonobjectorientedconceptsandwritetherobust,extensible and efficient
	IT 213 and 223: Practical Course	1. writetherobust,extensibleandefficient programsandusingdatastructure. byusingc#code and asp.net create dynamic web pages.

M. Sc.

Year	Course	Outcomes Students will be able to :
2017 to 2020	M.Sc.(Computer Science) I CS-101: Advanced C++ Programming	1. understand advanced concepts for handling runtime errors using stackunwinding,uncaughtexceptionandautomaticcleanup. 2. study the runtime type information ofthemember variables, functionsandthemultipleinheritancesthatareusedintheprogram. 3. study advanced concepts of c++ by resolving ambiguities and duplicatesubobjectinvirtualbaseclasses. 4. understandapplicationsofc++likesmartpointer,genericpointer, objectvalidationandreferencecounting. 5. understanddetailconceptsofstl.
	CS-102: Automata Theory and Computability	1. understandwhatispushdownautomataanditsapplications. a. design turing machines for various applications like enumerator, functioncomputeranduniversalturingmachine. 2. study post correspondence problem, decidability of membership, emptinessandequivalenceproblemsofnaturallanguages. 3. getfamiliarwithcomputabilityandcomplexitymeasures. 4. understandwhatisdnaandmembranecomputing.
	CS-103: Advanced Operating System	1. studyfilessubsystemforunixoperatingsystem. 2. understanddetailworkingofunixoperatingsystem. 3. understandprocessandmemorymanagementtechniques.
	CS-104: Digital Image Processing	1. students should understand, 2. understandtheapplicationofdigitalimageprocessing. 3. exploreknowledgeaboutimageprocessingfundamentals. 4. getawareaboutimagesamplingandquantizationandoperationon images 5. understand histogram processing and various image filtering algorithms. 6. knowaboutvariousnoisemodelsandtransformationtechniques. 7. be aware of various morphological techniques and segmentation schemes.
	CS-105- LAB – I: Lab on Advanced OS and Digital Image Processing	1. students shouldunderstand, 2. get hands on various linuxcommands and shell script for different application. 3. familiar with matlabenvironment. 4. explore variousalgorithms for digitalimage processing using matlab.
	CS-106-LAB– II:Lab on Advanced C++	1. on completion of the course, students are able to developrobust, 2. extensibleandefficientprogramsusingadvancedconceptsof stl inc++.

	Programming	
	CS-201: Advanced DBMS	1. explore ideas about centralized and client server architecture of dbms. 2. differentiateandhandleparallelanddistributeddatabases. 3. realize object oriented databases and xml databases for dynamic websitedevelopment. 4. befamiliarwithmobileandmultimediadatabases.
	CS-202: Machine Intelligence	1. understandartificialintelligenceandaiproblemsolvingtechniques. 2. explorelogicforsolvingvariousaiproblems. 3. graspthetechniquesofknowledgerepresentationinmachine. 4. comprehend advanced machine learning techniques such as fuzzy logic and geneticalgorithms.
	CS-203: Compiler Construction	1. students should understand, 2. knowroleofcompilersinprogramexecution. 3. understanddetailprogramexecutionusinglexicalandsyntaxanalysis 4. beawareofcodegenerationandoptimization.
	CS-204: Design and Analysis of Algorithms	1. students should understand, 2. design efficient algorithms using various algorithm designing techniques. 3. comprehend dynamic programming using control abstraction and longest commonsubsequence. 4. classifying any problem as np complete and np hard estimate the amount of chl-a, chl-b and total chlorophylls by spectro photometer method.
	CS-205- LAB – III: Lab on DAA and MI	1. on completion of the course, students are able to build theprogram thatcansolvetheproblemswhichrequiresintelligencetosolvethem. theycanbuildprogramswhichcangenerateoutputinlesstimeand 2. execute in less space
	CS -206-LAB - IV Lab on Advanced DBMS	1. oncompletionofthecourse,studentsareabletobuildandmaintainthedatabaseshandlingreallifeapplicationsanddailyneeds
	M.Sc(Computer Science) II CS-301: Software Engineering	1. know the requirements of developingsoftware. 2. beawareofvariousmodelsrequiredforsoftwaredevelopment. 3. testthedevelopedsoftwareforitsfunctionalityandperformance. 4. understandsoftwarequalityandqualitymeasures. 5. graspthesoftwareconfigurationmanagementandprojectplanning.
	CS-302: Optimization of Algorithm	1. understandingclassificationandlimitationofquantitativetechniques. 2. takeholdoflinearprogrammingproblemsolvingtechniques. 3. solve various kinds of transportation problems using different techniques. 4. exploreconceptsingametheory 5. beawareaboutthenetworkmodels,sequencingmodelsandsimulation models
	CS-303: Advanced Java Programming	1. designprogramsusingremotemethodinvocations(rm. 2. exploreprogrammingtechniquesofjavabeansandswing. 3. beawareaboutjavaenterpriseapplications. 4. knowaboutjavaservletsandjavastruts.
	CS-304: Windows, WCF and WPF Programming	1. students should understand, 2. familiarwithwindowsenvironmentandchildwindowcontrols. 3. understandwindowscommunicationfoundationusingwcfcontracts, clientsandservicessecurity. 4. understand windows presentation foundation, wpf and .net programming.

	CS-305-LAB – V: Lab on Windows, WCF and WPF Programming	1. on completion of the course, students are able to develop program havinggraphicaluserinterfaceforvariousapplications.
	CS -306-LAB– VI: Lab on Advanced Java Programming	1. on completion of the course, students will get hands on trainingfor variousjavaprogramslikejdbc,ejb,servlets,strutsetc.
	CS-401: Natural Language Processing	1. understandlanguagesandlinguisticbackground 2. befamiliarwithapplicationsandresearchbackgroundinnlp. 3. graspmathematicalfoundationrelatedtonlplikeprobability,baystheoremand machinelearning. 4. knowaboutlinguisticsessentialsandgrammaraspartofspeechandparsing and differentiating them, and aware about word morphology and n-gram models.
	CS-402: Advanced Network Programming	1. understandnetworkfundamentalswithtcp/iparchitecture. 2. awarewithclientserverprogramminganditsapplicationusingsocket interface. 3. understandigmpicmpandipdatagrams. 4. understatingthemobileandadhocnetworkprogramming.
	CS-403: Data Warehousing and Data Mining	1. understanddatawarehousingforbusinessanalysisusingolap,oltp, molap androlap. 2. exploretheconceptsofdataminginganddatapreprocessing. 3. understandconceptofassociationrulemining.
		1. grasp classification and prediction and analyze different issues related to them. 2. identifydifferentclusteranalysistechniques. 3. knowaboutadvanceddataminingtechniquessuchasspatialdata miningandunderstandtheconceptofbigdataanalysis.
	CS-404- LAB – VII: Lab on Network programming and Data Mining	1. oncompletionofthecourse,studentsareabletodevelopclientserverprogramsfo rvariousserviceslikeтcp,udp,telnet,ftpandhttp. 2. studentsareabletoanalyzetheprocessingandclassification techniques using wekatool.
	CS -405: Mini Project (200 marks)	1. deal with real worlddata. 2. familiaraboutrealtimeitindustryenvironment. 3. experiment aboutapplyingtheknowledgetheygotuptillnow. 4. buildawholerealtimeworkingsystemwhichwillsatisfyall customer'sneeds.

M.Sc.(Computer Science)

Year	**Course**	**Outcomes** **Students will be able to :**
2021 to onwards	M.Sc.(Computer Science) I CS-102 Database Management System	1. analyze database design methodology. 2. acquire knowledge of fundamentals of database management system. 3. analyze the difference between traditional file system and dbms. 4. tdeal with different database languages. 5. draw various data models for database, writing and executing queries to get expected results.

	(DBMS)	
	CS-103 Automata Theory and Computability	1. understand, design, construct, analyze and interpret regular languages, expression andgrammars. 2. design different types of finite automata and machines as acceptor, verifier and translator. 3. understand, design, analyze and interpret languages, expression and grammars. 4. design different types of push down automata and turing machine.
	CS-104 Operating Systems	1. understand different types of operating systems. 2. gain extensive knowledge on principles and modules of the operating systems. 3. understand key mechanisms in the design of operating systems modules. 4. understand process management, thread management, memory management, filemanagement and deadlock handling. 5. compare performance of different processor scheduling algorithms. 6. produce algorithmic solutions to process synchronization problems 7. understand the issues related to protection and security.
	CS-105 Object Oriented Programming using JAVA	1. understands the fundamentals of java programming language and its constructs. 2. understand concept of object-oriented programming concept using java. 3. implement the applications using the concept of the inheritance, interfaces, lambda 4. expressions, and inner classes. 5. design and implement the real-world application using the concept of the exceptions and 6. generic programming 7. understand how to use concept of the graphics programming, event handling, swing 8. components, and jdbc in their application.
	CS LAB-I LAB on JAVA programming	1. write java application programs using oop principles and proper program 2. structuring 3. implementing user interface: 2d shapes, events, dialog box, menu and popup menu 4. developing applets, multithreaded programs 5. implementing generic and jdbc programming 6. demonstrate the concepts of polymorphism and inheritance 7. write java programs to implement error handling techniques using exception 8. handling
	CS LAB-II LAB on DBMS	1. understand database design methodology. 2. acquire knowledge in fundamentals of database management system. 3. work with popular database languages. 4. realize various data models for database and write queries in sql. 5. familiar with basic database storage structures and access techniques.
	CS-201 Compiler Construction	1. understanding of basic structure of compiler, concepts and terminology in programming languages, lexical analysis, finite state techniques, scanner generator, parsing, kindsof parsers, designing lexical analyzer, scanner and parsers, principal ideas with intermediate code generation, optimizations. 2. understanding of all concepts essential to design compiler in general

		for programminglanguages.
	CS-202 Artificial Intelligence	1. identify problems that are amenable to solution by ai methods. 2. identify appropriate ai methods to solve a given problem. 3. design smart system using different informed search / uninformed search or heuristicapproaches. 4. apply the suitable algorithms to solve ai problems.
	CS-203 Design and Analysis of Algorithms	1. analyze the asymptotic performance of algorithms. 2. write rigorous correctness proofs for algorithms. 3. design and analyze divide-and-conquer based algorithms. 4. devise and synthesize greedy and dynamic-programming based algorithms. 5. employ graphs to model problems solvable using traversal techniques. 6. able to model problems using backtracking 7. able to classify nondeterministic polynomial time algorithms
	CS-205 Python Programming	1. understand the basic concepts of python programming. 2. write python programs that supports some constructs of functional programming likemap, reduce, filter. 3. understand the use of strings, lists, tuples, dictionaries, and files and able to manipulatesdata available within them with help of various functions. 4. understand how to write user defined classes, methods as well as module creation andhandle exceptions while implementing python programs. 5. use regular expression for validating email address or domain name.
	CS- LAB-III LAB on Design and Analysis of Algorithms (DAA)	1. able to construct logic for the algorithms designed using designing techniques. 2. able to do posterior analysis of the algorithms. 3. able to debug the algorithms. 4. modify to improve performance of the algorithms. 5. able to test and profile the algorithms.
	CS-LAB-IV LAB on Python Programming	1. implement python programs that demonstrates all types of sorting and searchingtechniques. 2. write programs that demonstrate the concepts of functions scoping, recursion, listmutability, regular expression and support of function programming constructs through python programming. 3. write python programs that defines user defined classes, methods and module form solving real world problems as well as use of exception handling concepts whenevernecessary. 4. implement programs that uses regular expression for searching patterns and validatingdata. 5. develop gui programs using tkinter.
	M.Sc(Computer Science) II CS-301 Web Application Development Technology	1. successful students will able to design web applications using asp.net 2. successful students will be able to use asp.net controls in web applications. 3. successful students will be able to debug and deploy asp.net web applications 4. successful students will be able to create database driven asp.net web applicationsand web services.
	CS-302 Digital Image Processing	1. developed scientific and strategic approach to solve complex problems computer inthe domain of computer graphics and digital image processing.

		2. demonstrated various algorithms for scan conversion and filling of basic primitive'sobjects and their comparative analysis and applied 2-d and 3-d geometrictransformations, viewing and clipping on graphical objects. 3. built the mathematical foundations for digital image representation, image acquisition,image transformation, image enhancement and restoration. 4. developed a theoretical foundation of fundamental concepts of digital imageprocessing. 5. exposed students to matlab image processing toolbox.
	CS-303 Software Engineering	1. understand and demonstrate basic knowledge in software engineering 2. define various software application domains and remember different process model usedin software development. 3. explain needs for software specifications also they can classify different types of softwarerequirements and their gathering techniques. 4. convert the requirements model into the design model and demonstrate use of software anduser interface design principles. 5. distinguish among scm and sqa and can classify different testing strategies and tacticsand compare them. 6. justify role of sdlc in software project development 7. generate project schedule and can construct, design and develop network diagram fordifferent type of projects.
	CS-304(A) Big Data Analytics	1. recognize the characteristics, applications of big data that make it useful to real-worldproblems. 2. process available data using big data tools hadoop file system and predict outcomes to solvegiven problem. 3. study & design various case studies using big data tools/commands and analyze it.
	CS LAB-V LAB on Web Application Development Technology	1. students will get hands-on experience on basic concepts in web applicationsdevelopment using asp.net technology. 2. students can develop or undertake professional looking real life web sites usingasp.net technology. 3. it will help students to grasp other web application developmenttechnologies/platforms easily through learn-by-comparison approach so that thelearning curve will be smooth and faster.
	CS LAB-VI LAB on Digital Image Processing	1. developed scientific and strategic approach to solve complex problems computer inthe domain of computer graphics and digital image processing using c++ andmatlab respectively. 2. implemented various algorithms for scan conversion and filling of basic primitive'sobjects and their comparative analysis and applied 2-d and 3-d geometrictransformations, viewing and clipping on graphical objects. 3. exposed students to matlab and image processing toolbox. 4. used various tools in matlab to implemented image transformation, imageenhancement in spatial and frequency domain. 5. developed the programs on various digital image processing techniques.
	CS-401 Natural Language Processing	1. students will get idea about know-hows, issues and challenge in natural languageprocessing and nlp applications and their relevance in the classical and modern context. 2. student will get understanding of computational techniques and

		approaches for solvingnlp problems and develop modules for nlp tasks and tools such as morph analyzer,pos tagger, chunker, parser, wsd tool etc. 3. students will also be introduced to various grammar formalisms, which they can applyin different fields of study. 4. students can take up project work or work in r&d firms working in nlpand its alliedareas
	CS-402 Data Warehousing and Data Mining (DWDM)	1. explain organization of data warehousing and data marts. 2. differentiate between oltap and olap 3. apply data pre-processing techniques 4. write basic algorithms for extracting patterns from data (association mining, classification and clustering) 5. solve problems related with various aspects of data mining.
	CS-403(A) Optimization Algorithms	1. write about or and decision making. 2. differentiate between feasible and optimal solution 3. apply solving techniques to all types of lpp. 4. apply solving techniques to network problems and game theory problems as well.
	CS LAB-VII LAB Data Warehousing and Data Mining(DW DM)	1. organize strategic data in an enterprise and build a data warehouse.
	CS-401 Mini Project Guidelines	1. capability to acquire and apply fundamental principles of computers science. 2. become master in one's specialized technology. 3. become updated with all the latest changes in technological world. 4. ability to communicate efficiently. 5. knack to be a multi-skilled computer science professional with good technicalknowledge, management, leadership and entrepreneurship skills. 6. ability to identify, formulate and model problems and find engineering solution based ona systems approach. 7. capability and enthusiasm for self-improvement through continuous professionaldevelopment and life-long learning

Year	**Course**	**Outcomes** **Students will be able to :**
2021 to onwards	Msc IT I IT-101 Digital Image Processing	1. developed scientific and strategic approach to solve complex problems computer in the domain of computer graphics and digital image processing. 2. demonstrated various algorithms for scan conversion and filling of basic primitive's objects and their comparative analysis and applied 2-d and 3-d geometric transformations, viewing and clipping on graphical objects. 3. built the mathematical foundations for digital image representation, image acquisition, image transformation, image enhancement and restoration. 4. developed a theoretical foundation of fundamental concepts of digital image processing. 5. exposed students to matlab image processing toolbox.
	IT-102 Web	1. design and implement web pages.

	Designing	2. design web forms and apply client side validation. 3. demonstrate various css features. 4. display xml file using css, xsl, and dso. 5. create a drawing application with canvas using html5. 6. display the location's coordinates of longitude and latitude on google map. 7. create a web page for shopping cart using drag and drop events.
	IT-103 Operating Systems	1. get familiar with the fundamental concepts and algorithms used in existing operating systems.
	IT-104 Object Oriented Programming using JAVA	1. understand the concept of oop as well as the purpose and usage principles of inheritance, polymorphism, encapsulation and method overloading. 2. identify classes, objects, members of a class and the relationships among them needed for a specific problem. 3. create java application programs using sound oop practices and proper program structuring. 4. develop programs using java standard class library for manipulating databases, handling threads, gui applications, and event driven applications. 5. create the applications that demonstrates exception handling and generic programming in java.
	IT LAB-I LAB on Digital Image Processing and JAVA Programming	1. create graphics applications in c++ that draws line, ellipse, circle, polygon using various algorithms. 2. create graphics applications in c++ that draws an object like line and apply 2-d and 3-d transformations on it. 3. create graphics applications in c++ that draws an object like polygon and clip it using various polygon clipping algorithm. 4. create a matlab application that apply different image enhancement techniques, interpolation techniques, filtering techniques on the given image.
	IT LAB-II LAB on Web Designing	1. implement the web pages using various web designing features. 2. implement the web pages using xml and html5.
	IT-201 Computer Networks	1. have a good understanding of the osi reference model and have an upright knowledge oflayers 1-3. 2. be familiar with contemporary issues in networking technologies 3. analyze the requirements for a given organizational structure and select the most appropriatenetworking architecture and technologies; 4. specify and identify deficiencies in existing protocols, and then go onto formulate new andbetter protocols;
	IT-202 Linux Administration and Programming	1. understand and demonstrate basic knowledge in linux operating system. 2. apply and change the ownership and file permissions using linux commands. 3. implement shell scripts and apply basic of administrative task. 4. to understand the networking, internet servers and installation, configuration, 5. administration of internet servers.
	IT-203 Database Management System	1. analyze database design methodology. 2. acquire knowledge of fundamentals of database management system. 3. analyze the difference between traditional file system and dbms. 4. deal with different database languages.

	(DBMS)	5. draw various data models for database, writing and executing queries to get expected results.
	IT- 204 Programming with Windows Technologies	1. explain the concepts of windows programming. 2. hands on experience using visual studio to create service-oriented applications using windows communication foundation (wcf) and c#. 3. use the wcf routing service for load balancing, content-based routing, and protocol bridging. 4. create windows applications using the classes provided by wpf 5. use the layout features of wpf to create flexible and attractive user interfaces
	IT LAB-III LAB on Linux Administration and Programming	1. to implement the installation of linux system. 2. understand the basic commands of linux operating system and can write shell scripts. 3. to create file systems, directories and operate them and to implement in c some standard linux utilities like mv,cp,ls etc. 4. to implement system administration tasks, installation, configuration and administration of internet servers.
	IT LAB-IV LAB on Database Management System (DBMS) and Windows Programming	1. ability to practically work of database management system software to perform basic sql operations, triggers, procedures, views along with development of forms and reports with database connectivity. 2. successful students will able to write the window program and create the wcf and wpf applications.
	Msc IT II IT-301 Mobile Application Development	1. describe android platform, architecture and features. 2. design user interface and develop activity for android app. 3. use intent, broadcast receivers and internet services in android app. 4. design and implement database application and content providers. 5. use multimedia, camera and location based services in android app. 6. discuss various security issues in android platform
	IT-302 Software Engineering	1. identify problems that are amenable to solution by ai methods. 2. identify appropriate ai methods to solve a given problem. 3. design smart system using different informed search / uninformed search or heuristic approaches. 4. apply the suitable algorithms to solve ai problems 5. understand and demonstrate basic knowledge in software engineering 6. define various software application domains and remember different process model used in software development. 7. explain needs for software specifications also they can classify different types of software requirements and their gathering techniques. 8. convert the requirements model into the design model and demonstrate use of software and user interface design principles. 9. distinguish among scm and sqa and can classify different testing strategies and tactics and compare them. 10. justify role of sdlc in software project development 11. generate project schedule and can construct, design and develop network diagram for different type of projects.
	IT-303 Web Application Technology	1. successful students will able to design web applications using asp.net 2. successful students will be able to use asp.net controls in web applications. 3. successful students will be able to debug and deploy asp.net web

		applications 4. successful students will be able to create database driven asp.net web applications and 5. web services.
	IT-304(A) Ruby on Rails	1. familiar with ruby programming language by understanding lexical and syntactic structure of 2. ruby programs, datatypes and objects, expressions and operators, statements and control 3. structures, methods, procs, lambdas, and closures, classes and modules, reflection and metaprogramming. 4. familiar with web application development using rails framework.
	IT 304(B) Theoretical Computer Science	1. understand, design, construct, analyze and interpret regular languages, expression and grammars. 2. design different types of finite automata for regular grammars. 3. understand, design, analyze, interpret and simplify context free languages and grammars. 4. design different types of push down automata for context free languages and able to convert from context free grammars to push down automata and vice versa. 5. understand basic turing machine and design different types of turing machines. 6. compare, understand and analyze different languages, grammars, automata and machines and appreciate their power
	IT LAB-V LAB on Mobile Application Development	1. experiment on integrated development environment for android application development. 2. design and implement user interfaces and layouts of android app. 3. use intents for activity and broadcasting data in android app. 4. design and implement database application and content providers. 5. experiment with camera and location based service. develop android app with security features.
	IT LAB-VI LAB on Web Application Technology	1. successful students will able to design web applications using asp.net 2. successful students will be able to use asp.net controls in web applications. 3. successful students will be able to debug and deploy asp.net web applications 4. successful students will be able to create database driven asp.net web applications and web services.
	SEMISTER-IV CS-401 Python Programming	1. understand the basic concepts of python programming. 2. write python programs that supports some constructs of functional programming like map, reduce, filter. 3. understand the use of strings, lists, tuples, dictionaries, and files and able to manipulates data available within them with help of various functions. 4. understand how to write user defined classes, methods as well as module creation and handle exceptions while implementing python programs. 5. use regular expression for validating email address or domain name.
	IT-402 Data Warehousing and Data Mining (DWDM)	1. explain organization of data warehousing and data marts. 2. differentiate between oltap and olap 3. apply data pre-processing techniques 4. write basic algorithms for extracting patterns from data (association mining, classification and clustering) 5. solve problems related with various aspects of data mining.

	CS-403(A) Natural Language Processing	1. students will get idea about know-hows, issues and challenge in natural language processing and nlp applications and their relevance in the classical and modern context. 2. student will get understanding of computational techniques and approaches for solving nlp problems and develop modules for nlp tasks and tools such as morph analyzer, pos tagger, hunker, parser, wsd tool etc. 3. students will also be introduced to various grammar formalisms, which they can apply in different fields of study. 4. students can take up project work or work in r&d firms working in nlp and its allied areas
	CS-403(C) Optimization Algorithms	1. write about or and decision making 2. differentiate between feasible and optimal solution 3. apply solving techniques to all types of lpp. 4. apply solving techniques to network problems and game theory problems as well.
	IT LAB-V LAB on Python and Data Warehousing and Data Mining(DW DM)	1. implement python programs that demonstrates all types of sorting and searching techniques. 2. write programs that demonstrate the concepts of functions scoping, recursion, list mutability, regular expression and support of function programming constructs through python programming. 3. write python programs that defines user defined classes, methods and module for solving realworld problems as well as use of exception handling concepts whenever necessary. 4. implement programs that uses regular expression for searching patterns and validating data. 5. develop gui programs using tkinter. 6. organize strategic data in an enterprise and build a data warehouse.
	IT-401 Mini Project	1. capability to acquire and apply fundamental principles of computers and information technology. 2. become master in one's specialized technology. 3. become updated with all the latest changes in technological world. 4. ability to communicate efficiently 5. knack to be a multi-skilled it professional with good technical knowledge, management, leadership and entrepreneurship skills. 6. ability to identify, formulate and model problems and find engineering solution based on a systems approach. 7. capability and enthusiasm for self-improvement through continuous professional development and life-long learning

BCA

Year	**Course**	**Outcomes** **Students will be able to :**
2017-22	FYBCA Sem –I 101 Foundation Course forManagers	1. understand the fundamental accounting concepts 2. learn the process of recording of financial transactions in the books of accounts 3. develop the foundation for higher studies in the field of accounting
	BCA 102 Computer Fundament and Networking	1. know the generations of computer 2. understand the conversation of number system 3. know the concept of memory and i/o devices 4. planning of program by algorithm and flowchart 5. enhance the concept of operating system 6. familiar with networking 7. understand the concept of topologies and switching

	BCA 103 Essential of Web Design I	1. understand concept of internet services 2. know the html fundamentals 3. understanding the formatting texts 4. familiar with image tag and attributes 5. understand concept of different link and tables
	BCA 104 Programming In C	1. develop their programming skills. 2. be familiar with programming environment with c program structure. 3. declaration of variables and constants. 4. understand operators, expressions and preprocessors. 5. understand arrays, functions, pointer and structure.
	BCA 105 Practical on Computer & Internet	1. student are able to use computer, 2. perform dos command 3. use of different web browser 4. how to create e-mail id ,sending and receiving mail 5. study of different intent connectivity component 6. surf internet and save the information
	BCA 106 Practical on Web Design-I	1. student able to create web pages 2. student use different formatting tags 3. create web page using anchor tag 4. student create web page using frames and frameset tag 5. design simple web page of college admission form
	BCA 107 Practical on C Programming	1. on completion of the course, students are able to develop programs using c to meet 2. real world needs. this course provides platform toenhancestudent's basic skills required for advanced programming.
	FYBCA Sem–I BCA 201 Financial Accounting	1. give the practical knowledge of accounting to the students. 2. make the students competent in preparation of accounts for the business entities. 3. understand the concept of financial accounting 4. understand the concept of cost accounting
	BCA 202 Professional Communication	1. understand the concept - basics of communication 2. give the knowledge of written communication-i and - written communication –ii 3. give the knowledge of organizational communication –i and - organizational communication –ii
	BCA 203 Essential of Web Design II	1. understand cascading style sheets 2. inherits style using different kind of style sheets 3. familiar with cascading style sheets 4. understand the concept of java script 5. know concept of java script, function, object and forms
	BCA 204 Programming In C++	1. understand the basic of oops 2. understand c++ controls , pointers & functions 3. know the object classes, operator overloading 4. understand virtual functions, templates & exception& file handling
	BCA 205 Practical on Professional Communication	1. on completion of the course, students are able to basic communication skills prepare letter of application, prepare notice, prepare memo, create e-mail, prepare written report 2. prepare grammar worksheet, prepare a report, draft a resume, write a job application 3. letter including a covering letter

	BCA 206 Practical on Web Design-II	1. student set the background of web page using css 2. set different font style to each paragraph 3. demonstrate the use of external css 4. java script code to demonstrate different events 5. html page to demonstrate date and time object using java script
2017-22	BCA 207 Practical on C++ Programming	1. on completion of the course, students are able to develop programs using c++ programming to meet real world needs. 2. this course provides platform to enhance student's basic skills required for advanced programming
	SYBCA Sem – III BCA 301 Mathematics and Statistics for Managers	1. knowledge of mathematics and statistics for managerial activities among students. 2. understand the concept of sets,matrices. 3. introduction to statistics and mathematical and statistical calculations using ms-excel
	BCA 302 Management Information System	1. understand the objective and role of mis in business organization 2. be familiar with concept of mis in organization 3. understand concept and types of system 4. know about system development life cycle 5. know about information and its type 6. understand multimedia approach to information processing
	BCA-303 Java Programming	1. get knowledge java programming tools 2. understand the concept data types ,variables, casting 3. understand the knowledge of object oriented programming like inheritance, polymorphism 4. understand the concept of multithreading, exception handling. 5. understand the concept of applet
	BCA 304 Linux Operating System	1. understand history and development of linux 2. understand the system access and user accounts login and logout 3. know about the file permission and navigation, archiving the file 4. understand redirection, programming using c 5. know about x-windows
	BCA -305 Practical On Java	1. program for object & class ,method overloading,overriding 2. understand the packages and interface. 3. create programs using exception. 4. create programs using awt controls.
	BCA 306 Practical on Linux	1. on completion of the course, students are able to develop commands using linux operating system to meet real world needs. 2. also, able to do the programming in c on linux platform. this course provides platform to enhance student's basic skills required for advancedprogramming
	BCA 307 Practical on Tally ERP	1. on completion of the course practically train students in accounting using tally erp
	SYBCA Sem–IV 401 Introduction to Information System Audit	1. overview of information system auditing i and ii 2. know about conducting information system audit 3. understand information system audit management and isa professionalism 4. introduction to business continuity planning

	BCA-402 RDBMS	1. understand the concept of models (relational model, network model, hierarchical model,and entity relationship model.) 2. understand the concept of keys -super, candidate, primary, foreign key 3. knowledge of normalization. 4. create and manipulate databases 5. understand the concept functions in oracle, sub queries ,joins
	BCA 403 C#.NET	1. know about .net framework 2. understand the c# basic and program structure 3. understand the object oriented programming in c# 4. learn the exception handling and its types 5. know about the gui and gui components 6. understand the ado and crystal report
	BCA 404 Data Structure	1. understand concept of data structure and its types 2. know the array and representation of array in memory 3. familiar with different sorting techniques 4. understand the stack concept and its operation 5. understand concept of queue and different queue operation 6. know the concept of tree and graph and its representation in memory
	BCA 405 Practical on C#.NET	1. on completion of the course, students are able to develop commands using c# programming to meet real world needs. 2. able to do the gui programming in c# on .net framework platform. 3. this course provides platform to enhance student's basic skills required foradvanced programming
	BCA-406 Practical on RDBMS using Oracle	1. on completion of the course, students are able to develop relational database management system using features and services provided by structured query language (sql) using oracle.
	BCA 407 Practical on Data Structure using CPP	1. on the completion of the course student able to implement different data structures and it application using c++.
	TYBCA Sem V 501 Entrepreneurship Development	1. understand the concept of entrepreneurship. 2. know the qualities of entrepreneur 3. identify the new business opportunities. 4. know the entrepreneurship development program. 5. understand the entrepreneurship development theories and factors affecting. 6. recognize women entrepreneurship. 7. describe the types of entrepreneur.
	BCA 502 Cyber Security	1. know about information security 2. understand the security threats and controls 3. know about the model of cryptographic system 4. know about network security and cyber crime 5. understand cyber law and it act
	BCA 503 ASP .NET	1. know about asp .net and difference between asp and asp .net 2. understand the object control and state management 3. know about with ado .net 4. understand master pages 5. understand security configuration
	BCA 504 Software	1. understanding the system concept 2. understanding a foundation of system principles

	Engineering	3. understanding of system development
	BCA 505 Practical on ASP .NET	1. developing web pages using asp.net, creating a simple web form 2. use data bound controls, use of master pages. use of grid view data control. 3. asp.net objects (httpapplicationstate, httpsessionstate)
	BCA 506 Practical on CASE Tool with MS VISIO and Software Testing	1. practically understand the different system using case tools 2. understand the software testing on already developed software 3. learn to prepare the test report
	BCA 507 Field Work on IT project Assessment	1. understand the social issues in the society by carrying out a real life social project using research methodology
	TYBCA Sem VI BCA 601 E-commerce and M- Commerce	1. know the basic elements of e-commerce and m- commerce 2. understand the edi and its architecture 3. understand the electronic payment system 4. know ec model, e-business, e-security and legal issues
	BCA 602 Cloud Computing	1. know about cloud computing fundamental, architectures, services implementations and deployment techniques.
	BCA 603 Android Application Development	1. understand the basic of mobile communication 2. know the mobile computing and android 3. design android application 4. understand the database issues 5. know about web services 6. know about wlan and application
	BCA 604 Server side Scripting using PHP	1. understand the features of php, xamp server, apache server 2. understand the basics of php 3. understand the web techniques of php 4. understand object oriented php
	BCA 605 Practical on Android and PHP	1. understand the installation and study of jdk, android sdk, eclipse ide and adt plugins 2. know the basic widgets 3. learn to develop application in android 4. learn to develop the php script 5. learn to design a database in mysql
	BCA 606 Practical on Employability Skill	1. understand the resume designing, group discussion, 2. learn how to prepare presentation, business email, personal interview and telephone interview
	BCA 607 Project Report and Viva	1. learn to prepare the use of applications of the theory and practical learn during the course.

BVOC

year	Course	Outcomes Students will be able to :

2020 onwards	**FY BVOC Sem –I** GCPCS111 Professional Communication Skills	1. enable students to have firm grounding in english to be able to use it effectively in professional as well as social contexts. 2. work towards strengthening the learning process of english language so that our graduates can find their feet in the fiercely competitive job market.
	GCPCS112 Personality Development &Behavioural Science	1. understand and critique methods of critical analysis/research and articulate their influence on the field of psychology, anthropology, and sociology for an understanding of human behavior 2. verbalize and analyze the terminology of psychology, anthropology, sociology,critical thinking skills, analysis and synthesis of the research literature across the behavioral sciences including psychology, anthropology, and sociology
	GCPCS113 Essentials of Computer	1. know the generations of computer 2. understand the conversation of number system 3. know the concept of memory and i/o devices 4. planning of programe by algorithm and flowchart 5. enhance the concept of operating system 6. familiar with networkingunderstand the concept of topologies and switching
	GCPCS114 Practical based on Essentials of Computer	1. planning of programe by algorithm and flowchart 2. enhance the concept of operating system 3. familiar with networkingunderstand the concept of topologies and switching
	SCSD111 Programming Concept – I	1. develop their programming skills. 2. declaration of variables and constants. 3. understand operators, expressions and preprocessors. 4. understand arrays , functions, pointer and structure.
	SCSD112 Basics of Software Engineering	1. communicate effectively with a range of audiences. 2. recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts. 3. function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives. 4. develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions. 5. acquire and apply new knowledge as needed, using appropriate learning strategies.
	SDSC113 Basics of HTML and PHP	1. write php scripts to handle html forms. 2. write regular expressions including modifiers, operators, and met characters. 3. create php programs that use various php library functions, and that manipulate files and directories. 4. analyze and solve various database tasks using the php language.

		5. analyze and solve common web application tasks by writing php programs.
	SCSD114 Practical based on Programmin g Concept –I	1. on completion of the course, students are able to develop programs using c to meetreal world needs. 2. this course provides platform toenhancestudent‟s basic skills required for advanced
	SCSD115 Practical Based on Basic of HTML and PHP	1. analyze and solve various database tasks using the php language. 2. analyze and solve common web application tasks by writing php programs.
	SCSD116 Computer Configurati on and Maintenanc e	1. understand basic concept & structure of computer hardware & networking components. 2. identify the existing configuration of the computers & peripherals. 3. upgrading the same as & when required. 4. apply their knowledge about computer peripherals to identify/rectify problems on board.
	FYBVOC Sem–II GCPCS121 Aptitude& Logical Reasoning	1. understand and practice quantitative aptitude 2. understand and practice logical reasoning 3. understand and practice verbal reasoning 4. understand different placement practice techniques
	GCPCS1 22 Environ ment l Ecology	1. gain in-depth knowledge on natural processes that sustain life, and govern economy. 2. predict the consequences of human actions on the web of life, global economyand quality of human life. 3. develop critical thinking for shaping strategies (scientific, social, economic and legal) for environmental protection and conservation of biodiversity, social equity and sustainable development. 4. adopt sustainability as a practice in life, society and industry.
	GCPCS123 Information Processing Skill	1. evaluate what makes information meaningful. 2. analyze the role of metacognitive skills in helping students to learn. 3. identify the parts and features of various study strategies 4. describe and illustrate how cognitive teaching strategies can help students learn. 5. summarize the use of prior knowledge and organization skills in learning 6. discuss the latest research on the brain
	GCPCS123 Practical based on Information Processing Skill	1. examine and apply the information-processing model of memory. 2. analyze what causes people to remember or forget. 3. describe and apply a variety of memory strategies that enhance retention and recall of the learned material.

	SCSD121 Internet Computing	1. introduce the basic concepts of data communications and networks 2. learn the principles of the internet and world wide web 3. develop programming skills for mobile application development 4. study the techniques for cloud computing and development of edge computing
	SCSD122 Programming Concept – II	1. understand fundamentals of programming such as variables, conditional and iterative execution, methods, etc. 2. understand fundamentals of object-oriented programming in java, including defining classes, invoking methods, using class libraries
	SCSD123 PHP with MySQL	1. list the major elements of the php & mysql work and explain why php is good for web development 2. learn how to take a static website and turn it into a dynamic website run from a database using php and mysql. 3. analyze the basic structure of a php web application and be able to install and maintain the web server, compile, and run a simple web application. 4. learn how databases work and how to design one, as well as how to use phpmyadmin to work with mysql
	SCSD124 Practical based on Programming Concept – II	1. have the ability to write a computer program to solve specified problems. 2. understand the basic **programming** fundamentals. 3. write your own programs
	SCSD125 Practical based on Internet Computing and Web Designing	1. develop programming skills for mobile application development 2. study the techniques for cloud computing and development of edge computing
	SCSD126 Practical based on PHP with MySQL	1. learn different ways of connecting to mysql through php, and how to create tables, enter data, select data, change data, and delete data. 2. connect to sql server and other data sources.
	Communication Skill in Marathi	1. enable students to have firm grounding in marathi to 2. be able to use it effectively in professional as well as 3. social contexts. 4. work towards strengthening the learning process of 5. marathi language so that our graduates can find their feet 6. in the fiercely competitive job market. 7. enable students to have firm grounding in marathi to 8. be able to use it effectively in professional as well as 9. social contexts. 10. work towards strengthening the learning process of

		11. marathi language so that our graduates can find their feet 12. in the fiercely competitive job market.
	Modern office Management-I	1. receiving and collecting information 2. recording information 3. arranging and processing of information
	Data Structure-I	1. understand the concept of dynamic memory management, data types, algorithms, big o notation. 2. understand basic data structures such as arrays, linked lists, stacks and queues. 3. describe the hash function and concepts of collision and its resolution methods 4. solve problem involving graphs, trees and heaps 5. apply algorithm for solving problems like sorting, searching, insertion and deletion of data
	S. Y. B. Voc. **Sem-3rd&Sem-4th** **Software Development** Remote Sensing, GIS & GPS	1. understand the concepts of photogrammetry and compute the heights of objects 2. understand the principles of aerial and satellite remote sensing, able to comprehend the energy interactions with earth surface features, spectral properties of water bodies . 3. understand the basic concept of gis and its applications, know different types of data representation in gis 4. understand and develop models for gis spatial analysis and will be able to know what the questions that gis can answer are 5. apply knowledge of gis software and able to work with gis software in various application fields
	Modern office Management-II	1. train and develop competent office personnel for wage employment and for self employment. 2. train students in the theoretical and practice skills of using and maintaining office equipment's. 3. make the students aware of the importance of organisation, management, procedure and practice in an office. 4. develop personality traits, behaviour and work habits appropriate to the requirements of the job.
	Data Structure – II	1. perform operations on various discrete structures such as sets, functions, relations, and sequences. 2. ability to solve problems using counting techniques, permutation and combination, recursion and generating functions. 3. apply algorithms and use of graphs and trees as tools to visualize and simplify problems. 4. apply algorithms and use of graphs and trees as tools to visualize and simplify problems.
	Programming in C++-II	1. describe the procedural and object oriented paradigm with concepts of streams, classes, functions, data and objects. 2. understand dynamic memory management techniques using pointers, constructors, destructors, etc 3. describe the concept of function overloading, operator overloading, virtual functions and polymorphism. 4. classify inheritance with the understanding of early and late binding, usage of exception handling, generic programming.

		5. demonstrate the use of various oops concepts with the help of programs.
	Third Year B. Voc. (Software Development) Semester 5th Introduction to Information security	1. define what information is 2. appreciate the value of information to the modern organization 3. understand the cia triad of confidentiality, integrity and availability 4. appreciate the difficulties that arise when valuable information needs to be shared 5. identify the five leading-edge resources that have up-to-date information on information security.
	Principle of Management	1. understand the concepts related to business. 2. demonstrate the roles, skills and functions of management. 3. analyze effective application of ppm knowledge to diagnose and solve organizational problems and develop optimal managerial decisions. 4. understand the complexities associated with management of human resources in the organizations and integrate the learning in handling these com
	System Analysis and Design-I	1. understand the principles and tools of systems analysis and design 2. understand the application of computing in different context 3. understand the professional and ethical responsibilities of practicing the computer professional including understanding the need for quality
	Java Programming-I	1. use an integrated development environment to write, compile, run, and test simple object-oriented java programs. 2. read and make elementary modifications to java programs that solve real-world problems. 3. validate input in a java program. 4. identify and fix defects and common security issues in code. 5. document a java program using javadoc. 6. use a version control system to track source code in a project.
	Python	1. understand why python is a useful scripting language for developers. 2. learn how to design and program python applications. 3. learn how to use lists, tuples, and dictionaries in python programs. 4. learn how to identify python object types.
	Semester 6th Human resources Development	1. more competent people. 2. higher work commitment and job involvement. 3. more problem solving. 4. better utilization of human. 5. higher job satisfaction and work motivation. 6. better generation of internal resources. 7. better organizational health. 8. more team work, synergy and respect for each other.
	Psychological Behavior at working Places	1. team efficacy and team learning 2. team leader coaching and context support as antecedents of team psychological safety
	IT & Society	1. improved education and learning process: 2. improved communication 3. improved education and learning process 4. easy to access information

	System Analysis and Design-II	1. understand the application of computing in different context 2. understand the professional and ethical responsibilities of practicing the computer professional including understanding the need for quality
	Java-II	1. understand exception handling 2. understand collection classes and generic programming 3. implement common design patterns in java 4. design and implement dynamic threads 5. become familiar with java io and jdbc
	ASP.Net using C#.Net	1. understand the microsoft .net framework and asp.net page structure 2. design web application with variety of controls 3. access the data using inbuilt data access tools 4. use microsoft ado.net to access data in web application 5. configure and deploy web application 6. develop secured web application

B.Com. (Bachelor of Commerce)

YEAR	COURSE	Outcomes Students will be able to
2015 to 2018	**f.y.bcom modern office management**	1. students understand the concept of modern office management. 2. . students acquire operational skills of modern office management and develop the interest in modern methods and procedures of modern office management they know the office functions, environment, appliances and machines
	marketing & advertising	1. students aware about marketing 2. they know basic concepts of marketing 3. students know the relevance of marketing in modern competitive world. 4. students are able to plan for various marketing strategy.
	financial accounting & costing	1. students understanding the accounting standards issued by the icai. 2. they gain the ability to solve problems relating to settlement of obligations on dissolution of partnership firm and also relating to their business combinations 3. students know the concepts used in cost accounting, elements of costs and the concept of cost sheet. **4.** students know the procedure for material cost and pricing methods.
	essentials of e-commerce	1. students familiarize the e-commerce basics 2. students understand role security in online transactions, understand and describe the unique features of e-commerce technology. 3. students understand various types business models. and student will able analyze and compare the different monetary transactions
	corporate laws	1. students understand of a company as a one of the important form of business enterprise. 2. students understand f security market. **3.** 3 students d introduced functioning of securities exchange board of india.
	computing skills	1. students familiarize with basics of internet. 2. students understand the use of office application. they are able to know the role of word processor, spread sheet, presentation in industry. 3. 3. students understand the how of accounting software works, they know the relevance of tally accounting package in modern competitive world.
2016-20	**s.y.bcom business & tax laws**	1. students learn the law & legal principals of contract act 1872. they can draft legal documents including partnership deed & service tax returns. 2. students understand the basic structure, rules & powers of consumer protection act.they know the provision regarding strikes and lock outs under industrial dispute act. aware about development of patents and environment protection act. 3. . students to gain a better underrating of the negotiable instrument act.able to face the problems on various sides of business and tax law
	business management	1. students know the concept of management to the students. 2. student aware modern management practices. they know the leadership skills and communication skills. 3. students familiarize with the nature and scope and functions of management.

	corporate accounting and costing	1. students know the components of corporate financial transactions. 2. students get knowledge of accounting principles and procedures for recording of transactions related to corporate entities, and for preparing the corporate accounts and statements in accordance with the statutory requirements. 3. students know the relevant accounting standards issued by the institute of chartered accounts of india and different methods of costing; understand the labour& overheads accounting procedure.
	computing management	1. students understand the objectives of computerized accounting. they know the principles of tally software. 2. they acquire computing skills. 3. students know the various features of tally and how to use tally software
	business entrepreneurship	1. students understand the concept of entrepreneurship; know the qualities of entrepreneur, types of entrepreneur and role of entrepreneurs. 2. students can identify the new business opportunities and know the entrepreneurship development programme. 3 .students recognize women entrepreneurship
	consumer protection and business ethics	1. students know the consumer movement. and role of voluntary consumer organisation. 2. students know the consumer protection act. 3. students know the business ethics. 6. to acquaint with moral issues in business ethics.
	financial analysis & business journalism	1. students understand the concept of financial analysis which is essential for reading financial statements 2. students know the various areas of financial analysis and the tools used for the purpose of such analysis 3. students analyse the financial statements of especially corporate entities and judge their profitability and financial position and other related aspects. they can decide upon the appropriate sources of finance for the future need of the business units.
	retail management	1. students know the basic retailing management concepts. they are empowering students with the most modern techniques and practices of retailing as seen and experienced around the globe. 2. imparting theoretical and practical knowledge to ensure understanding of the dynamic of modern organized retail trade
	production and operation management	1. .students know the production, production management, process & tools of production 2. management. 3. students understand manufacturing technology and its role in developing business strategy. they identify the role of operation function.
	business communication	1. students understand the concept process, importance and objectives of communication they awareness regarding new trends in business communication 2. students know the principles of effective communication they acquire communication skills. students know various types of business letters.
207-20	**t.y.bcom principle and practices of auditing**	1. students understand the concepts of auditing 2. students know the types of audit 3. students know the techniques of auditing 4. students understand where investigation is required 5. students get the knowledge of company audit.

	income tax	1. 1.students know the various provisions relating to income and incomes tax computation 2. students understand the basic concepts of the income tax act 1961 and get the elementary knowledge of scheme of taxation in india 3. students can compute income and tax of an individual assesse under the act
	human resource management	1. students know the concept, principles and practices of h.r.m. to the students. 2. students familiarize with concepts of human resource planning, job analysis, recruitment and selection procedures, new trends in human resource management
	modern management techniques	1. students know the different management techniques. 2. students know the challenges for corporate sector. 3. students know the importance of customer relationship management.
	import export management	1. students familiarize the international environment and policies 2. 2 students acquire necessary skills to deal in international market, they understand the concept of import and export management. 3. 3.students know the import and export trade 4. understand india's foreign trade policy & regulation 5. acquire knowledge of international marketing environment & marketing strategy
	soft skill development	1. students with the necessary soft skills to enhance their competitive edge 2. in the job market 3. imbibe in students positive attitude towards life and work 4. help students excel in their individual and professional lives using the soft skills.
	advanced accountancy	1. 1.students get knowledgeaboutaccountingtreatmentoffunctionalaspectsof 2. corporate and non-corporate undertakings 3. studentsappraisethestudentsaboutneedandimportanceofaccountingstandardsconcerningthefunctional aspects accounting 4. students can prepare final accounts 5. on farm activities, and corporate sector units.
	advanced cost and management accountancy	1. students get the knowledge of management accounting and cost accounting concepts and techniques. 2. students are able to apply analytical tools &techniques of management accounting.
2018-2022	**f.y.bcom financial accounting & costing**	1. 1.students understand the accounting 2. standards issued by the icai. 3. students able to solve the problems of 4. obligations on dissolution of partnership firm and also relatingto their business combinations 5. students able to solve the problems of investment, branch, joint venture account 6. students know the basic concepts used in cost accounting, elementsof costs and the concept of cost sheet. they know the standard process of purchasing g and material control
	computing skills	1. students familiarize with basics of internet. 2. they understand the use of office application. 3. students know the role of word processor, spread sheet, presentation in industry.

		4. students able to use accounting software tally.
	modern office management	1. students understand the concept of office management. they acquire operational skills of office management. 2. students know the secretarial procedure. 3. students understand office layout and environment in modern context. they acquire the basic knowledge of office appliances and machines. they acquire knowledge of office meetings and proceedings
	essential of ecommerce	1. students familiarize the students to e-commerce basics; they know the importance of security. 2. students understand features of e-commerce technology and types business models. 3. student will able analyze and compare the different monetary transactions.
	corporate laws& secretarial practice	1. students know the company and various provisions of the companies act, 2013. they will familiarized with the stages of formation of company 2. students enable s to study capital and basics of security market, securities and exchange board of india which controls securities trade.
	marketing and advertising	1. student aware about marketing & advertising 2. students understand basic concepts of marketing & advertising 3. students establish link between business and marketing & advertising .they know the relevance of marketing & advertising in modern competitive world 4. students can develop plan for various marketing& advertising strategy.
2019- to onwards	**s.y.bcom business skills**	1. understand the significance and essence of a wide range of soft skills 2. learn how to apply soft skills in a wide range of routine social and professional settings. 3. learn how to employ soft skills to improve interpersonal relationships. 4. learn how to employ soft skills to enhance employability and ensure workplace and career success.
	business & tax laws	1. describe the legal system and the legal environment of business. 2. describe the relationship of ethics and law in business. 3. define relevant legal terms in business. 4. explain basic principles of law that apply to business and business transactions. 5. describe business law in the indian context. 6. describe current law, rules, and regulations related to settling business disputes. 7. understand different technical terminology used in this act 8. 8. discussed and consult businesses on related issues of business laws
	corporate accounting	1. students acquire the students with modern updated computerized accounting system and software. 2. students can measure the components of corporate accounting 3. students get the knowledge for preparing the corporate accounts and statements in accordance with the statutory requirements. 4. 4.a comprehensive understanding of the advanced issues in accounting for assets, liabilities and 5. owner's equity. 6. the ability to account for a range of advanced financial accounting issues 7. the ability to prepare consolidated accounts for a corporate group.
	computing	1. demonstrate a basic understanding of computer hardware and software.

	management	2. demonstrate problem-solving skills. 3. apply logical skills to programming in a variety of languages. 4. utilize web technologies. 5. present conclusions effectively, orally, and in writing. 6. demonstrate basic understanding of network principles. 7. working effectively in teams. 8. apply the skills that are the focus of this program to business scenarios.
	business entrepreneurship	1. understand different methods to assess the attractiveness of business opportunities 2. to understand what characterizes an attractive business opportunity and common pitfalls during 3. the entrepreneurial process 4. 3.to products or services to market 5. to understand different methods that can be used to minimize uncertainties at different stages of 6. the entrepreneurial process understand the dynamics of how teams develop and function as well as the various types of 7. conflicts that can arise during teamwork
	consumer protection & business ethics	1. identify causes for complaint 2. apply legislation 3. present oral or written complaint file and record details 4. carry out simple research into consumer products.
	financial services and stock market	1. obtain conceptual and functional skills 2. practical applicability 3. employee ability 4. support for competitive exams 5. research potential
	retail management	1. on successful completion of retail management, students should be able to: 2. explain the central role of retail in 5ndustrialized societies, and the impact of key market/retail trends upon 3. this sector in the local and global contexts. 4. identify the key stakeholders and the roles/responsibilities of retail towards these stakeholders 5. understand and apply appropriate frameworks to develop high level retail marketing strategy, and identify 6. the role of marketing strategies in the building of brand equity and shareholder value in the retail industry 7. evaluate the implementation of marketing strategy through the retail mix – including product and 8. merchandise mix, pricing, location and store- design, promotions, and store management – to improve the 9. total customer experience and retailer market competitiveness. 10. interpret retail problems and be capable of critically evaluating and applying appropriate retail 11. management models and theories to generate strategic and tactical solutions 12. analyse how retail managers can make informed strategic choices in relation to managing channel 13. partners, retail form (online vs. bricks and mortar), global sourcing, and managing staff to improve

		strategic outcomes.
	production management	1. support manufacturing decisions based upon data derived from leading edge information technology 2. systems. 3. create a basic energy management plan in compliance with the iso 50001 energy management system 4. standard. 5. conform to applicable legislation, regulations and guidelines based upon an assessment of the 6. environmental, legal and safety implications of manufacturing practice. 7. evaluate cost effectiveness of manufacturing products, processes and operations.
	cost accounting	1. demonstrate a basic understanding of computer hardware and software. • demonstrate problem-solving skills. • apply logical skills to programming in a variety of languages. • utilize web technologies. • present conclusions effectively, orally, and in writing. • demonstrate basic understanding of network principles. • working effectively in teams. 2. apply the skills that are the focus of this program to business scenarios.
	financial services & stock market	1. students will understand the characteristics of different financial assets such as money market instruments, 2. bonds, and stocks, and how to buy and sell these assets in financial markets. 3. students will understand the benefit of diversification of holding a portfolio of assets, and the importance 4. played by the market portfolio. 5. students will know how to apply different valuation models to evaluate fixed income securities, stocks, 6. and how to use different derivative securities to manage their investment risks.
2020-21 to onwards	**t.y.bcom principles & practices of auditing**	1. 1.students understand the concept of audit and its objectives, and understand the various types of audit done by an auditor, and the principles of behind these audits, 2. 2.students prepare an audit programme, collect the evidence supporting the recorded transactions, and maintain the necessary documentation in relation to the audit, and 3. students can examine the transactions recorded in the books of accounts of an organisation and verify the assets and liabilities 4. understand the provisions of the companies act, 2013 relating to company audit.
	business management	1. student shall be able to – a. understand the significance and essence of management concepts, principles and skills. b. learn how to apply management concepts, principles and skills in business setting and improving business environment. 2. learn how to employ management skills to enhance employability and ensure workplace and career success.
	income tax	1. understand the various provisions relating to income tax 2. determine the basic concepts of the income tax act 1961 3. describe the elementary knowledge of scheme of taxation in india 4. compute income and tax of an individual assesse under the act

		5. utilize working knowledge with application skill.
	human resource management	1. students can know concepts, principles and practices of hrm. 2. familiar with concepts of hr planning, job analysis, recruitment and selection. 3. development in total personality of students as future human resource of india. 4. acquaint the knowledge of recent trends in hrm.
	introduction to business research	1. students will be able to understand and appreciate importance of business research 2. student will be able to conduct business research 3. student will be able to suggest solutions to business related problems
	advanced accounting	1. understand the various concepts of advanced accounting 2. utilize working knowledge with application skill of advanced accounting. 3. preparing the bank companies statements in accordance with the statutory requirements. 4. prepare statements regarding royalty accounts and insolvency accounts. 5. understanding knowledge of hire purchase, banking companies and farm accounting. 6. understand the various concepts of corporate sector accounting. 7. developing techniques of reconstruction of companies financial statement. 8. preparing the reconstructed financial statements. 9. understanding knowledge of liquidation of companies 10. understand the various concepts of management accounting 11. describe the elementary knowledge of financial statement analysis and interpretation. 12. utilize working knowledge with application skill of management accounting. 13. compute ratio analysis and prepare fund flow and cash flow statements. 14. students understand the d budget and budgetary control
	advanced cost and management accounting	1. understand the various concepts of management accounting 2. describe the elementary knowledge of working capital statement. 3. utilize working knowledge with application skill of management accounting. 4. compute working capital and bep 5. prepare internal management reports and revising credit policy. 6. understand the various concepts of cost accounting. 7. describe the elementary knowledge of process, job, batch and contract costing. 8. utilize working knowledge with application skill of cost accounting. 9. compute and prepare various costing statements
	goods & services tax (gst)	1. students understand of procedural aspects of goods & service tax law. 2. students know the overview of various provisions under gst law.
	introduction to business research (project)	1. students well acquainted with business research skills and experience business research application in real life and prepare detail report based on the study.

m. com.

year	course	Outcomes Students will be able to
2017-18 to 2020-21	**mcom i strategic management** **case studies in strategic management**	1. students understand main concepts and levels of strategic management. they can analyze the main structural features of an industry and develop strategies that position thefirm most favorably in relation to competition. 2. students know the resources and constraints for strategy making in a business context.they recognize the different stages of industry evolution and recommend strategies appropriate each stage. 3. .students understand the concept of competitive advantage and its sources and the ability to recognize it in real-world scenarios. 4. students can solve the case studies in strategic management.
	research methodology in commerce & management	1. students know the research methodology for decision making in business 2. students understand process of research by students by filling questionnaire for preparation of research report
	advanced accountancy	1. after studying this paper the student will be able to – 1. understand the advanced aspects of accounting relating to company liquidation, holding company, and hire-purchase 2. understand the method of presenting financial statements by insurance companies 3. understand the accounting procedure for goods of small value under hire- purchases transactions
	advanced cost accountancy	1. students aware with the subject of cost accounting and its significance 2. students understand the concepts of materials, labour and overheads as elements of costs, and the accounting procedure for these elements of costs . 3. students know the controlling aspects of these elements of costs compute the total cost of output by accumulating costs in the form of a cost sheet 4. students understand the basis for preparation of tender.
	human resource management	1. 1.students aware with a broad perspective on themes and issues of human resource management 2. students can apply theories of social science disciplines to work place issues. 3. students understand the importance of training and morale and know the role of ethics in hrm
	modern management practice	1. students understand fundamental concepts and principles of management, including the basic roles, skills, and functions of management. 2. . students get knowledge able of various theories, principles, process of management. 3. students are familiar with interactions between the planning, controlling, and quality control in organizations, they aware of the ethical dilemmas faced by managers and the social responsibilities of organization.
2018-19 to	**MCOM II Management**	1. get the insight of the philosophy and framework of financial analysis. 2. know the important inter-linkages among the items in the financial

onwards	**Accounting**	statements 3. get equipped with the tools used in analysis, interpretation, and evaluation of performance, profitability and 4. efficiency of the business entities 5. make an in-depth analysis of the financial performance and financial position of business entities, and get 6. hands-on experience in financial analysis 7. equip themselves with the ability to apply their skills and knowledge effectively in future while dealing 8. with real life business situation. 9. pursue their career in the arena of accounting information system
	Entrepreneurship & Project Management	1. get the insight of the entrepreneurial motivation 2. know the important the challenges to start a new venture 3. get equipped with the tools used in making appraisal of the business projects to be started as an entrepreneur 4. equip themselves with the knowledge of regulatory role of government and the supporting institutions. 5. pursue their career as entrepreneurs
	OrganisationalBehaviour	1. analyze individual and group behaviour, and understand the implications of organizational behaviour on the process of management. 2. identify different motivational theories and evaluate motivational strategies used in a variety of organizational settings. 3. evaluate the appropriateness of various leadership styles and conflict management strategies used in organizations. 4. describe and assess the basic design elements of organizational structure and evaluate their impact on employees. 5. explain how organizational change and culture affect working relationships within organizations.
	Advanced Accounting	1. get the insight of the advanced aspect of auditing and skills required for various functional areas in the business field. 2. get the knowledge of the functional aspects of auditing requirements of business entities and non-business entities 3. know the framework of the Standards on Auditing on various related topics governing the auditing function 4. make an in-depth examination of the financial statements of business entities, using computerized accounting system 5. equip themselves with the ability to apply their skills and knowledge effectively in future while dealing with real life business situation. 6. pursue their career in the profession of auditing
	Advanced Cost Accountancy	1. find out the cost of manufacturing goods by the manufacturing organisations and of providing services by the service organisations. 2. know the nature of process costing and the role of spoilage/scrap and rework and apply these concepts in practice 3. compare and apply cost allocation methods
	Human Resource Management	1. contribute to the development, implementation, and evaluation of employee recruitment, selection, and retention plans and processes. 2. administer and contribute to the design and evaluation of the performance management program. 3. develop, implement, and evaluate employee orientation, training, and development programs. 4. facilitate and support effective employee and labour relations in both non-union and union environments.

		5. research and support the development and communication of the organization's total compensation plan. 6. collaborate with others, in the development, implementation, and evaluation of organizational and health and safety policies and practices. 7. 7research and analyze information needs and apply current and emerging information technologies to support the human resources function.
	Modern Retail Management	1. get the insight of the theoretical aspect of retail management 2. know the modern techniques and practices of retailing in india 3. design the strategies and understand dynamics of modern organised retail trade
	Corporate Social Responsibility	1. get the understanding of the philosophy and framework of corporate social responsibility 2. know the inter-linkages between the society, the business houses and their corporate social 3. responsibilities 4. equip themselves with the ability to apply their skills and knowledge effectively in future while dealingwith real life business situation.

BBA

year	**Course**	**Outcomes** **Students will be able to:**
2017-22	**FY BBA (Sem. Ist)** **A1.1.Principles of Management**	1. provide a basis of understanding to the students with reference to working of business organization through the process of management. 2. familiarize the students with the basic management concept & process. 3. get an understanding of working of business organization 4. familiarize students with the basic management concept and process. 5. .understand the importance of administration & management.
	A 1.2.Pricniples of Economics	1. the objective of this subject is to develop a basic understanding about the principles of economics. 2. provide the basics of economics. 3. familiarize the students with demand and supply analysis, equilibrium of firm & market. 4. introduce economical concepts of apc, mpc,aps,mps. 5. highlight demand and supply of money, income &expenditure ,gdp to students for their survival in society.
	A 1.3.Professional Communication	1. impart the basic communication skills among students. 2. improve the english language proficiency of the students. 3. develop confidence in speaking english. 4. improve the business communication proficiency , organization communication, presentation skill of students in the external environment.

	A 1.4.Fundamentals of Accounting	1. study the fundamental accounting concepts, terms, jargons and learn the process of recording of financial transactions in the books of accounts. 2. develop the foundation for higher studies in the field of accounting. 3. describe, explain, and integrate fundamental concepts underlying accounting, finance, management, marketing, and economics. 4. use information to support business processes and practices, such as problem analysis and decision making.
	A 1.5.Information Technology For Business	1. the objective of this subject is to develop a basic understanding about the information technology & its applications. 2. analyze common business functions and identify, design, and develop appropriate information technology solutions. 3. learn future technologies through acquired foundational skills and knowledge and employ them in new business environments. 4. practice communication, problem solving and decision-making skills through the use of appropriate technology and with the understanding of the business environment.
	A 1.6.Practicals on Professional Communication	1. impart the practical aspects of communication skills among students. 2. improve the english language proficiency of the student 3. develop confidence in speaking english.
	A 1.7.Practicals on Office Automation	1. impart practical knowledge & applicability of theoretical concepts with routine examples. 2. computer literacy, microsoft office, including word, powerpoint, excel, access, and outlook. 3. improve keyboarding & 10-key techniques & efficient internet research. 4. spelling, punctuation, and grammar. general office skills; file management, record filing, telephone & email etiquette.
FY BBA (Sem.IInd)	**A2.1. Organizational Behaviour**	1. demonstrate the applicability of the concept of organizational behavior to understand the behavior of people in the organization. : demonstrate the applicability of analyzing the complexities associated with management of individual behavior in the organization. 2. analyze the complexities associated with management of the group behavior in the organization. 3. 4: demonstrate how the organizational behavior can integrate in understanding the motivation (why) behind behavior of people in the organization.

	A2.2.Managerial Economics	1. 1.understand the roles of managers in firms. 2. understand the internal and external decisions to be 3. made by managers. analyze the demand and supply conditions and assess the position of a company. 4. design competition strategies, including costing, pricing, product differentiation, and market environment according to the natures of products and the structures of the markets. 5. analyze real-world business problems with a systematic 6. theoretical framework. 7. make optimal business decisions by integrating the concepts of economics, mathematics and statistics.
	A2.3.Business Ethics & Corporate Governance	1. students will be able to understand the business ethics. 2. the student will be able to analyze corporate social responsibility 3. the student will be able to analyze various ethical codes in corporate governance. 4. student will be able to analyze the employees conditions and business ethics. 5. the objective of this subject is to make the students more clear about the importance of ethics in business and practices of good corporate governance
	A2.4.Financial Accounting & Costing	1. acquire conceptual knowledge of basics of accounting. 2. identify events that need to be recorded in the accounting records. 3. develop the skill of recording financial transactions and preparation of reports in accordance with gaap 4. describe the role of accounting information and its limitations. 5. equip with the knowledge of accounting process and 6. preparation of final accounts of sole trader. 7. identify and analyze the reasons for the difference between cash book and pass book balances.
	A2.5.Marketing Management	1. students will demonstrate strong conceptual knowledge in the functional area of marketing management 2. . students will demonstrate effective understanding of relevant functional areas of marketing management and its application. 3. students will demonstrate analytical skills in identification and resolution of problems pertaining to marketing management. 4. student will apply the knowledge, concepts, tools necessary to overcome challenges, and issues of marketing in a changing technological landscape.
	A2.6. Practical on Web Designing & Publishing	1. understand the principles of creating an effective web page 2. be able to embed social media content into web pages. 3. write html and understand how to effectively implement it in the web environment. 4. 4. evaluate common errors in the web languages and repair them to meet standards.

	A2.7.Practicals on Learning from Business Leaders	1. provide an opportunity to the students to 'learn by example' from great leaders belonging to the business world 2. students will understand the history of leadership and current leadership theories. 3. students will learn how to use their minds, their hearts, their voices, and their ears to constructively engage and collaborate with others. 4. students will develop a comprehensive set of practical skills and tools to rely on through leadership practice. 5. students will learn how to communicate effectively (using written and spoken word, non-verbal language, electronic tools, and listening skills) to develop relationships, manage conflicts, and work across differences.
SYBBA (Sem. IIIrd)	**A3.1.Mathematics & Statistics For Manager.**	1. describe and discuss the key terminology, concepts tools and techniques used in business statistical analysis . 2. critically evaluate the underlying assumptions of analysis tools. 3. appreciate that the collection and statistical analysis of data improves business decisions and reduces the risk of implementing solutions that waste resources and effort. 4. select and deploy the correct statistical method for a given data analysis requirement. 5. achieve a practical level of competence in building statistical models that suit business applications.
	A3.2.Corporate Accounting & Costing	1. understand the regulatory environment in which the companies are formed and operate. 2. have a solid foundation in accounting and reporting requirements of the companies act and relevant indian accounting standards. 3. draft final accounts for manufacturing concerns, banks and insurance companies 4. understand various costing systems. 5. understand the significance of cost accounting in the modern economic environment.
	A3.3.Business & Corporate Law	1. demonstrate an understanding of the legal environment of business. 2. demonstrate recognition of the requirements of the contract agreement 3. demonstrate recognition of transactions involving the sales of goods act 4. to encourage in students a critical appreciation of the important role of corporations and corporate law in modern society. 5. 5. to give students an understanding of the principles and rules of corporate law to a level that is sufficient to satisfy the requirements for admission to legal practice.

	A3.4.Management Of small Scale Industries	1. students can analyze information by selecting the relevant information for the decision making process. 2. 2.students can analyze information in a multidisciplinary environment focusing on the impact of 3. the taken decisions 4. 3.students can understand the different life phases in a small enterprise and its problems /opportunities. 5. 4. students can create solutions and develop action plans for this standard problems /opportunities.
	A3.5.Management Information System & ERP	1. apply a framework and process for aligning and organization's it objectives with business strategy. 2. participate in an organization's information systems and technology decision-making processes. 3. identify ways information systems & technology may improve an organization's performance, including improving organizational processes, decision-making, collaboration, and personal productivity. 4. 4.communicate typical integrated business processes in an erp, such as procurement, production, and fulfillment. 5. perform common business transactions as an end-user in an erp system.
	A3.6.Practicals on Management Of small Scale Industries	1. enable the students to understand the practical 2. aspects of working in dic, midc and banks. 3. introduce the students with realistic world of business and government bodies. 4. aware the students with the provisions made by the government with help of dic, midc, banks for development of the ssi.
	A3.7.Practicals on Advanced Excel	1. use excel functions to summarize quantitative data graphically, including pivot tables and charts. 2. use power point to create, modify, and enhance presentations. 3. use word to create and edit documents. 4. use access to query tables and use application tools to generate reports.
SYBBA(SemIVth)	**A4.1.Business Research Methods**	1. the subject provides a strong grounding in understanding the research process enabling students to either engage an external research organization 2. apply an advanced understanding of business research design options, methodologies and analysis methods. 3. have an understanding of various kinds of research, objectives of doing research, research process research designs and sampling. 4. have basic knowledge on qualitative, quantitative as well as measurement & scaling techniques. 5. have a basic awareness of data analysis, including descriptive & inferential measures 6. be able to write & develop independent thinking for critically analyzing research reports.

	A4.2.Direct & Indirect Taxes In India	1. students will be able to identify the technical terms related to direct taxation 2. students should be able to determine the residential status of an assesse and thus should be able to compute the taxable income of assesse with different residential status. 3. students will be able to compute income from salaries, house property, business/profession, capital gains and income from other sources. 4. students should be able to understand various terms related to goods and service tax(gst) 5. students will be able to compute the amount of cgst, sgst and igst payable after considering the eligible input tax credit. 6. students will be able to determine whether a person is required to obtain registration under gst law.
	A4.3.Human Resource Management	1. effectively manage and plan key human resource functions within organizations 2. examine current issues, trends, practices, and processes in hrm have an understanding of the basic concepts, functions and processes of human resource management be aware of the role, functions and functioning of human resource department of the organizations. 3. design and formulate various hrm processes such a s recruitment, selection, training, development, performance appraisals and reward systems, compensation plans and ethical behaviour.
	A4.4.Production & Material Management	1. identifying the scope for integrating materials management function over the logistics and supply chain operations. 2. integrate the organization wide materials requirement to develop an overall plan (mrp). 3. identify, study, compare, and evaluate alternatives, select and relate with a good supplier 4. analyzing the materials in storage, handling, packaging, shipping distributing and standardizing
	A4.5.Financial Management	1. explain the concept of fundamental financial concepts, especially time value of money. 2. apply capital budgeting projects using traditional methods. 3. analyze the main ways of raising capital and their respective advantages and disadvantages in different circumstances 4. integrate the concept and apply the financial concepts to calculate ratios and do the capital budgeting
	A4.6, Practical on Tally ERP	1.student will do by their own create company, enter accounting voucher entries including advance voucher entries, do reconcile bank statement, do accrual adjustments, and also print financial statements, etc. in tally erp.9 software 2.students do possess required skill and can also be employed as tally data entry operator.
	A4.7.Practicals On Tax base Software	1. students can understand how to calculate the tax by using tax base software and use it in actual business.

B.M.S. (E-com)

Year	Course	Outcomes Students will be able to
2018-22	**FY BMS (E-Comm.)Sem.Ist) E1-1Principles of Management**	1. evaluate the global context for taking managerial actions of planning, organizing and controlling. 2. integrate management principles into management practices. 3. .specify how the managerial tasks of planning, organizing, and controlling can be executed in a variety of circumstance 4. integrate forecasting, co-ordination, decision-making,&modern management techniques.
	E1.2Professional Communication	1. identify common errors and rectify them 2. develop and expand writing skills through controlled and guided activitie 3. . apply verbal and non-verbal communication techniques in the professional environment 4. the students should be able to write correctly and properly with special reference to letter writing. 5. demonstrate ability to interpret texts and observe the rules of good writing.
	E1.3Fundamentals of Accounting	1. describe, explain, and integrate fundamental concepts underlying accounting, finance, management 2. define bookkeeping and accounting 3. explain the general purposes and functions of accounting 4. describe the main elements of financial accounting information – assets, liabilities, revenue and expenses
	SY BMS(E-comm.)(Sem.IInd)E2.1Introduction to OB	1. discuss the development of the field of organizational behavior 2. identify the processes used in developing communication and resolving conflicts 3. explain group dynamics and demonstrate skills required for working in groups (team building) 4. explain organizational culture and describe its dimensions and to examine various organizational designs 5. discuss the implementation of organizational change.
	E-2.2.Professional Communication-II	1. the students should be able to write correctly and properly with special reference to letter writing. 2. ability to handle the interview process confidently 3. demonstrate ability to interpret texts and observe the rules of good writing. 4. prepare and present effective presentations aided by ict tools. 5. strengthen their creative learning process through individual expression and collaborative peer activities.
	E2.3Financial Accounting & Costing	1. acquire conceptual knowledge of basics of accounting. 2. identify and analyze the reasons for the difference between cash book and pass book balances. 3. equip with the knowledge of accounting process and preparation of final accounts of sole trader

		4. imbibe conceptual knowledge of cost accounting.
	SY BMS (E-Comm.)(SemIIIrd) E.3.1.Mathematics & Statistics For Manager	1. describe important theoretical results and understand how they can be applied to answer statistical questions. 2. apply the concepts of matrices, set,logic in real life situation of professional life. 3. . conduct basic statistical analysis of data. 4. .utilization of central tendency concepts at professional level. 5. calculate mathematical &statistical calculations using ms-excel.
	E3.2Business Economics	1. impart the knowledge of economics as a subject and its importance while business 2. apply demand &supply analysis to the "firm" under different market conditions. 3. analyse the causes and consequences of different market conditions.
	E3.3Business Ethics & Professional Values	1. 1.business ethics & professional values. 2. the student will be able to analyze corporate social responsibility. 3. the student will be able to analyze various ethical codes in corporate governance. 4. student will be able to analyze the employees conditions and business ethics.
	E SY BMS (E-Comm.)(SemIVth) 4.2ResearchMethodology	1. demonstrate the ability to choose methods appropriate to research aims and objectives. 2. understand the limitations of particular research methods. 3. develop skills in qualitative and quantitative data analysis and presentation. 4. develop advanced critical thinking skills.
	SY BMS (E-Comm.)(SemVIth) E5.1Entrepreneurship Development	1. have the ability to discern distinct entrepreneurial traits. 2. know the parameters to assess opportunities and constraints for new business ideas . 3. understand the systematic process to select and screen a business idea. 4. design strategies for successful implementation of ideas 5. write a business plan.
	E5.2 Marketing Management	1. critically evaluate the key analytical frameworks and tools used in marketing. 2. utilize information of a firm's external and internal marketing environment to identify and prioritize appropriate marketing strategies 3. evaluate and act upon the ethical and environmental concerns linked to marketing activities
	SY BMS (E-Comm.)(SemVIth) E6.1Introduction Banking & Insurance	1. understand the risks faced by banks and ways to overcome them. 2. understand the difference between life &non life insurance. 3. understand how to choose life insurance policies based on their needs.

	6.2.Human Resource Management	1. demonstrate an understanding of key terms, theories/concepts and practices within the field of hrm. 2. demonstrate competence in development and problem-solving in the area of hr management 3. provide innovative solutions to problems in the fields of hrm 4. be able to identify and appreciate the significance of the ethical issues in hr.
	E6.3Introduction to Information System Audit	1. illustrate the fundamental concepts of information systems auditing and it application in auditing. 2. identify the security controls in organization. 3. .explain the basic concepts of computer security, computer security threats and the corresponding remedies.

2017-18	**fybms (e-com)i** e1.1 principles of management	1. student familiarize with basic management process andconcepts. 2. student will be able to understand importance ofmanagement. 3. they learn method and need for control within anorganisation. 4. to enable students to study the evolution of management.
	e1.2professional communicationi	1. student learn written communicationskill. 2. they will be able to understand internal communication and external communicationskill. 3. student impart basic communicationskill. 4. student improve their englishlanguage proficiency.
	e1.3 fundamental of accounting	1. student study the fundamental accounting concept andterms. 2. student will be able to record the financial transaction in the books of accountcorrectly. 3. student will develop their foundation for higher studies inaccounting.
	e1.4 fundamental of computer and internet	1. student will be able to understand computer basic concept, memoryconcept. 2. student learn to develop simple programof algorithm andflowchart. 3. they gain knowledge of internetservices.
	e1.5 c programming	1. student learn field of programming using c language.

		2. student will be able to construct basic programming usingc. 3. they can easily switch over to any other language infuture. 4. student will be able to develop logics through which they developprogram.
	E1.6Practical on C Programmig	1. make a student to learn a programming languagepractical. 2. student will be able to enhance their analysing and problem solving skills.
	E1.7 Practical on Office Automation	1. to impart practicalknowledge. 2. student familiarize with microsoft office application - word, excel,powerpoint. 3. student would be able to prepare document spreadsheet andpresentation.
	FYBMS(e-com) Sem II E2.1 Introduction to Organizational Behavior	1. student will be able to analyse complexity associated with management of individual behaviour in theorganization. 2. student identify the process used in developing communication. 3. student understand how individual behaviour and personality imparts contemporary work experience.
	E2.2 Professional Communication II	1. student know the principle ofeffective communication. 2. they will develop their knowledge skill and judgement around humancommunication. 3. they improve their ability towork.
	E2.3 Financial Account and Costing	1. student understandaccountingstandard. 2. student know basic concept used in cost accounting. 3. they will be able to solve material andlabour costing examples.
	E2.4 Elements of e- commerce	1. student knowbvarious business model for e- commerce 2. student will be able to analyse the impact of e- commerce on business models andstrategy. 3. student learn major types ofe-commerce. 4. student able to understand concept of e- commerce and e-business , e-paymentsystem, e-security.
	E2.5 Programming in C++	1. student identify and practice the object oriented concept andtechnique. 2. student learn the uses of c++ classes, array inheritance and file i/o streamconcept. 3. they will be able to understand how c++ improve c with oopsfeatures. 4. student learn how to write inline function for efficiency andperformance.
	E2.6 Practical on C++	1. student learn fundamental programming concept and methodology which are essential to building good c++program. 2. they will be able to develop small software or program using c++ programmingcode.
	E2.7 Practical on Tally ERP	1. student will be able to enter financial transaction in computerized format and find the financial resultconcern. 2. they will be able to create their own company, enter accounting voucher entries in tally erp software.

	SYBMS(e-com) Sem III E3.1 Mathematics and Statistics for Manager	1. student will be able to solve matrixproblem. 2. they discuss the key terminology concept, tools and techniques used in business statistical analysis. 3. student understand videos mathematicallogic. 4. student will be able to perform mathematical function and logical function and statistical function through msexcel.
	E3.2 Business Economics	1. student will be able to understand demand and supply analysis. 2. they will be able to provide the basis of economics. 3. student impart the knowledge of economicsas a subject and its importance.
	E3.3 Business Ethics and Professional Values	1. student will be able to understand the business ethics and to provide the best practice of business ethics. 2. they should be able to recogniseorganisational challenge to ethicalbehaviour. 3. student learn impact of values and ethics on organisation.
	E3.4 web design using HTML and CSS	1.student will be able to develop a simple web page using different tags ofhtml. 2.2.they easily prepare forms, frames andtables. 3.bring out the working knowledge of cascading style sheet and itsattribute.
	E3.5 Java Programming	1. student will be able to use an integrated development environment to write, compile, run and test simple object oriented javaprogram. 2. they able to validate input in javaprogram. 3. student learn how to implement object oriented design with java.
	E3.6 Practical on Java Program	1. student will be able to perform java code or program oncomputer. 2. they will be more clearly understand fundamental of programming such as variable, condition, iterative execution methods etc.
	E3.7 Practical on HTML and CSS	1. student will be able to embed social media content into webpage. 2. they will be able to understand how to create a webpage using html andcss. 3. student easily createregistrationform. 4. student easily create effective and simple websites.
	sybms(e-com) sem iv e4.1 management information system	1. understand the leadership role of misin achieving business competitive advantage through informed decision making. 2. student identify the major managementchallenges to building and using information system in organisation. 3. student develop their knowledge about process development ofmis. 4. they learn different support system ofmis.
	e4.2 esearch ethodo gy	1. front identify and discuss the complex issue in herent in selecting a research problem , selecting an appropriate research design and implementing a researchproject. 2. they will be able to identify and discuss the concept and procedure of sampling , data collection, analysis andreporting. 3. they should be able to develop the abilityto apply the methods while working on research project work.

	e4.3 cyber security and it act	1. student will be able to understand thecyber security, cyber scam and frauds investigation mechanism and cyber law. 2. they will be able to analyse and resolve security issue in network and computer system to securean it infrastructure
	e4.4 rdbms	1. student should be able to describe the fundamental element ofrdbms. 2. they know basic concept of relational datamodel, er model concept 3. student will be able to recognise and identifythe use of normalisation and functional dependency used in databasedesign. 4. the design queries usingsql.
	e4.5 programming in c#. net	1. student will be able to identify and resolvethe problems in c#.net window basedapplication. 2. they will be able to create and manipulate gui components in c# 3. they will be able to design and implement database connectivity using ado.net in window basedapplication.
	e4.6 practical on c#.net	1. student will perform window based application programspractically. 2. they create simple data binding application using ado.netconnectivity.
	e4.7 practical on rdbms	1. student will be able to query a databaseusing sql dml/ddl commands. 2. they will be design and implement database schema for givenproblem. 3. student get practical knowledge on designing and creating relational databasesystem.
	tybms (e-com) sem v e5.1 entrepreneurship development	1. student understand the conceptof entrepreneurship, know the type of entrepreneur and role of entrepreneur. 2. they understand women entrepreneurship, ruler entrepreneurship
	e5.2 marketing management	1. student will demonstrate effectiveunderstanding of relevant functional area of marketing management and its application. 2. student aware aboutmarketing. 3. they are able to plan for variousmarketing strategy.
	e5.3 introduction to scripting language	1. student understand and create effectivescript using javascript to enhance end user experience. 2. they know variable naming rules and javascript data types, identify expressions andoperators. 3. student will be able to use javascript asiterative tool for webdevelopment. 4. student gain basic knowledge ofpython. 5. student learn how to design and programpython application.
	e5.4 system analysis and design	1 . student understand different phases involved in system development life cycle. 2. student know the concept of system planning and investigation. 3. they learn logic representation tools and interface designing.
	e5.5 web programming with asp.net	1. student understand microsoft .net frameworkand asp.net page structure. 2. student creating a website using asp.netvarious controls. 3. develop secured webapplication. 4. use microsoft aro.net to access data in web application.
	e5.6 practical on asp.net	1. student creating a website using asp.netcontrols. 2. student familiarize with .net technology method ,syntax.

	e5.7 practical on scripting language	1. student will be able to develop moreattractive web page using javascript. 2. student develop the different python program to do variety of programmingtest.
	tybms (e-com) sem vi e6.1 introduction to banking and insurance	1. student will be able to have a knowledge of banking , insurance and capital market lawbesides fundamental legal knowledge. 2. they know objective, scope , evolution and function areas of bankmanagement.
	e6.2 human resource management	1. student know the concept principles andpractice of hrm. 2. student familiarize with hr planning, jobanalysis ,recruitment, select procedure
	e6.3 introduction to information system audit	1. student able to know how information system auditing show whether it solution meet business objective effectively andefficiently. 2. they learn relationship or connection between the computer technology and auditprocess. 3. they know the basis of information system auditing and role of information systemauditor.
	e6.4 enterprise resource planning	1. student will be able to learn and designerp implementation strategies 2. student analyse the strategic option forerp. 3. they will be able to make basic use ofenterprise software and its role in integrating business functions
	e6.5 php scripting and mysql	1. implementing oops concepts in anapplication. 2. student identify why php is good for web development. 3. discuss on database concepts using php- mysql.
	e6.6 practical on php and mysql	1. student will be able to write php script tohandle html forms. 2.they write regular expressions includingmodifiers , operators and metacharacter. 3. student analyse and solve various database task using phplanguage.
	e6.7 project work	1. student will be able to analyse data forproject work. 2. student will be able to apply it principles and practice to real worldsolution.

Year	Course	Outcomes Students will be able to
2017-2022	Genaral Knowladge	1. Student learning goals and student learning outcomes reflect the mission of the University to "help students develop academic competencies, professional skills, critical and creative abilities, and ethical values of learned persons who live in a democratic society, an interdependent world and a technological age." Through its rich and diverse offering of degree programs and its General Education program, 2. The General Education program is to ensure that every CSUN undergraduate engages in each of these fundamental learning goals. 3.Although many courses integrate more than one goal and set of student learning outcomes into their curricula, placement of a course into a specific section of the General Education program signifies that the course will emphasize the learning goals and student learning outcomes of that section

B.A./ B. Com. /BSc, BBA/ BCA. & BMS

2017-2022	ENVIRONMENTAL STUDIES	On completion of this course the students will be able to 1. Study the nature, scope and importance of environmental studies, ecosystems 2. Aware about Biodiversity and its conservation, environmental pollution. 3. Identify the role of environmental activists in the conservation of natural resources.
Semester – I: PG		
2017-2022	**SEMESTER – I: PG** **AC-101 PRACTICING CLEANLINESS**	On completion of this course the students will be able to 1. Identify need at of cleanliness at home/ office and other public places. 2. Plan and observe cleanliness programs at home and other places. 3. Practice Japanese 5-S practices in regular life.
Semester – II: PG		
2017-2022	**SEMESTER – II: PG** **AC– 201 SOFT SKILLS**	On completion of this course the students will be able to 1. Identify their lacunas about some soft skills and try to overcome the same. 2. Practice learned soft skills in real life and do their jobs more effectively.