Rayat Shikshan Sanstha's,

Laxmibai Bhaurao Patil Mahila Mahavidyalaya, Solapur.

Programme Outcomes, Programme Specific Outcomes & Course Outcomes

❖ Programme Outcomes of the Commerce Faculty :

Name of the Programme	Programme Outcomes
B. Com.	**After completing three years for Bachelors in Commerce (B.Com.) programme students will be able to:** 1. Develop numerical abilities of students. 2. Create awareness of law and Legislations related to commerce and business. 3. Introduce recent trends in Business, Organizations and Industries. 4. Acquire practical skills related with banking and other business. 5. Acquire practical knowledge in Income Tax & GST. 6. Inculcate Account writing Skill. 7. Analyse basic concepts of Business, industries and Business Environment 8. Analyse consumer behaviour in markets and market trends 9. Evaluate Accounting and auditing skill of firms and industries 10. Develop entrepreneurship skill and start his/her own business unit 11. Find an opportunity of Job in the field of Insurance, Banking, Transport and Cooperation 12. Develop communication skills
M. Com. Advance Accountancy	**After completing three years for Master in Commerce (M.Com.) programme students will be able to:** 1. M.Com programs provide specialized knowledge and advanced skills in areas such as finance, accounting, marketing, economics, management, and more. Graduates are equipped with in-depth understanding and expertise in

	their chosen field. 2. M.Com graduates often find themselves better positioned for career advancement. They may qualify for higher-level positions, increased responsibilities, and leadership roles within their respective industries. 3. Due to their advanced skills and specialized knowledge, M.Com graduates tend to earn higher salaries compared to those with only a bachelor's degree. This can be particularly true for roles that require a deep understanding of financial and business concepts. 4. The diverse skillset gained during an M.Com program opens doors to various job opportunities across sectors such as banking, finance, consulting, marketing, research, academia, and more. 5. M.Com programs often include research projects and assignments that enhance graduates' ability to gather, analyze, and interpret data. This skillset is highly valued in roles requiring data-driven decision-making. 6. Graduates with an M.Com degree might have the knowledge and skills needed to start and manage their own businesses. They can apply their understanding of financial management, marketing, and business strategy to their entrepreneurial endeavors. 7. M.Com graduates can pursue careers in academia, research, and teaching. With additional qualifications, such as a Ph.D., they can become professors and contribute to the academic community. 8. The global nature of business today means M.Com graduates are well-equipped to work in international markets and contribute to the success of multinational corporations. 9. M.Com programs often provide opportunities to connect with professors, industry experts, and fellow students. These connections can lead to valuable professional relationships and opportunities. 10. Pursuing an M.Com degree requires dedication, critical thinking, and self-discipline. Graduates often experience personal growth as they navigate through challenging coursework and projects.

	11. M.Com graduates can contribute to research and innovation within their field. Their understanding of advanced concepts can lead to insights that drive industry progress. 12. Having an M.Com degree can enhance your credibility and recognition within your chosen industry, positioning you as a subject matter expert.

❖ Programme Outcomes of the Arts Faculty :

Name of the Programme	Programme Outcomes
B. A.	**After the completion of three years of Bachelor in Arts (B. A.) Programee students will be able to:** 1. Express their views and opinions regarding socio-political and economic issues of present day. 2. Communicate with others confidently and use interpersonal skills. 3. Develop their overall personality. 4. Make decisions about their career and personal lives. 5. Behave as a responsible citizen of nation. 6. Elaborate language, history and culture of our society. 7. Explain various life skills. 8. Develop research attitude and believe in scientific temperament. 9. Develop entrepreneurship skills. 10. Be employable in various governmental and non-governmental organizations. 11. Promote active citizenship and community engagement 12. Analyse and critically reflect on complex problems incorporating multiple perspectives and innovative thinking. 13. Collaborate respectfully with others, individually and in teams 14. Understand how cultural, historical, geographical, political, linguistic, and environmental forces shape the world and recognize the role of the individual within communities to effect change.

❖ Programme Outcomes of the Science Faculty :

Name of the Programme	Programme Outcomes
B. Sc.	**PO1:** Scientific temper will be developed in Students. **PO2:** Students will acquire basic Practical skills & Technical knowledge along with domain knowledge of different subjects in the science stream. **PO3:** Students will become employable; they will be eligible for career opportunities in Industry, or will be able to opt for entrepreneurship. **PO4:** Students will possess basic subject knowledge required for higher studies, professional and applied courses like Management Studies, Law etc. **PO5:** Students will be aware of and able to develop solution oriented approach towards various Social and Environmental issues. **PO6:** Students should be learn toxic elements, the spectroscopic method, stereochemistry, method extraction of metal, Classical and instrumental method of analysis.

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❖ Programme Specific Outcomes of the Commerce Faculty :

Name of the Programme	Programme Specific Outcomes
B. Com. III	1. Explain the nature, functioning and issues related to money, banks and non-banking institution in India to the student. 2. Acquaint the students fully with the changing role of Reserve Bank of India and financial institutions in the process of growth and development. 3. Orient the learner toward entrepreneurship as a career option and creative thinking and behaviour. 4. Expose students to basic entrepreneurial concepts and inculcate theoretical knowledge of entrepreneurship. 5. Develop entrepreneurial qualities and skills among the students and motivate them to become entrepreneur.
M. Com. II Advance Accountancy	1) Understands advanced knowledge in the field of Advance Accountancy. 2) Enables the students to acquire the basic skills required for carrying out business activities, Research, stock market operations, accounting practices, etc. 3) Develop adequate knowledge and skill to provide consultancy services in finance and marketing. 4) Confidently prepare for NET, SET, and other competitive examinations of their choice.

❖ Programme Specific Outcomes of the Arts Faculty :

Name of the Programme	Programme Specific Outcomes
B. A.III Marathi	After Successful completion of the three year degree program in Marathi a student should be able to: १. नाटकाची अभिरुची विकसित करून घेतो तसेच नाटकाच्या चिकित्सक अभ्यासाची क्षमता विकसित होते. २. मराठी एकांकिकांच्याद्वारे विद्यार्थांमध्ये लेखन कौशल्यविषयक दृष्टीकोन निर्माण करता येतो. ३. संवादाची क्षमता विकसित करता येते आणि भाषिक कौशल्य विकसित होतात. ४. दलित एकांकिकांमधून सामाजिक निर्माण करून समाजकार्यासाठी दिशा दाखविता येते. ५. एकांकिकांची आस्वाद क्षमता विकसित होते. ६. ललित गद्यातून थोर पुरुष व स्त्रीयांच्या जीवनचरित्रातून नीती-आचरण चिंतनशीलता व भावात्मकता सूत्रांचा परिचय करून देता येतो तसेच स्त्री व पुरुष यांच्या जीवनाच्या विविध पैलूंचे दर्शन घडविता येते. ७. मध्ययुगीन मराठी वाड्मयाच्या निर्मितीमागील प्रेरणा, इतिहास, स्वरूप व वैशिष्टये तसेच विविध साहित्यकृतींचा स्थूल परिचय करून घेता येतो. ८. वारकरी संप्रदायातील संतकवींच्या काव्यनिर्मितीचे स्वरूप, बखर वाड्मयाचे स्वरूप व वैशिष्टयांचा परिचय करून देऊन बखर व अभंग यांची आस्वाद क्षमताविकसित करता येते. ९. नाट्य अभिरुची विकसित करता येते तसेच नाट्य संकल्पना नाट्य आस्वादाची डोळस क्षमता विकसित करता येते. १०. भाषेचे स्वरूप, कार्य, भाषा उत्पतीचे सिद्धांत, भाषाकुल संकल्पना, प्रांतिक भेद, मराठीच्या प्रमुख बोलीचा परिचय, भाषाविषयक असलेले गैरसमज, मराठीवरील अन्य भाषांचा पडलेला प्रभाव तसेच मराठी भाषा उत्पतीविषयीची मते जाणून घेऊन मराठीची पूर्वपीठीका लक्षात घेता येते. ११. मराठी व्याकरणाची आस्वाद क्षमता विकसित करून आकलन क्षमता विकसित होते. १२. लोकरंगभूमीची संकल्पना, स्वरूप, वैशिष्टये, लोकसाहित्य व लोकरंगभूमी यांचा परस्परसंबंध तसेच वही, भारुड, दशावतार, तमाशा, लोकनाट्य, पथनाट्य, सत्यशोधक जलसे, रिंगणनाट्य व कीर्तन यांच्या स्वरूप, वैशिष्टयांचा परिचय करून देऊन लोकसाहित्यविषयक अभिरुची विकसित करता येते. १३. दृकश्राव्य माध्यमांचा परिचय करून घेऊन त्यासाठी लेखन व संवाद कौशल्य यांचा परिचय करून देऊन दृकश्राव्य माध्यमांचे कार्य, उपयुक्तता, कार्यक्रमांसाठी लेखन तंत्र व दूरचित्रवाणीसाठी निवेदन कौशल्य विकसित करता येते. १४. आधुनिक समाज माध्यमांचा परिचय करून घेता येतो त्याचबरोबर त्यांचे कार्य, उपयुक्तता आणि ईमेल, ब्लॉग फेसबुक, ट्विटर, व्हाटसअप, युट्युब यासाठी लेखन तंत्र व निवेदन कौशल्य विकसित करता येते. १५. निबंध लेखनाचे स्वरूप, घटक, प्रकार यांचा परिचय करून घेता येतो त्याचबरोबर निबंध लेखनाचा सराव करून घेऊन निबंध लेखनाचे कौशल्य विकसित करता येते. १६. कथेची अभिरुची विकसित करून घेतो तसेच कथेच्या चिकित्सक अभ्यासाची

	क्षमता विकसित होते. १७. यशस्वी उद्योजकांच्या चरित्राद्वारे विद्यार्थीमध्ये व्यावसायिक दृष्टीकोन निर्माण करता येतो. १८. संवादाची क्षमता विकसित करता येते आणि भाषिक कौशल्य विकसित कर होते. १९. उत्तम दर्जाची व्यावसायिकवृत्ती निर्माण करून यशस्वी उद्योगाची दिशा दाखविता येते. २०. कादंबरीची आस्वाद क्षमता विकसित होते. २१. पौवार्त्य व पश्चिमात्य साहित्यशास्त्रातील विविध संकल्पना, साहित्याचे स्वरूप, साहित्याचे प्रयोजन आणि साहित्याची निर्मिती प्रक्रिया यांचा स्थूल परिचय करून घेता येतो. २२. नाट्य अभिरुची विकसित करता येते तसेच नाट्य संकल्पना नाट्य आस्वादाची डोळस क्षमता विकसित करता येते. २३. मराठी व्याकरणाची आस्वाद क्षमता विकसित करून आकलन क्षमता विकसित होते.
B. A.III Hindi	१. भारत देश की राष्ट्रभाषा हिंदी होने के कारण हिंदी भाषा के विकास की जानकारी प्राप्त करना छात्रों के लिए आवश्यक है। २. हिंदी साहित्य का इतिहास जान लेने का मतलब है भाषा के भूतकाल के बारे में जान लेना और उससे परिचित होना। ३. जो छात्र हिंदी भाषा का अध्ययन कर रहा है उस भाषा के इतिहास से जुडना महत्वपूर्ण है। ४. आधुनिक हिंदी साहित्य के घटनाओं का अध्ययन छात्रों कों वर्तमान घटनाओं कों के बरें में सजग बनाता है। ५. काव्य,नाटक और समीक्षा छात्रों को भारतीय और पाश्चात्य साहित्य का अध्ययन करने के लिये सक्षम बनते है। ६. छात्र हिंदी सिनेजगत से परिचित होंगे। ७. भाषा का सूक्ष्मता से अध्ययन करके संवाद कला विकसित होकर उसमें हास्यविनोद भाव छात्रों में विकसित होते है।
B. A.III English	**A Student ,who has taken admission into the program of B.A. with English as specific subject of study is expected to achieve following outcomes:** **1.** Basic knowledge of English as global Language in-depth Knowledge of the Core Areas of the Subject like Literature, History, Theory, Criticism, Grammar and Linguistics etc. 2. Train students for careers and advanced studies in a wide range of English, Public Relations, or Communications fields. 3. Equip student with analytical skills in linguistics, communications and literary criticism. 4. Nurture the notion of Value education through literature.

B. A.III History	1. The Arts Graduate can peruse further studies in M.A. in History, B. Ed, Archaeology, Museology, Epigraphy, and MBA in Heritage. 2. The Student can acquire the skill in answering and qualifying the competitive exam and the other necessary examination. 3. They can take up job as Assistant Professor at Colleges, Higher Secondary's and Schools. 4. Students can pursue M. Phil and Ph. D. in Applied areas.

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❖ Course Outcomes of the Commerce Faculty :

Name of the Course	Course Outcomes
B. Com. I – English Comp.	**At the end of the course students will** • Understand the concepts of communication. • Expand their vocabulary after reading the prescribed texts. • Attain writing, speaking, reading, & listening competence.

	• Be aware of the correct usage of English grammar • Become familiar with selected literary forms, develop and strengthen their imaginative ability and the ability to analyze different literary forms.
B. Com. I - Financial Accounting	1. Develop and understand the nature and purpose of financial statements in relationship to decision making. 2. Develop the ability to use the fundamental accounting equation to analyze the effect of business transactions on an organization's accounting records and financial statements. 3. Develop the ability to use a basic accounting system to create (record, classify, and summarize) the data needed to solve a variety of business problems. 4. Develop the ability to use accounting concepts, principles, and frameworks to analyze and effectively communicate information to a variety of audiences. 5. Develop the ability to use accounting information to solve a variety of business problems. 6. Develop the ability to interact well with team members.
B. Com. I - Insurance	1. Students will be aware about Technical matters of claim settlement 2. Students will be capable to understand the insurance practices and its policy 3. Recognise and act within the rules of professional conduct 4. Identify the client’s reasonable expectations as to quality and timeliness of service. 5. Reflect on their learning and identify learning needs.
B. Com. I - Principles of Marketing	1. Students will be aware about Marketing practices available in India 2. Students will be aware about Conceptual and fundamental knowledge of markets and its functioning. 3. Subject will provide package of skills relevant to practice 4. It will provide marketing research methodology.
B. Com. I - Principles of Management	1.Demonstrate professional communication and Behaviour 2. Observe and evaluate the influence of historical forces on the curent practice of management. 3. Identify and evaluate social responsibility and ethical issues involved in business situations and logically articulate own position on such issues. 4. Explain how organizations adapt to an uncertain environment and identify techniques managers use to influence and control the internal environment. 5. Practice the process of management's four functions: planning, organizing, leading, and controlling. 6. Identify and properly use vocabularies within the field of management to articulate one's own position on a specific management issue and

	communicate effectively with varied audiences. 7. Evaluate leadership styles to anticipate the consequences of each leadership style. 8. Gather and analyze both qualitative and quantitative information to isolate issues and formulate best control methods.
B. Com. I - Business Economics	1. Understand comparative advantage. 2. Use supply and demand curves to analyze the impact of taxes etc. on consumer surplus and market efficiency. 3. Understand how to evaluate macroeconomic conditions such as unemployment, inflation, and growth.
B. Com. II – English Comp.	**At the end of the course the students will be –** • Acquire language skills required for day to day and specific purpose. • Be able to interpret and illustrate concepts of Communication, Prose and Poetry. • Be able to analyze and interpret the text prescribed. • Develop certain life skills.
B. Com. II - Corporate Accounting	1.Know the corporate accounting policy 2. Aware students about methods of issue of shares/ debenture 3. Know the financial analysis for comparison
B. Com. II - Money and Financial System	1. Know the fiscal policy of the India 2. Know the banking structure in India 3. Know the monetary policy of the India
B. Com. II - Fundamental of Entrepreneurship	1 Aware student about entrepreneurship culture. 2. Know the theory of entrepreneurship 3. Know the practical know how about project of self-employment
B. Com. II - Business Statistics	1. Make them able to decision maker by using statistical tools like probability , time series , central tendency 2. Aware modern techniques of decision making
B. Com. II - Business Economics	1. Is able to describe and apply an economic science perspective to complex economic problems. 2. Is able to analyse price setting behaviour in different market structures and to assess the impact of different types of government intervention in these markets. 3. Is able to analyse and substantiate, both graphically and verbally, producer behaviour in different market structures. 4. Is able to perform a reasoned welfare economic analysis of the strengths (benefits) and limitations (costs) of different market structures.
B. Com. III - Advanced Accountancy - I	1. Explain and demonstrate accounting practice for equity investments (including accounting for group structures), measurement and disclosure of information, and financial decision making,

	2. Financial Reporting Standards. 3. Identify and explain the conceptual underpinnings for current advanced financial accounting and reporting issues. 4. Identify and explain current issues related to financial accounting and financial reporting. 5. Critically analyze and interpret published financial information.
B. Com. III – Co-operative Development	1. Students will able to know the co-operative movement in India and Maharashtra. 2. Students will be able to know the practices of cooperative institutions. 3. How cooperative organisations are beneficial to weaker section
B. Com. III - Advanced Accountancy –II Auditing and Taxation	**Student Will aware about** 1. Introduction to Tax 2. Tax Compliance, the IRS, and Tax Authorities 3. Tax Planning Strategies and Related Limitations 4. Individual Income Tax Overview 5. Gross Income and Exclusions 6. Individual Deductions 7. Individual Income Tax Computation and Tax Credits 8. Business Income, Deductions, and Accounting Methods 9. Property Acquisition and Cost Recovery 10. Property Dispositions 11. Investments 12. Compensation 13. Retirement Savings and Deferred **Auditing** 1. Is able to discuss and describe auditor's responsibility to detect material misstatements in the financial statements and is able to identify risk areas that pose a major threat to the financial statements. 2. Is able to discuss and describe GAAS and PCAOB Standards and appropriately apply the standards to audit situations. 3. Is able to discuss and describe the various audit reports (opinions) and also identify required audit report from various audit situations.
B. Com. III - Modern Management Practice	1. It will be helpful to know the recent trends in management 2. It will be helpful to know the SWOT Analysis regards to business environment 3. It will be helpful to know the corporate strategy and its benefit 4. It will provide knowledge about ISO and Quality Management.
B. Com. III - Business Economics	1. Subject will be provide the knowledge about economic policy and practices 2. It will be helpful to know the LPG and NEP 1991 and its impact 3. It will be helpful to known the trade cycle in business
B. Com. III - Business Regulatory	1. Students will capable to know the technical grounds of mercantile law and its uses.

Framework	2. Students will capable to know the practices of law.
M. Com. – I ADVANCED ACCOUNTS - I	Course Outcome - On completion of the course: • CO1: Students will be familiar with the conceptual knowledge of advanced accountancy • CO2: Students will be understanding banking system. • CO3: Students will be acquired the knowledge of preparation of final accounts of banking and insurance companies. • CO4: Students will be able to know human resource accounting.
M. Com. – I MANAGEMENT ACCOUNTING - II	Course Outcome - On completion of the course: • CO1: Students will be familiar with the conceptual knowledge of management accounting. • CO2: Students will be understanding concept of cost accounting. •CO3: Students will be acquired the knowledge of preparation budget. CO4: Students will be able to know the cost – profit analysis.
M. Com. - I ADVANCED AUDITING -	Course Outcome - On completion of the course: • CO1: Students will be familiar with the conceptual knowledge of auditing. • CO2: Students will be understanding the concept of Ind. AS. • CO3: Students will be acquired the knowledge of preparation of audit report. • CO4: Students will be able to do special audit.
M. Com. – I BASICS OF GST - IV	Course Outcome - On completion of the course: • CO1: Students will be familiar with the concept of GST. • CO2: Students will be understanding GST working system. • CO3: Students will be acquired the knowledge of preparation GST valuation etc.
M. Com. – I ENTREPRENEURSHIP AND STARTUP (ELECTIVE PAPER)	Course Outcome - On completion of the course: • CO1: Students will be able to guide promoters and key role holders of start-ups for setting up, stabilizing and scaling up of new enterprises with due regard to the dynamics of entrepreneurial ecosystem. • CO2: They will attain abilities to assist the management in implementing innovative ideas for adding values to the products and organization, stabilize operations and scale up with appropriate execution of business plans.

	• CO3: Students will be equipped with skill sets to assist entrepreneurs in leading start-up entities, meeting challenges and mitigating risks by risk-enabled operating strategies, building competitive advantages and adopting measures for result-oriented performance management. • CO4: They will acquire skill set to perform valuation to facilitate fund raising and devising appropriate exit strategies for early-stage investors.
M. Com. – I **On the Job Training**	Course Outcomes • CO1: Expose the students to the real-life situation • CO2: Develop an ability of critical thinking. • CO3: Analyse the problem in an organization and suggest remedial actions • CO4: Gain working knowledge of the job/profession to get insights of the business.
M. Com. – II FORENSIC AUDIT - V	Course Outcome - On completion of the course: • CO1: Distinguish the roles between fraud examiners and forensic accountants; • CO2: Explain the role and ethical and professional obligations of forensic accountants inthe context of investigations and disputes; • CO3: Outline the context of financial crimes and analyses the various types of financial crimes, • CO4: The perpetration and dissipation methods, and lessons learned through real-life case studies; • CO5: Apply the Fraud Risk Management Programme in a real-life context and evaluate red flags signalling the existence of financial crimes; • CO6: Develop a forensic investigation engagement plan; • CO7: Apply the appropriate investigative methodology in the execution of a forensic investigation engagement; • CO8: Demonstrate the effective use of digital forensics and data analytics in investigations. • CO9: Prepare a concise forensic investigation report
M. Com. – II FINANCIAL MANAGEMENT - VI	Course Outcome - On completion of the course: • CO1: Students will be familiar with the conceptual knowledge of financial management. • CO2: Students will be understanding concept of working capital requirement. • CO3: Students will be acquired the knowledge of preparation of capital budgeting. • CO4: Students will be able to know operating and financial leverages.
M. Com. – II	Course Outcome - On completion of the course:

MANAGERIAL DECISIONS ACCOUNTING - VII	• CO1: Students will be familiar with the managerial decision accounting. • CO2: Students will be understanding costing methods. • CO3: Students will be acquired the knowledge of preparation of cost sheet. • CO4: Students will be able to know contemporary issues in the managerial decision accounting.
M. Com. – II INDIAN ACCOUNTING STANDARDS AND PRACTICE (ELECTIVE PAPER)	• CO1: Students will be familiar and acquaint the student the recent developments in International Accounting Standards and various financial reporting practices at the global level. • CO2: Students will be familiar with the IFRS's and their applications in the field business, commerce & industry.

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❖ Course Outcomes of the Arts Faculty :

Name of the Course	Course Outcomes
B. A. I – English Comp.	**At the end of the course students will** • Understand the concepts of communication. • Expand their vocabulary after reading the prescribed texts. • Attain writing, speaking, reading, & listening competence.

	• Be aware of the correct usage of English grammar • Become familiar with selected literary forms, develop and strengthen their imaginative ability and the ability to analyze different literary forms.
B. A. I – English Opt. **Introduction to Language**	**At the end of the course** – •Student will know the nature of human language and animal communication system. • Students will know the characteristics of speech and writing. • Students will be able to identify speech sounds in English. • Students will be able to know speech mechanism. • Students will be able to identify word formation process of a word. • They will be able to coin new words
B. A. I – Marathi Comp. **साहित्य दर्पण**	१) मराठी वाङ्मयातील कथा या मुलभूत वाङ्मय प्रकारची ओळख होण्यास मदत होते. २) कथा, तिचे स्वरूप, घटक आणि प्रमुख प्रकारांचा परिचय विद्यार्थ्यांना होतो. ३) मराठी कथेच्या आजवरच्या वाटचालीचा परिचय विद्यार्थ्यांना होतो. ४) कथेच्या अभ्यासाची दृष्टी विद्यार्थ्यांमध्ये रुजविण्यास सदर अभ्यासक्रमाची मदत होते.
B. A. I – Marathi Opt. **साहित्य रंग**	१) विद्यार्थ्यांना वैचारिक गद्य लेखनाच्या परंपरेची ओळख करून घेता आली. २) विद्यार्थ्यांना ग्रामीण समाज जीवनातील व्यथा- वेदना, रिती, परंपरा, राजकारण, समाजकारण याबाबत माहिती जाणून घेता आली. ३) भटक्या जाती जमातीतील स्त्रियांच्या वेदना समजून घेता आल्या. ४) भारतीय समाज जीवनातील पुरुषी मानसिकतेचे दर्शन समजून घेता येते. ५) मराठीतील चरित्र व आत्मचरित्र लेखन परंपरेचा परिचय विद्यार्थ्यांना करून घेता येतो.
B. A. I – Hindi Comp. **साहित्य सुरभी**	१.साहित्य का स्वरूप तथा उसकी सार्थकता समझ आयी। २.गद्य की विविध विधाओं का परिचय हुआ। ३.कविता का रसग्रहण किया। ४.पारिभाषिक शब्दावली, संक्षेपण, पल्लवन, वृतांत लेखन की कला अवगत हुई।
B. A. I – Hindi Opt. **साहित्य रत्न**	१.साहित्य का स्वरूप तथा उसकी सार्थकता समझ आयी। २.गद्य की विविध विधाओं का परिचय हुआ। ३.कविता का रसग्रहण किया। ४.लिंग, वाचन, कारक, हिंदी वर्णमाला,शब्द भेद, हिंदी अंक लेखन, साक्षात्कार लेखन,

	अनुवाद, वार्ता लेखन की कला अवगत हुई ।
B. A. I – History Opt. Rise of the Maratha Power (1630 - 1707 A.D.)	1. Students will be able to examine institutional basis of Maharashtra. 2. Students will be able the real history of Chhatrapati Shivaji Maharaj and his times. 3. It will help the students to understand the most important and inspiring history of medieval Maharashtra. 4. Students will be able to examine social, economic and religious condit Medieval Maharashtra 5. Students will be able to analyze the civil administration, military administration and judicial system during the 1630 to 1707 A. D.
B. A. I – Politics Opt. Constitutional Government & Democracy in India	1. To acquaint students with the important features of the Constitution of India and with the basic framework of Indian government. **2.** To familiarize students with the working of the Constitution of India.
B. A. I – Education Opt. - Paper I and II Philosophical and Sociological Foundation of Education	**Philosophical Foundation of Education** **: After the completion of B.A. I Education course students will be able to:** 1) Describe the concept of education and philosophy. 2) Illustrate the relation of philosophy with education. 3) Explain the aims, objectives and functions of education. 4) Think critically and discuss different reasons of indiscipline and suggest the remedies on it. 5) Interpret the educational works of different educationists. **Sociological Foundation of Education** **After the completion of B.A. I Education course students will be able to:** 1) Describe the concept of education and sociology. 2) Illustrate the relation of sociology with education. 3) Classify and illustrate the role and importance of social groups in education. 4) Identify and communicate the current social problems relating to education in India and suggest the remedies on it. 5) Identify and illustrate the role & importance of national integration in education.
B. A. I – Economics Opt. Indian Economy	On completion of the course, students will be able to: 1. Understand Characteristics and Problems of Indian Economy. 2. Understand various issues related to Indian Economy. 3. Understand Cooperative Movement in Maharashtra.

B. A. I – Sociology Opt. Principles of Sociology	After the completion of course in Sociology, students will be able to: 1. Communicate orally and in writing about sociological concepts. 2. Identify the causes and consequences of social divisions and inequalities. 3. Explain central concepts of social theory and apply them to social life.
B. A. I – Geography Opt.	After completion of B. A. course in Geography, students will be able to: 1. Understand the background knowledge of Geography and Geology. 2. Identify and communicate some geomorphologic concepts and processes takes place on the earth surface and within the earth crust. 3. Understand the background knowledge of Geography and Climatology. 4. Think critically about atmospheric phenomena. 5. Communicate geographical concepts and data effectively using oral, written and visual forms. 6. Investigate complex real world challenges using appropriate concepts, methods, and tools from one or more geographical sub-disciplines.
B. A. II – English Comp.	**At the end of the course the students will be –** • Acquire language skills required for day to day and specific purpose. • Be able to interpret and illustrate concepts of Communication, Prose and Poetry. • Be able to analyze and interpret the text prescribed. • Develop certain life skills.
B. A. II – English Opt. Paper III and V British Literature	**At the end of the course the students will be** – • Familiar with a few British writers • Familiar with some of the dramas and dramatists • Able to understand the features of the text.
B. A. II – English Opt. Paper IV and VI Indian Writing in English	By the end of the course, students will understand the gradual development of Indian English Literature and they will ● get acquainted with major genres/themes through the study of texts prescribed. ● be familiar with Indian socio-cultural ethos as revealed through texts prescribed and try to correlate it with everyday situations. ● be able to understand and interpret literature on their own and further cultivate interest in the study of literature in English. ● be able to appreciate poems with critical perspectives.
B. A. II – Marathi Comp. Paper III	१) कादंबरी लेखानामागील लेखकाची भूमिका समजून घेता येते. २) गाठ, निरगाठ आणि उकल या लेखन सूत्राचा परिचय होतो.

and V **कादंबरी आणि आत्मकथन**	३) व्यक्ती चित्रांचा परिचय होतो. ४) ग्रामीण समजा जिवांतील कृषी जीवन, निसर्ग, रिती रिवाज आणि परंपरा यांची ओळख होते. ५) आत्मकथा या वाड्मय प्रकारची ओळख होते व समृद्ध अश्या आत्मकथन परंपरेचा परिचय होतो. ६) कादंबरी आणि आत्मकथन या प्रकारची वाड्मयीन मुल्ये समजून घेता येतात.
B. A. II – Marathi Opt. Paper IV and VI **एका वाड्मय प्रकारचा अभ्यास**	१) कविता, नाटक, कथा या वाड्मय प्रकारची स्वरूप व वैशिष्टये जाणून घेता येतात. २) लेखकाची लेखानामागील भूमिका समजून घेता येते. ३) समाज जीवनात आणि राजकारणात असणाऱ्या प्रसिद्ध व्यक्तींची ओळख होते. ४) लेखकाचा, कवीचा जीवन प्रवास लक्ष्यात येतो. ५) विविध उपमा, अलंकार आणि रस विचाराची ओळख होते. ६) कादंबरीचे वाड्मयीन मूल्यमापन करून घेण्याची दृष्टी विकसित होते. ६) कविता या वाड्मय प्रकारचे स्वरूप, वैशिष्टये, वाटचाल, प्रकार व घटक यांचा परिचय विद्यार्थ्यांना करून घेता येतो.
B. A. II – Hindi Opt. **Paper III and V** **आधुनिक हिंदी गद्य : कहाणी एवं व्यावहारिक हिंदी**	१.हिंदी कहानी विधा से परिचित किया | २.हिंदी कहानी के तत्व और स्वरूप को समझाया | ३.छात्रों में राष्ट्रिय, सामजिक एवं मानवी दृष्टिकोण विकसित हुआ | ४.छात्रों में जीवन के प्रति सकारात्मकता निर्माण हुई ५.छात्रों को अपने उत्तरदायित्व के प्रति जागरूक किया | ६.कहानी कला के प्रति अभिरुचि और समीक्षा दृष्टी विकसित हुई	
B. A. II – Hindi Opt. **Paper IV and VI** **मध्ययुगीन हिंदी काव्य : व्याकरण एवं लेखन**	१. भक्तिकाल तथा रीतिकल की सामाजिक परिस्थिति एवं धार्मिक परिवेश से अवगत हुए | २. भाक्तिकालीन काव्य में निर्गुण और सगुण भक्तिधारा का अध्ययन किया | ३. रीतिकाल के माध्यम से श्रृंगार एवं वीर रस का महत्व को समझ गए | ४. रीतिकालीन काव्य के माध्यम से प्रेम भावना को अंकुरित किया | ५.छायावाद तथा प्रगतीवाद के माध्यम से प्रकृति,मानवीय पीडा,संवेदना को सम्मुख रखा | ६.संवैधानिक मूल्यों से छात्रों को परिचित किया
B. A. II – History Opt.	1. Students will be able to understand the contemporary Europe in the light of its

Paper III and V Modern Europe (1750 – 1871 A.D.)	background history. 2. Students will be able to understand rise and growth nationalism in Europe. 3. Students will be able to understand various revolutions and basis of development of European Countries
B. A. II – History Opt. Paper IV and VI Modern India (1857 - 1950 A.D.)	1. Students will be able to understand the major events of India's freedom struggle. 2. Students will be able to understand rise and growth of nationalism in India. 3. It will increase the spirit of healthy Nationalism, Democratic values and secularism among the Students.
B. A. II – Politics Opt. Paper III and V INTRODUCTION TO POLITICAL THEORY	1. This is an introductory paper to the concepts, ideas and theories in political theory. It seeks to explain the evolution and usage of these concepts, ideas and theories with reference to individual thinkers both historically and analytically. **2.** The different ideological standpoints with regard to various concepts and theories are to be critically explained with the purpose of highlighting the differences in their perspectives and in order to understand their continuity and change. **3**. Furthermore there is a need to emphasize the continuing relevance of these concepts today and explain how an idea and theory of yesteryears gains prominence in contemporary political theory.
B. A. II – Politics Opt. Paper IV and VI MODERN INDIAN POLITICAL THOUGHT	**1.** This paper studies the classical tradition in political theory from Raja Rammohan Roy to R.M. Lohia with the view to understand how the great Masters explained and analyzed political events and problems of their time and prescribed solutions. **2.** The texts are to be interpreted both in the historical and philosophical perspectives to understand the universality of the enterprise of political theorizing. The limitations of the classical tradition, namely its neglect of women's concerns and issues. **3**. The legacy of the thinkers is explained with the view to establish the continuity and Change within the modern political thoughts.
B. A. II – Education Opt. - Paper III and V	**Educational Psychology** **After the completion of B.A. II Education course students will be**

Educational Psychology	**able to:** 1) Describe the concept of educational psychology. 2) Compare the study methods of human behaviour. 3) Explain the concept of Intelligence and measure the Intelligence of an individual. 4) Discuss and compare the process of teaching and learning. 5) Identify different aspects of personality and try to develop his/her personality. **Teaching and Learning** **After the completion of B.A. II Education course students will be able to:** 1) Discuss and compare the process of teaching and learning. 2) Classify and illustrate the methods of teaching. 3) Think critically and explain the characteristics of a good teacher. 4) Identify different aspects of children with special needs student and suggest remedies on it.
B. A. II – Education Opt. - Paper IV and VI Development of Education in India	**Education in Ancient and Medieval India** **After the completion of B.A. II Education course students will be able to:** 1) Explain the aims and objectives of education, curriculum and methods of teaching in ancient and medieval era. 2) Discuss the discipline of students and role of teacher in ancient and medieval era. 3) Compare aims of education, curriculums and methods of teaching introduced in ancient and medieval era. 4) Compare the role of students and teacher introduced in ancient and medieval era. **Education in British Period and Post Independence Period** **After the completion of B.A. II Education course students will be able to:** 1) Explain the aims and objectives of education, curriculum and methods of teaching in British and Post-Independence era. 2) Discuss the discipline of students and role of teacher in British and Post-Independence era.

	3) Express the recommendations made by different Commissions like Mudliyar Commission, Kothari Commission and the National Policy on Education 1986 and 1992. 4) Summarize the changes brought by the National Policy on Education 1986 and 1992.
B. A. II – Economics Opt. Paper III and V Democracy	On completion of the course, students will be able to: 1 .Understand various issues related to population in India. 2. Understand various concepts and theories of population. 3. Understand population policy of India.
B. A. II – Economics Opt. Paper IV and VI	1) On completion of the course students will be able to understand various concepts and their of Macro-Economics 2) Understand fiscal policy of India.
B. A. II – Sociology Opt. Paper III and V Indian Society Structure and Change	On completion of the course, students will be able to: 1. Development of civic competencies a sense of informed active citizenship 2. Direction in values formation and moral development: social justice, respect for human life and dignity, and social responsibility 3. Ability to create new knowledge about social reality and become future leaders of communities and the nation, that is, agents of change.
B. A. II – Sociology Opt. Paper IV and VI – Indian Social Problems	On completion of the course, students will be able to: 1. Knowledge of theories, concepts, substantive problems, and methodologies related to sociological practice 2. Understanding of the sociological perspective on human conditions 3. Ability to think critically and creatively and to solve problems using the scientific approach.
B. A. II – **IDS : History of Social Reforms in Maharashtra (1818 – 1970 A.D.)**	1. Understand various social reform movements and contribution of social reformers in Maharashtra. 2. Identify the different types of social problems in our society. 3. Students will be able to examine social background of Maharashtra. 4. It will increase the spirit of humanity, secularism, gender equality among the students.
B. A. II – Environmental Studies	The Environmental Studies major learning outcomes: 1) The Environmental studies major prepares students for careers as leader in understanding and addressing complex Environmental issue from a problem oriented, interdisciplinary, perspective student. 2) Apply system concept and methodologies to analyze and understand interaction between social and Environmental processes. 3) Demonstrate proficiency in Quantitative method Qualitative analysis, critical thinking and written and oral communication needed to conduct higher level work as interdisciplinary scholars.

B. A. III – English Comp.	**By the end of the course** • The students will be able to Use oral and written English effectively. • Appreciate literary language. • Use English language in creative writing• Apply English language skills in clearing competitive examinations.
B. A. III – English Opt. **Paper VII and XII** **Introduction to Literary Criticism**	By the end of the course the students will be able to: Understand the basics of literary criticism • Trace the development of critical practices from traditional criticism. • Read and understand the representative theories/essays. • Know the different critical terms/concepts/trends/movements/schools of Literary. • Criticism Look at a literary piece from different perspectives and relate them.
B. A. III – English Opt. **Paper VIII and XIII** **British Literature**	**By the end of the course the students will:** Gain knowledge about stylistic strategies and diction of British literature. • Be able to explore the creativity and the human experiences in fiction, poetry and drama. Be able to cultivate aesthetic and ethical values in life through literary texts. • Gain knowledge of major trends and traditions of British literature.
B. A. III – English Opt. **Paper IX and XIV** **Indian Writing in English**	**By the end of the course, students will –** • Understand gradual development of Indian English Literature in the latter half of the 20th century. • Get acquainted with important themes & issues through study of texts prescribed. • Get acquainted with Indian ethos as revealed through prescribed texts. • Be able to interpret and analyze on their own & further nurture interest in the study of Indian literatures, especially Indian English Literature.
B. A. III – English Opt. **Paper X and XV** **Literatures in English**	**By the end the course, the students will:** • Understand Literature from the world around. • Understand the salient features of postcolonial fiction and absurd theatre. • Be able to respond critically to world literatures in English. • Get acquainted with different cultures across the world through literature.

B. A. III – English Opt. Paper XI and XVI Introduction to the Structure and Function of Modern English	**By the end of the course.** • The students will be able to: Identify the class of words. • Know the structure and function(s) of phrases and analyze them. • Identify clause elements. • Construct sentences using basic clause patterns. •Use appropriate words and expressions to communicate the prescribed concepts.
B. A. III – Marathi Opt. Paper VII and XII साहित्य समीक्षा	१) साहित्याचा समाज जीवनाशी असणारा संबंध लक्ष्यात येतो. २) प्रत्येक वाङ्मय प्रकाराची वैशिष्टये समजून घेता येतात. ३) संकृत साहित्य आणि मराठी साहित्य यांचा सहसंबंध लक्ष्यात येतो. ४) लेखकाची लेखनामागील भूमिका आणि वाचकाची वाचानामागील भूमिका समजून घेता येते.
B. A. III – Marathi Opt. Paper VIII and XIII मराठी भाषा विज्ञान	१) मराठी भाषा शास्त्राची परंपरा लक्ष्यात येते. २) लेखन हे शास्त्र की कला याचा परिचय होतो. ३) मराठी भाषेतील विविध बोली भाषेचा परिचय होतो. ४) भाषेतील विविध अलंकारांची व छंदाची ओळख होते. ५) शब्द शक्तीचे महत्व व उपयोगिता लक्ष्यात येते. ६) भाषेचे स्वरूप, कार्य, भाषा उत्पतीचे सिद्धांत व भाषाकुल संकल्पना अंगांनी जाणवणारी वैशिष्टये विद्यार्थ्यांना समजण्यास मदत होते. ७) 'मराठीच्या कालिक भेदांचे स्वरूप, प्रांतिक भेद व त्यांची वैशिष्टये विद्यार्थी समजून घेतात. ८) मराठीच्या निवडक बोलींचा परिचय विद्यार्थ्यांना होतो. ९) मराठीवरील अन्य भाषांचा प्रभाव जाणून घेण्यास विद्यार्थी शिकतात.
B. A. III – Marathi Opt. Paper IX and XIV मध्ययुगीन मराठी वाङ्मयाचा विकास	१) मध्ययुगीन मराठी वाद्यमयाच्या इतिहासाचा परिचय विद्यार्थ्यांना होतो. २) विद्यार्थ्यांना मध्ययुगीन मराठी वाङ्मयाच्या निर्मितीमागील प्रेरणा स्वरूप व वैशिष्टये यांचा परिचय करून देता येतो. ३) शाहिरी काव्य आस्वादक क्षमता विद्यार्थ्यांमध्ये निर्माण करण्यास मदत होते. ४) मध्ययुगीन काळातील वारकरी संप्रदायाच्या प्रमुख संत कवींच्या काव्यानिर्मितीचा परिचय करून घेता येतो. ५) मराठी संत परंपरा व महाराष्ट्रातील विविध संप्रदाय यांची ओळख विद्यार्थ्यांना होते. ६) बखर या वाङ्मयनिर्मितीची ओळख करून देता येते तसेच विद्यार्थ्यांना तत्कालीन समाज व्यवस्था व राजकीय स्थितीचे वास्तव रूप समजून घेता येते.
B. A. III – Marathi Opt. Paper X and XV	१) भाषेचे उपयोजन कसे करावे हे लक्ष्यात येते. २) भाषेच्या उपयोजनातून रोजगार निर्मितीकडे कसे जायचे हे लक्ष्यात येते.

उपयोजित मराठी	३) मुलाखतीचे कौशल्य अभ्यासता येते. ४) मुद्रित शोधनाचे महत्व व मुद्रित शोधन करताना कोणती काळजी घ्यावी या संबधीचे ज्ञान होते. ५) स्पर्धा परीक्षेसाठी अभ्यास कासा करावा जे लक्ष्यात येते. ६) म्हणी आणि उखाणे, वाक्यप्रचार यांचे सौंदर्य लक्ष्यात येते.
B. A. III – Marathi Opt. **Paper XI and XVI** **मराठी साहित्यातील विविध वाड्मय प्रकार**	१) ग्रामीण समाज जीवन आणि गावकुसाबाहेर राहणाऱ्या विविध जाती जमाती आणि त्यांचे जगणे समजून घेता येते. २) कविता या वाड्मय प्रकारची स्वरूप व वैशिष्टये लक्ष्यात येतात. ३) कथा, ललित कथेची स्वरूप व वैशिष्टये आणि बदल समजून घेता येतात. ४) स्वातंत्र्यप्राप्ती नंतर या देशातील बदलत्या राजकारणाचा व समाजकारणाचा परिचय होतो. ५) आजच्या चंगळवादी जगात भ्रष्टाचारी भोंदू, भ्रष्ट व्यक्तीचा इत्यादींचा चेहरा सामाजासमोर येतो.
B. A. III – Hindi Opt. **Paper VII and XII** **विशेष लेखक : भगवानदास मोरवाल**	१. भगवानदास मोरवाल के व्यक्तित्व से परिचित हुए । २. भगवानदास मोरवाल के लेखन से परिचित हुए । ३. प्रतिनिधी कहानियों के विषय विविधता से परिचित हुए । ४. शकुन्तिका उपन्यास कि विशेषताओं से परिचित हुए ।
B. A. III – Hindi Opt. **Paper VIII and XIII** **काव्य शास्त्र**	१.साहित्य निर्मिती कि प्रक्रिया का बोध करना । २. काव्य भेदों से अवगत किया । ३. साहित्य की नयी विधाओं का परिचय प्राप्त किया । ४. साहित्यिक उपकरनों का परिचय प्राप्त किया ।
B. A. III – Hindi Opt. **Paper IX and XIV** **आदिकालीन ओर मध्यकालीन हिंदी साहित्य का इतिहास**	१. हिंदी साहित्य की दार्शनिक पूर्व पीठीका से परिचित कराया । २. हिंदी साहित्य के इतिहास का परिचयात्मक अध्ययन किया । ३. हिंदी साहित्य के इतिहास का कालानुरूप विकास का अध्ययन किया । ४. हिंदी साहित्य के इतिहास की कालजयी रचना तथा राचनाकारों का सामान्य परिचय प्राप्त किया ।
B. A. III – Hindi Opt. **Paper X and XV** **प्रयोजन मूलक हिंदी**	१. प्रयोजानमूलक हिंदी की स्वरूपगत विशेषता एवं परिभाषा, अर्थ से परिचत हुआ । २. जनसंचार माध्यमों का परिचय हुआ ।

	३. कार्यालयीन तथा वाणिज्यिक पत्राचार संबंधी क्षमता विकास किया। ४. अनुवाद के अर्थ, स्वरूप, परिभाषा, प्रकारों का परिचय प्राप्त किया।
B. A. III – Hindi Opt. **Paper XI and XVI** **हिंदी भाषा**	१. भाषा के विविध रुपों का परिचय हुआ। २. भाषा विज्ञान का सामान्य परिचय हुआ। ३. हिंदी भाषा एवं लिपि के उदभव और विकास से परिचित हुए। ४. भाषा की शुद्धता के प्रति छात्रों को जागृत किया। ५. मानक हिंदी वर्तनी और व्याकरण से छात्रों को परिचित किया।
B. A. III – History Opt. **Paper VII and XII** **Ancient India (Pre-Historic Period to 650 A.D.)**	1. Students will be able to examine institutional basis of Ancient India. 2. Identify the rulers and their administration. 3. Evaluate the legacy of Buddhism and Jainism. 4. Analyse the features of art and architecture of Ancient India. 5. Students will be able to explain our heritage through cultural aspects of Ancient India.
B. A. III – History Opt. Paper VIII and XIII **Mughal India (1526A.D.-1707A.D.)**	1. Analyse the impact of Mughal rule on Indian polity and society. 2. Assess the economy and religion of Mughal rule. 3. Students will be able to examine social, economic and religious condition in Medieval period 4. Analyse the features of art and architecture of Mughal period.
B. A. III – History Opt. **Paper IX and XIV** **Expansion and Downfall of the Maratha Power (1707-1818 A.D.)**	1. Students will be able to analyse the Marathas policy of expansionism 2. Understand the role played by the Marathas in the eighteenth century polity. 3. Identify the causes of the downfall of Maratha empire. 4. Students will be able to analyse the civil administration, military administration and judicial system during the Peshwa period.
B. A. III – History Opt. **Paper X and XV** **Modern World (1870 - 2000 A.D.)**	1. Students will understand the relations between the nations in the world. 2. Students will study the political, social and economic challenges in the Modern World. 3. Analyse the streamline the role of League of Nations and UNO. 4. Students understand the consequences of the World War l, World War II and Cold War regarding the present global crises.
B. A. III – History Opt.	1. Students will be able to explain what is History? And importance of History.

Paper XI and XVI Historical Sources, Research and Places	2. Identify the different types of primary and secondary sources. 3. Students will be able to examine sources of History. 4. Students will understand the Museum and Historical tourism. 5. Analyse the work of Great historians.

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❖ Programme Specific Outcomes of the Science Faculty :

Name of the Programme	Programme Specific Outcomes
B. Sc. III Microbiology	PSO1: Demonstrate knowledge and understanding of essential facts, concepts, principles and theories relating to Soil Science, Agriculture, Genetics and Plant Breeding, Plant Pathology, and other such areas of agriculture. PSO2: Develop confidence to take up challenging tasks of research in the field of Microbiology. PSO3: Concepts to take up higher studies, set up small scale industries. PSO4: Understanding the value and processes of life-long learning and professional development. PSO5: Apply ethical principles and commit to professional ethics and responsibilities and norms of the scientific practice PSO6: communicate and analyse the core concepts of theory in microbiology (Virology, Immunology, Industrial microbiology, Microbial genetics, Biochemistry, Clinical microbiology). PSO7: Apply basic concepts/ theories of life science for solving current scientific

	and social issues in key fields such as agriculture, Environment, human health, transgenic animals, GMOs and plant disease management PSO8: Plan and design systematic research activities in the field of microbiology including necessary skills for isolating, collecting, processing, browsing and interpreting data. PSO9: Play effective roles in multidisciplinary teams. PSO10: Developing appropriate communication skills for effective transfer of knowledge and technologies through extension programs.
B. Sc. III Mathematics	**PSO1:** A student should be able to recall basic facts about mathematics and should be able to display knowledge of conventions such as notations, terminology. **PSO2:** A student should get adequate exposure to global and local concerns that explore them many aspects of mathematical sciences. **PSO3:** Student is equipped with mathematical modeling ability, problem solving skills, creative talent and power of communication necessary for various kinds of employment. **PSO4:** Student should be able to apply their skills and knowledge that is translate information presented verbally into mathematical form, select and use appropriate mathematical formulae or techniques in order to process the information and draw the relevant conclusion. **PSO5:** Enabling students to develop a positive attitude towards mathematics as an interesting and valuable subject of study.
B. Sc. III Chemistry	PSO1: Student Should Updates their knowledge of Chemistry as per the prescribe curriculum PSO2: Student can become entrepreneur based on their chemistry knowledge PSO3: Students are capable to work on advanced instrument. PSO4: Leaners achieved skill from experiment performance

	provide them good opportunities for industrial placement. PSO5: Students potential exposed to shape their future carrier

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❖ Course Outcomes of the Science Faculty :

Name of the Course	Course Outcomes
B. Sc. I – English Comp.	**At the end of the course students will** • Understand the concepts of communication. • Expand their vocabulary after reading the prescribed texts. • Attain writing, speaking, reading, & listening competence. • Be aware of the correct usage of English grammar • Become familiar with selected literary forms, develop and strengthen their imaginative ability and the ability to analyze different literary forms.
B. Sc. I – Chemistry Physical Chemistry – I	After successful completion of this course, students are expected to: 1. Understand the significance of rates of chemical reactions. 2. Able to understand second law thermodynamics and Carnot cycle and its efficiency. 3. Able to the knowledge of mathematical concepts. 4. Also, get a better understanding gaseous state.
B. Sc. I – Chemistry Inorganic Chemistry - II	After the end of the course, the students can understand: 1. The atomic structure and periodic properties and trends; types of chemical bonding. 2. Key knowledge of ionic bonding and different parameters of crystal structure.

	3. The basic knowledge of the VBT and MOT acquire with various examples.
B. Sc. I – Chemistry Organic Chemistry - III	After the end of the course, student can: 1. Understand the basics of bonding and able to draw correct structure of any organic molecule and comment on its stability. 2. Able to predict the reactivity of organic molecules by the help of electronic effects. 3. Understand the different reactions along with formation of intermediates. 4. Able to think and predict the possible mechanism of various critical organic reactions. 5. Able to imagine 3D structure of organic molecules. 6. Easily comment on aromaticity of any organic compound and its stability 7. Able to distinguish between saturated, unsaturated, alicyclic, aromatic and heterocyclic compounds.
B. Sc. I – Chemistry Analytical Chemistry - IV	After the end of the course, student can: 1. Understand the basic elements present in the organic compounds 2. Able to understand the qualitative analysis methods of C, H, N, S and halogen 3. Easily understand the basic principle and classification of chromatography 4. Able to know paper chromatography and its applications.
B. Sc. I – – Microbiology **Introduction to Microbiology & Microbial Diversity - I**	After completion of B.Sc. Microbiology programme, student will be able to: 1. The students can understand the historical background of microbiology. 2. They can learn about the contribution of different scientist like Louis Pasteur, Franscisco Redii. 3. Discuss the Golden era microbiology, Germ theory of disease and germ theory of fermentation. 4. Describe different branches of microbiology e.g. Water microbiology, Sewage Microbiology, Medical Microbiology and Milk microbiology. 5. The students can grasp the knowledge about the Acellular microorganism like viruses, viroid, prions. 6. Categorize different types of cellular microorganism like mycoplasma, bacteria, algae and fungi. 7. Explain the differences between the prokaryotic and eukaryotic cells.

	8. Understanding the concept of bacterial taxonomy and morphology of bacteria.
B. Sc. I – – Microbiology **Cell cytology and microbial techniques - II**	1. The students can understand indetail about the structure of cell wall, cell membrane and cytoplasm 2. They understanding the ultra-structure of endospore. 3. They can analyse flagella, pili, sphaeroplast and protoplast. 4. The students can figure out the difference between capsule and slime layer. 5. Categorize different types of Microscope and apply it in regular practical's. 6. The students can apply different staining techniques in practical like positive staining, Negative staining, Monochrome staining and Gram Staining. 7. Explain in detail about the different techniques of sterilization process and its application. 9. The students can understand in detail about the chemical agent, physical agents and radiation used in sterilization techniques.
B. Sc. I – – Microbiology **Microbial metabolism and catabolism - III**	1. The students can understand in detail about the structure and function of biomolecules. 2. Gain basic knowledge about bioenergetics. 3. The students can know about the different enzymes which plays important role in metabolic pathways. 4. Explain glycolysis cycle and enzyme involved in glycolysis. 5. They can understand indetail about the nutritional requirement of microorganisms. 6. Preparation of different culture media, and cultivation of microorganisms in Microbiology Laboratory. 7. Explain serial dilution and different methods of pure culture preparation practically in regular practicals in laboratory.
B. Sc. I – Microbiology **Applied Microbiology - IV**	1. The students will learn about the sources of microorganisms in water. 2. They will get idea about the municipal water purification process. 3. Understand the sewage microbiology and treatment of sewage e.g. Primary treatment, Secondary treatment. 4. Explain medical microbiology and related terms. 5. The students will know about the types of infection and types of diseases

	in Medical Microbiology. 6. The students can understand in detail about the mode of transmission of diseases. 7. They can understand about the preventive and control measures for different type's diseases.
B. Sc. I – – Physics Mechanics & Properties of Matter - I	1. Realize the concept of Moment of Inertia and applying them in calculations of the moment of inertia of various systems. 2. Empathize the physics and mathematics of oscillations and to solve the equations of motion for simple harmonic and damped oscillators 3. Sympathize the concepts of energy, work, power, the concepts of conservation of energy and be able to perform calculations using them. 4. See the concepts of elasticity and be able to perform calculations using them. 5. Read the concepts of surface tension and viscosity and be able to perform calculations using them. 6. Gather the concepts of viscosity & fluid dynamics and its application in real life problems. 7. Demonstrate quantitative problem solving skills in all the topics covered.
B. Sc. I – – Physics Optics & Lasers - II	1. Comprehend technical applications of simple optical instruments. 2. Recognize and explain the different optical method of testing and measuring of various physical parameters Understand Fermat's principle, explain about different aberrations in lenses and discuss the method to minimize them. 3. Appreciate the types of eyepieces and construction and working of spectrometer and optical bench for determining various optical values. 4. Learn the phenomenon of interference of light and its formation in thin film, Newton's ring, wedge shaped film etc. due to division of amplitude. Explain Schuster method, Distinguish between diffraction and interference patterns, prism and grating spectra comprehended the basic principle of laser and its parts, the construction and working of He-Ne and Ruby laser. **5.** Solve problems using suitable assumptions and formulae as well as able to assess the results.
B. Sc. I – – Physics	1. Understand Liquefaction of gases by various methods and Properties of

Heat & Thermodynamics – III	Liquid He-II. 2. Apply the laws of thermodynamics to formulate the relations necessary to analyse a thermodynamic process. 3. Analyse the heat engines and calculate thermal efficiency. 4. Analyse the refrigerators and calculate coefficient of performance. 5. Understand property 'entropy' and derive some thermo dynamical relations using entropy concept.
B. Sc. I – Physics Electricity, Magnetisms & Basic Electronics - IV	1. Decipher the concept of Varying Current and applying them in charging and discharging of capacitor and time constant. 2. Aware the concept of AC circuits and different AC bridges. 3. Understand the concepts Magneto statics and applying then to determine magnetic induction and also understand Ballistic Galvanometer theory and its constants. 4. Acknowledge the rectifiers specially Bridge rectifier with filters also different wave shaping circuits. **5.** Discern BJT include its output characteristics under CE and CB mode with application of transistor amplifier
B. Sc. I – Mathematics Algebra – I	At the end of course the student will 1. Understanding the applications of matrices. 2. Understanding how they can calculate roots of a complex numbers. 3.Able to understand basic Maths
B. Sc. I – Mathematics Calculus - II	1. Calculate the limit and examine the continuity of a function at point. 2. Explain the properties of three dimensional shape 3.Able to understand the theorems
B. Sc. I – Mathematics Geometry - III	1. Introduction to analytical geometry of 2 dimensional. 2. Study of lines in 2 and 3 dimension. • 3. Finding equation in various form of line, circle, ellipse, sphere, cones etc. 4. Give the knowledge of geometry using maxima software.

B. Sc. I – Mathematics Differential Equation-IV	**1**. Student will be to understand differentiation and fundamental theorem in differentiation and various rules. **2**.Geometrical representation and problem solving on MVT and Rolls theorem **3.**Finding extreme values of function **4.** Introduction to Ordinary Differential Equation.
B. Sc. I – Zoology **Animal Diversity - I**	1. Student will be able to identify the diversity of animals. 2. Student will be able to understand and classify the diversity of animals. 3. Students will be able to evaluate animal according to the level of Organization, body plan, symmetry, germ layer, coelom developments etc. 4. Student will be able to understand Scientific Research Organizations.
B. Sc. I - Zoology **Animal Diversity – II**	1. Student will be able to understand the importance of Classification of animals. 2. Student will be able to classify them effectively using the six levels of classification.
B. Sc. I – Zoology **Comparative Account of integumentary, skeletal, digestive & respiratory system in Vertebrates**	1. Students will be able to understand the importance of Evolution & Structure of the vertebrates. 2. Compare the bones contain information about people lives such as where they came from, their age at death & which diseases they suffered from. 3. Understand about a person life & about human evolution.
B. Sc. I - Zoology **Gametogenesis & Gastrulation**	1. The successful students will be able to establish research organization with the help of agriculture, environment protection. 2. Students will be able to establish their own industry for transgenic animals, clinical pathology ,genetic counselling ,human karyotyping etc
B. Sc. I – Botany **Microbiology and Phycology - I**	1. The student can understand the basic concept of microbiology. 2. Discuss the types viruses and diversity of bacteria and about the Mycoplasma. 3. Explain the importance of algae 4. The student can analyze about the division Cyanophyta along with example of Nostoc. 5. The student grasps the knowledge about the division Cyanophyta along example of Vaucheria 6. They can understand the division Chlorophyta along with example of

	Spirogyra.
B. Sc. I – Botany **Fungi and Archegoniate – II**	1. Describe the general introduction of true fungi. 2. Discuss about the division of Zygomycotina. 3. The student can understand about the division of Ascomycotina 4. The student gets a detailed idea about Archegoniate 5. Explain the Bryophytes and life cycle of Riccia with its economic 6. They get idea about the Pteridophytes and life cycle of Selaginella with its economic importance. 7. The student can understand about the Gymnosperms and life cycle of Cycas with its economic importance.
B. Sc. I – Botany **Plant Ecology – III**	**1.** They can understand about the Climatic and Edaphic factors of environment. Ecological Adaptations Objective **2.** They know the ecological adaptations in plants. 3. Discuss about the plant communities Ecology 4. The student can understand about the concepts of ecology Ecological succession
B. Sc. I – Botany **Taxonomy of Angiosperms - IV**	1. The student get knowledge about importance of taxonomy Classification 2. They can categorize classification systems in taxonomy 3. They can apply different methods of classification and rules of nomenclature 4. They will know the idea about technique and botanical gardens in India Study of Angiosperm families 5. The student can understand detailed identifying characters of family
B. Sc. I – Statistics - I	At the end of this course students are expected to be able to 1. Acquire knowledge of data and types of data. 2. Prepare frequency distribution and represent it graphically. 3. Compute and interpret various measures of central tendency, dispersion, skewness, kurtosis etc. 4. Analyse qualitative data.
B. Sc. I – Statistics - II	At the end of this course students are expected to be able to 1. Distinguish between random and non-random experiments. 2. Acquire knowledge of concepts of probability. 3. Use basic theorems of probability.

	4. Understand concept of conditional probability and independence of events Contents.
B. Sc. I – Statistics - III	At the end of this course students are expected to be able to 1. Compute correlation coefficient, interpret its value. 2. Compute regression coefficient, interpret its value and use in regression analysis. 3. Compute and interpret various index numbers. 4. Compare various index numbers.
B. Sc. I – Statistics - IV	At the end of this course students are expected to be able to 1. Acquire concept of discrete random variable and its p.m.f. and c.d.f. 2. Compute mathematical expectation of random variable. 3. Acquire knowledge of discrete probability distributions. 4. Apply discrete probability distributions in real life situations.
B. Sc. II – Chemistry Organic Chemistry – V	**Student should learn** 1. Functional group conversions 2. Handling of instruments to develop instrumental skills with respect to industries
B. Sc. II – Chemistry Inorganic Chemistry - VI	**Student should learn** 1. Nomenclature of inorganic and organic compounds and their characterization 2. The basic principles in physical chemistry 3. The basic concepts involved in organic chemistry
B. Sc. II –- Chemistry Physical Chemistry **VII**	**Student should learn** 1. Basic skills of gravimetric and semi micro analysis. 2. The basic principles in physical chemistry 3. The separation and identification techniques for organic compounds.
B. Sc. II – Chemistry Analytical Chemistry – VIII	**Student should learn** 1. Preparation of standard solutions and analytical skills 2. Basics of the chemistry along with the practical applications/skills, industrial usage 3. The principles underlying the different instrumental experiments
B. Sc. II – –	After completion of B.Sc. Microbiology programme, student will be able to:

Microbiology **Batcerial Cytology & Physiology - V**	1) The students can understand the differances between cell organallies. 2) They can learn structure, composition and functions of various organelles present in eubacteria and archaebacteria. 3) They will understand the growth pattern of bacteria and determination of generation time. 4) They can learn about bacterial physiology which comprises Metabolic pathways like EMP, HMP, ED, Phosphoketolase, Glyoxylate, TCA.
B. Sc. II – – Microbiology **Batcerial Genetics - VI**	After completion of B.Sc. Microbiology programme, student will be able to: 1) The students can understand the experimental evidances for nucleic acid as genetic material. 2) Catagrise different forms and structure of DNA. 3) The student will gain a basic understanding on human genetics and hereditary. 4) Classify mutations by type, and describe how mutations are prevented and repaired.
B. Sc. II – – Microbiology **Immunology & Medical Microbiology - VII**	After completion of B.Sc. Microbiology programme, student will be able to: 1) They study immunity, formation of blood, organs of immunity, antigen, antibody, innate immunity, acquired immunity, cell mediated immunity. 2) To make them understand the salient features of antigen antibody reaction & its uses indiagnosties and various other studies. 3) Learn about immunization and their preparation and its importance. 4) The students can understand in detail about the bacterial, fungal and viral diseases. 5) Students will be able to correlate disease symptoms with causative agent, isolate and identify pathogens.
B. Sc. II– Microbiology **Industrial Microbiology - VIII**	After completion of B.Sc. Microbiology programme, student will be able to: 1) Develop an understanding of fermentation & inoculum media, their formulation and principles & techniques of sterilization. 2) Appreciate how microbiology is applied in manufacture of industrial products . 3) They learn methods in discovery of new useful microorganisms and acquire knowledge of the design of Fermentors and process controls. 4) They will understand different types of fermentation processes &

	understand the biochemistry of various fermentations and product recovery methods. 5) Students will understand the importance of application of fermentation technology in large scale production of different microbial products.
B. Sc. II – – Physics General Physics and Sound - V	**After completion of the course the students** 1. Understand vector analysis, differential operators and their physical significance. 2. Understand the concepts of precession, nutation and its applications. 3. Understand the concept of elasticity and its relevance. 4. Understand the concept of viscosity and different viscometer. 5. Illustrate concept of acoustics and its applications. 6. Develop problem solving skills and able to assess the results.
B. Sc. II – – Physics Electronic Devices and Applications - VI	**After completion of the course the students** 1. Understand the basic theory and operation of semiconductor devices used for its circuit applications. 2. Understand the basic circuit concepts and responses. 3. Get hands-on on various electronic circuits and instruments. 4. Get expose to electronics technologies.
B. Sc. II – – Physics Geometrical, Physical and Fibber Optics– VII	**After completion of the course the students** 1. Understand the cardinal points of lens system 2. Understand the phenomenon of interference of light. Michelson's interferometer and F-P interferometer and its applications 3. Understand phenomenon of diffraction of light and use of zone plate 4. Understand concept of resolving power and find R.P of prism and grating 5. Understand polarization, optically active substance and its use in polarimeter 6. Understand of optical fiber and its use in communication system.
B. Sc. II – Physics Modern Physics – VIII	**After completion of the course the students** 1) Understanding of modern theories and evolution of physics from classical to its modern era. 2) Understand the intuitive ideas of the relativity. 3) Understand the nature of light in the form wave-particle duality. 4) Describe crystal structure with X-ray diffraction.

B. Sc. II – Mathematics Differential Calculus – V	**1**. Gain Knowledge of fundamental concepts of real numbers in n dimensions. **2**. verify the value of the limit of a function at a point using the definition of the limit in R*R **3**Find the extreme value in 2 dimensions **4** Study multiple integration.
B. Sc. II – Mathematics Laplace Transform – VI	1. Learn to solve system of linear equation. 2. Learn to solve Diophantine equation. 3. Learn to find roots of polynomial over rational.
B. Sc. II – Mathematics Differential Equations - VII	1. provide the tools to get the easy and precise outcome to various applications of science and technology. 2. Logical development of various algebraic statements can be made to develop the innovative approach of various concepts and it can be applied to various abstract things.
B. Sc. II – Mathematics Abstract algebra-I - VIII	1. Understand the importance of algebraic properties with regard to working within various number systems. 2. Extend group structure to finite permutation groups (Caley Hamilton Theorem). 3. Generate groups given specific conditions. 4. Symmetry using group theory. 5. Understand the three major concrete models of Boolean algebra: the algebra of sets, the algebra of electrical circuits, and the algebra of logic
B. Sc. II – Zoology Cell Biology - V	Students will be able to understand structure &function of different cell organelles &the molecular organization.
B. Sc. II - Zoology Principal of Ecology – VI	Students will be able to understand Biotic & Abiotic Factor,Self employment,research ,& innovation.

B. Sc. II – Zoology **Fundamental of Biochemistry - VII**	Outcomes-Students will be understanding of fundamental biochemical principles such as structure,function of biomolecules,metabolic pathway & regulation of biological,Biochemical Processes.
B. Sc. II - Zoology **Control & Coordination – VIII**	Students will be able to understand the function of important physiological system including digestion,cardio respitarory, muscle,reproductive &endocrine gland.
B. Sc. II – Botany **Plant Anatomy - V**	1) The students can understand about cell structure of Meristem, their role & classification 2) The students can understand about structural organization in plants 3) The students can understand structure, types & functions of simple & complex tissue 4) The students can understand organization of vascular bundle, types of tissue system & their role 5) Students will understand the anatomical features of root & stem. 6) Students will understand the difference in primary & secondary anatomical features of root & stem. 7) Students will understand the anomalous secondary structure of stem & their functions
B. Sc. II – Botany **Plant metabolism – VI**	1) Students will get knowledge about different macro & micro nutrients & its role for plant growth & development 2) Students will understand different enzymes & their mechanism 3) Students will get knowledge about types of growth regulators their biosynthesis & physiological roles for plant development 4) Students get knowledge about importance of nitrogen, types of nitrogen fixation 5) Students get knowledge about types of carbohydrates, its classification & examples
B. Sc. II – Botany **Plant Physiology – VII**	1) Students will get knowledge about Enzymes involved in Photoperiodisim & its role in plant development 2) Students will get knowledge about enzymes involved, process & importance of vernalization. 3) Students will get knowledge about translocation, types of transport , source & sink relationship

	4) Students will get knowledge about light, dark reaction, enzymes involved & its role in plant development 5) Students will get knowledge about process of respiration in plants, enzymes involved & their roles 6) Students will get knowledge about Mechanism of photorespiration & its significance
B. Sc. II – Botany **EMBRYOLOGY OF ANGIOSPERMS** **- VIII**	1) Students will get knowledge about different terms in plant embryology, structure of flower 2) Students will get knowledge about microsporogenesis, megasoporogenesis, development of male, female gamete 3) Students will get knowledge about types of pollination , process of fertilization 4) Embryo, Endosperm Development & Seed and fruit dispersal 5) Students will get knowledge about stages of endosperm development 6) Students will get knowledge about development process of monocot & dicot embryo 7) Students will get knowledge about mechanism of fruit, seed dispersal , agencies & conditions.
B. Sc. II – Statistics - V	By the end of the course students are expected to be able to: a) Understand concept of discrete and continuous probability distributions with real life situations. b) Distinguish between discrete and continuous distributions. c) Find the various measures of random variable and probabilities using its probability distribution. d) Know the relations among the different distributions. e) Understand the concept of transformation of univariate and bivariate continuous random variable.
B. Sc. II – Statistics - VI	By the end of the course students are expected to be able to be: a) Understand the concept of Multiple Linear Regression. b) Understand the concept of Multiple Correlations and Partial Correlation. c) Know the concept of sampling theory. d) Understand the meaning, purpose and use of Statistical Quality Control, construction and working of Shewhart's control charts for variables and

	attributes $ij.k\ ij..$
B. Sc. II – Statistics - VII	By the end of the course students are expected to be able to: a) Know some standard continuous probability distributions with real life situations. b) Distinguish between various continuous distributions. c) Find the various measures of continuous random variable and probabilities using its probability distribution. d) Understand the relations among the different distributions. e) Understand the Chi-Square, t and F distributions with their applications and inter relations.
B. Sc. II – Statistics - VIII	By the end of the course students are expected to be able to: a) Know the concept and use of time series. b) Apply the small sample tests and large sample tests in various situations. c) Understand the need of vital statistics and concept of mortality and fertility.
B. Sc. III : English Comp.	**By the end of the course** • The students will be able to Use oral and written English effectively. • Appreciate literary language. • Use English language in creative writing• Apply English language skills in clearing competitive examinations.
B. Sc. III : Chemistry Physical Chemistry - IX	**On Completion of the course learners will able to understand** – **CO1**: Pure rotational (microwave), Vibrational – rotational (IR) and Raman Spectra. **CO2**: Molar mass determination using colligative properties. **CO3**: Application of collision theory to unimolecular & primolecular reaction & study of kinetics of fast reactions. **CO4**: Measurement of Radioactivity use of radioisotopes, nuclear reactions.. **CO5:** Types of adsorption isotherms. Determination of surface area of an adsorbent using B.E.T. equation. **CO6**: Electrical properties of colloids colloidal electrolyte and surfactants.

B. Sc. III : Chemistry Inorganic Chemistry - X	**On completion of the course learners will able to understand** – **CO1** : Comparative Chemistry of group 16 & 17 **CO2**: Chemistry of inner transition elements & non aqua our solvents. **CO3**: structure of solids w.r.f. packing lattice in space. **CO4:** Bonding in polyatomic space CO5: Basic concept of molecular symmetry with respect to symmetry elements, symmetry elements and point groups.
B. Sc. III : Chemistry Organic Chemistry - XI	**On completion of course learners will be able to understand** – **CO1**: Understand importance of green chemistry. **CO2**: Understand acyl nucleophilic substitution mechanism and stereochemistry of compounds. **CO3**: Understand acyl nucleophilic substitution mechanism and stereochemistry of compounds.
B. Sc. III : Chemistry Analytical Chemistry - XII	**On completion of course learners will be able to understand** – **CO1**: Quality, Quality control, Quality assurance. Sampling of gases, liquids & solids. Preservation of sample. **CO2**: Instrumental methods of analysis – flame photometry, Atomic absorption spectroscopy, Liminescece, Turbidimetry. **CO3**: Chromatography – HPLC, HPTLC.
B. Sc. III : Chemistry Applied Components : **Drug & Dyes - XIII**	**On Completion of course learners will be able to know** – **CO1:** Drugs & their administration. **CO2**: Antipyretic inflammatory, histaminic, cardio vascular, diabetic, Parkinson, respiratory drugs. **CO3**: Dyes, natural & synthetic dyes. Synthesis & uses of dyes.
B. Sc. III : Chemistry Physical Chemistry - XIV	**CO1**: activity, activity coefficient & ionic strength. **CO2**: Chemical cells & concentration cells. **CO3** : Concentration polarization, decomposition potential and overvoltage (Determination of Ed & n) **CO4**: Basic terms & Classification of polymers. Molar masses of polymers & its determination. **CO5**: Methods of preparation, characteristics & application of light emitting polymers**.**

	CO6: antioxidants and stabilizers**.** **CO7:** Classical mechanics and quantum mechanics including boundary conditions, properties of wave function & wave equation concept of operators, Eigen function and Eigen value.. **CO8:** Renewable energy resources solar energy & hydrogen. **CO9:** Principle, instrumentation & applications of NMR & ESR spectroscopy.
B. Sc. III : Chemistry Inorganic Chemistry - XV	**Chemistry On Completion of the course learner will be able to –** **CO1**: Understand Basic concept of CFSE, Geometry of Various transitions. **CO2:** Know Construction of ligand group orbitals, construction of various Complexes, stability, and reactivity of metal complexes. **CO3**: Understand various organometallic compounds, catalyst etc. CO4: Understand chemistry of Gr. 18, Biological importance of metal ions.
B. Sc. III : Chemistry Organic Chemistry - XVI	**On Completion of the course learner will be able to –** **CO1**: Understand stereo chemistry of various reactions. **CO2**: Understand configuration of amino acids, polypeptides & proteins. **CO3:** Understand molecular rearrangements, various types of sugars & their stereochemistry. **CO4:** Understand Spectroscopy. **CO5:** Understand various polymers catalysts and reagents with their effects.
B. Sc. III : Chemistry Analytical Chemistry - XVII	**CO1:** Electro analytical methods polarography, Amperometry. **CO2:** Chromatography – Gas & Ion exchange chromatography. **CO3**: Food and cosmetic chemistry**.** **CO4:** Thermal methods of chemical analysis**.**
B. Sc. III : Chemistry Applied Components Drug & Dyes - XVIII	**CO1:** Discovery & development of drugs, their metabolism**.** **CO2**: Chemotherapeutic agents, anti-amoebic, tubercular, leprotic, neoplastic, HIV drugs. **CO3:** Classification of dyes, their properties and uses. **CO4** : Dyestuff industry

B. Sc. III : Microbiology Virology - IX	After completion of B.Sc. Microbiology programme, student will be able to: 1) The students describe and review the elements of viral life cycle. 2) They can compare and contrast replication mechanism used by viruses relevant for human disease. 3) Compare and contrast methods used for laboratory diagnosis of viral infections. 4) Describe Viral strategies to invade host immune and cellular factors. 5) The students can grasp the knowledge about the techniques in virology. 6) Categorize different types of cancer and characteristics of cancerous cell. 7) study of virally infected lesions of plant materials. 8) Understanding the process of isolation of coliphages from sewage.
B. Sc. III : Microbiology Agricultural Microbiology - X	1) Gain knowledge on several beneficial and harmful micro-organisms. 2) Introduce micro-organism in agricultural system for building a pathway for sustainable agriculture 3) Know the complex interaction between agriculture system and micro-organism. 4) The students can figure out the role of microorganisms in elemental cycles. 5) Categorize different types of composting. 6) Describe Physical and chemical characteristics of soil. 7) Study of plant pathogens. 8) The students can understand in detail about the application of biotechnology in agriculture.
B. Sc. III : Microbiology Immunology - XI	1) Students will understand Immunology lead to careers in infectious diseases, diagnostics, molecular biology, biotechnology, vaccinology, or biosafety and regulation. 2) Students will understand the study of the immune system to improvise health and fight against diseases. 3) Study the physical, biological and chemical processes going on the human body. 4) They understand the specialization is to improve the health system of the human being. 5) The graduates have scope in the field of drugs and vaccine development,

	nutrition and human health and also in ongoing research efforts in immunotherapy, autoimmune diseases, allergies, cancer treatments and vaccines. 6) Understand how the immune system protects us and how it can go wrong and cause disease, as in autoimmune conditions and allergies. 7) Students Learn about ways the immune system can be used to prevent disease and to promote better clinical outcomes, as in vaccines and in situations of transplantation and cancer therapy. 8) Graduated students get employment in government and private research institutes, hospitals, healthcare centres and laboratories.
B. Sc. III : Microbiology **Industrial Microbiology.** **- XII**	1) Understand the instruments, microbial techniques and good lab practices for working in a microbiology laboratory. 2) Students get Practical skills in the laboratory experiments in microbiology. 3) Students will develop knowledge about various types of fermenters used in laboratory and industries. 4) Students will learn the processing and quality control of fermentation products. 5) Students will understand industrially relevant substances developed by microorganisms. 6) Students will be able to work in a variety of fields, including higher education institutions, public health, environmental organizations, and the food, dairy, pharmaceutical, biotechnology industries. 7) They will learn about the special role microbes play in genetic modification technologies. 8) The students will learn about the microorganisms having impact on environment and agriculture.
B. Sc. III : Microbiology **Microbial Genetics - XIII**	1) The students can understand the basic concept of microbial genetics. 2)Browsing the National Centre for Biotechnology Information (NCBI), DDBJ and EMBL websites. 3) The students can know techniques in molecular biology. 4) Explain Operon Concept (Lac operon). 5) They can understand the effects of mutation. 6) Isolation Electrophoretic separation of DNA.

	7) They will be exploring protein sequence database (PDB) and Gene Bank and BLAST 8) They will get idea about the techniques and application of genetic engineering and protein engineering.
B. Sc. III : Microbiology **Environmental Microbiology - XVI**	1)Gain the knowledge on the microorganisms present in the environment 2) They will get idea about the municipal water purification process. 3) Assess the DO, BOD, COD of environmental water. 4) Examine the microorganisms in the environment. 5) Explain in detail about the different techniques of waste water analysis. 6) Formulate methods for exploring microorganism for human benefit. 7) The students can microbiological analysis of drinking water. 8) Prioritize the methods making pollution free environment. 9) Becoming prepared for discussion about advantages and disadvantagesof different hazardous waste management, options, methods and technologies.
B. Sc. III : Microbiology **Clinical Microbiology - XV**	1) Students will gain knowledge about the different cell organelles of microorganisms and their detailed functions. 2) Students will also study the growth and control of microbes as well as different bacteriological techniques involved in microbiology. 3) Students will learn knowledge about bacteria and viruses that can cause infectious disease. 4) Students will understand Reducing waste will not only protect the environment but will also save on costs or reduce expenses for disposal. 5) They learn that Exposure to hazardous biomedical waste can cause disease or injury to human health. 6) Students will learn Proper biomedical waste management is essential to protect the health of healthcare workers, the public, and the environment. 7) Students will understand the pathogenicity is the quality or state of being pathogenic, the potential ability to produce disease, whereas virulence is the disease producing power of an organism, the degree of pathogenicity within a group or species. 8) Students will understand biological weapons can be used for political assassinations, the infection of livestock or agricultural produce to cause food

	shortages and economic loss.
B. Sc. III : Microbiology **Microbial Biochemistry - XVI**	1) Students will use current biochemical and molecular techniques to plan and carry out experiments. 2) Students will learn about enzymes and enzymes kinetics have both biological and chemical attributes. 3) Students will also learn about the process of taking individuals or social groups and absorbing them into mainstream culture. 4) They understand how energy is produced, stored, and used in living organisms. 5) Students will understand the Molecular size, solubility of enzymes. 6) They learn about creating food sources, energy production, and creating large macromolecules. 7) Students also learn about Some products of these processes include amino acids, nucleic acids, the energy-rich molecule ATP, and the simple sugar food source, glucose. 8) Students will Understand the concept about Hypothesis.
B. Sc. III : Mathematics **Algebra-II - IX**	1. Students will be able to define ring and subrings. 2 .Study of ideals and concept related to ideal. 3. Study of various integral domain in ring. 4. Introduction to field
B. Sc. III : Mathematics **Complex - Analysis -II - X**	1. Compute sums, products, quotients, conjugate, modulus, and argument of complex numbers · Define and analyze limits and continuity for complex functions as well as consequences of continuity · 2. Conceive the concepts of analytic functions and will be familiar with the elementary complex functions and their properties ·Determine whether a given function is differentiable, and if so find its derivative. Applies the theory into application of the power series expansion of analytic functions · 3. Understand the basic methods of complex integration and its

	application in contour integration. 4. · Analyze sequences and series of analytic functions and types of convergence, 5. · Evaluate complex contour integrals directly and by the fundamental theorem, apply the Cauchy integral theorem in its various versions, and the Cauchy integral formula.
B. Sc. III : Mathematics **Real-Analysis - XI**	1. Understand Integrability and theorems on integrability. Recognize the difference between point wise and uniform convergence of a sequence of functions. 2. Illustrate the effect of uniform convergence on the limit function with respect to continuity, differentiability, and integrability. 3. Study improper integration using Riemann integration.
B. Sc. III : Mathematics **Partial Differential Equations - XII**	1. Be familiar with the modelling assumptions and derivations that lead to PDEs. 2. Recognize the major classification of PDEs and the qualitative differences between the classes of equations. 3. Be competent in solving linear PDEs using classical solution methods.
B. Sc. III : Mathematics **Metric Spaces – XIII**	1.Able to understand the Euclidean distance function on R n and appreciate its properties, and state and use the Triangle and 2. Reverse Triangle Inequalities for the Euclidean distance function on R n 3.Explain the definition of continuity for functions from R n to R m and determine whether a given function from R n to R m is continuous 4. Explain the geometric meaning of each of the metric space 5.Distinguish between open and closed balls in a metric space 6.Define convergence for sequences in a metric space and 7.Determine whether a given sequence in a metric space converges.
B. Sc. III : Mathematics **Numerical Analysis - XIV**	1. Apply appropriate numerical methods to solve the problem with most accuracy. 2 Using appropriate numerical methods determine approximate solution of

	ODE and system of linear equation. 3Compare different methods in numerical analysis w.r.t accuracy and efficiency of solution.
B. Sc. III : Mathematics **Graph Theory - XV**	1. Understand logical concepts and to show logical equivalences by using truth tables and rules in logics. 2. Learn concept related to counting. 3. Introduction to advanced counting.
B. Sc. III : Mathematics **Integral Calculus - XVI**	1. Student will be to understand differentiation and fundamental theorem in differentiation and various rules. 2. Geometrical representation and problem solving on MVT and Rolls theorem. 3. Finding extreme values of function. 4. Introduction to Ordinary Differential Equation.