

| <b>BACHELOR OF ARTS</b> | <b>Class</b> | <b>Course</b>             | <b>Course Outcomes</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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|                         | <b>FYBA</b>  | <b>Marathi G1</b>         | 1) मराठी भाषा,साहित्य आणि मराठी आणि संस्कृती यांचे अध्ययन करणे<br>2) साहित्य विषयक आकलन ,आस्वाद आणि मूल्यमापन क्षमता विकसित करणे<br>3) साहित्याभासातून जीवनविषयक समाज विकसित करणे<br>4) मराठी भाषेचे उपयोजनात्मक कौशल्य विकसित करणे                                                                                                                                                                                                                                                                                                           |
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|                         | <b>FYBA</b>  | <b>Hindi G1</b>           | 1) छात्रों को हिन्दी साहित्य के गद्य और पद्य रचनाकारों का परिचय तथा ज्ञान प्राप्त हुआ।<br>2) छात्रों में हिन्दी भाषा और साहित्य को समझने , अध्ययन , आस्वादन और मूल्यांकन की क्षमता विकसित हुई।<br>3) छात्रों का साहित्य के अध्ययन से छात्रों का भावनात्मक विकास हुआ।<br>4) छात्रों की संगणक तकनीकी ज्ञान के माध्यम रोजगारक्षम एवं कुशलता में वृद्धि हुई।<br>5) छात्रों का निबंधलेखन ,विज्ञापन लेखनस्व-वृत्तलेखन आदि के माध्यम से लेखनकुशलता में वृद्धि हुई।                                                                                   |
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|                         | <b>FYBA</b>  | <b>COMPULSORY ENGLISH</b> | 1) To expose students to the best examples of prose and poetry in English so that they realize the beauty and communicative power of English.<br>2) To instill human values and develop the character of students as responsible citizens of the world.<br>3) To develop the ability to appreciate ideas and think critically.<br>4) To enhance employability of the students by developing their linguistic competence and communicative skills.<br>5) To revise and reinforce structures already learnt in the previous stages of learning. |
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|  | <b>FYBA</b> | <b>OPTIONAL<br/>ENGLISH</b> | <p>1) To expose students to the basics of literature and language and develop an integrated view about language and literature in them</p> <p>2) To acquaint them with minor forms of literature in English and help them to appreciate the creative use of language in literature</p> <p>3) To introduce them to the basics of phonology of English so that they can pronounce better and speak English correctly.</p> <p>4) To prepare students to go for detailed study and understanding of literature and language</p> <p>5) To enhance the job potential of students by improving their language skills</p> |
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|  | <b>FYBA</b> | <b>ECONOMICS<br/>G1</b>     | <p>1) To familiarize the students with the recent developments in the Indian Economy</p> <p>2) To provide the students with the background of the Indian Economy with focus on contemporary issues like economic environment.</p> <p>3) To help the students to prepare for varied competitive examinations</p> <p>4) To enable students to understand and comprehend the current business scenario, agricultural scenario and other sectorial growth in the Indian context.</p> <p>5) To make the student aware of the developments such as MSMEs, Digital Economy, E-Banking, BPO &amp; KPO, etc.</p>           |
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|  | <b>FYBA</b> | <b>POLITICS G1</b>  | 1) To acquaint students with the important features of the Constitution of India and with the basic framework of Indian government.<br>2) To familiarize students with the working of the Constitution of India.                                                                                                                                                                           |
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|  | <b>FYBA</b> | <b>GEOGRAPHY G1</b> | 1) To introduce the students to the basic concepts in Physical geography.<br>2) To introduce latest concept in Physical geography<br>3) To acquaint the students with the utility and application of Physical geography in different regions and environment.<br>4) To make the students aware about Earth system (Lithosphere, Atmosphere, Biosphere and Hydrosphere)                     |
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|  | <b>FYBA</b> | <b>SOCIOLOGY G1</b> | 1) To acquaint students with basic institutions of Society with its newer dimensions.<br>2) To develop critical understanding of the functioning of social institutions.<br>3) To acquaint students with the concept and current versions of social change.<br>4) To understand the social context of emergence of Sociology.<br>5) To familiarize students with new avenues in Sociology. |
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|  | <b>FYBA</b> | <b>HISTORY G 1</b>  |                                                                                                                                                                                                                                                                                                                                                                                            |
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|  | <b>SYBA</b> | <b>Marathi G2</b>   | 1) कादंबरी या साहित्य प्रकारचे स्वरूप,घटक,प्रकार,आणि वाटचाल समजून घेणे<br>2) भाषिक कौशल्य विकास करणे .<br>3) नेमलेल्या कादंबरीचे आकलन आस्वाद आणि विश्लेषण करणे.<br>4) ललितगद्य या साहित्य प्रकारचे स्वरूप,घटक,प्रकार,आणि वाटचाल समजून घेणे                                                                                                 |
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|  | <b>SYBA</b> | <b>Marathi S1</b>   | 1) आत्मचरित्र ह्या साहित्य प्रकारचे स्वरूप प्रेरणा समजून घेणे<br>2) आत्मचरित्र साहित्य प्रकारचे वाटचाल जाणून घेणे<br>3) नेमलेल्या आत्मचरित्र आकलन आस्वाद आणि विश्लेषण करणे.<br>4) मध्ययुगीन मध्ययुगीन गद्य पद्य साहित्यप्रकाराचे ओळख करून घेणे                                                                                             |
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|  | <b>SYBA</b> | <b>Marathi S2</b>   | 1) साहित्य निर्मिती प्रक्रिया समजून घेणे<br>2) साहित्याची भाषा आणि शैली विषयक विचार समजून घेणे<br>3) साहित्य समीक्षेची संकल्पना स्वरूप यांचा परिचय करून घेणे<br>4) ग्रंथ परिचय परीक्षण यातील फरक समजून घेणे                                                                                                                                |
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|  | <b>SYBA</b> | <b>Marathi SEC</b>  | 1) प्रकाशन व्यवहार आणि संपादन यासाठी आवश्यक कौशल्य प्राप्त करणे<br>2) प्रकाशन व्यवहार आणि संपादन यासाठी आवश्यक प्रशिक्षण घेणे<br>3) जाहिरात ,मुलाखत लेखन आणि संपादन यासाठी आवश्यक कौशल्य प्राप्त करणे<br>4) जाहिरात ,मुलाखत लेखन आणि संपादन यासाठी आवश्यक प्रशिक्षण घेणे                                                                   |
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|  | <b>SYBA</b> | <b>MIL -Marathi</b> | 1) प्रगत भाषिक कौशल्य क्षमता विकसित करणे<br>2) प्रसार माध्यमासाठी लेखन क्षमता विकसित करणे<br>3) नव माध्यम आणि समाज माध्यम विषयक साक्षरता निर्माण करणे<br>4) नव माध्यम आणि समाज माध्यम विषयक लेखन क्षमता निर्माण करणे                                                                                                                       |
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|  | <b>SYBA</b> | <b>Hindi G2</b>     | 1) छात्रों को हिन्दी के प्रतिनिधि कहानिकारों और कवियों का परिचय तथा ज्ञान प्राप्त हुआ।<br>2) छात्रों में हिन्दी कहानी और कविता को समझने , अध्ययन , आस्वादन और मूल्यांकन की क्षमता विकसित हुई।<br>3) छात्रों का संक्षेपन लेखन काबोध हुआ।<br>4) छात्रों को मोबाईल की भाषा तकनीकी ज्ञात हुई।<br>5) छात्रों को शब्दयुग्म का ज्ञान प्राप्त हुआ। |
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|  | <b>SYBA</b> | <b>COMPULSORY ENGLISH</b>  | <p>1) To expose students to the best examples of literature in English and to contribute to their emotional quotient as well as independent thinking.</p> <p>2) To instill universal human values through best pieces of literature in English</p> <p>3) To develop effective communication skills by developing ability to use right words in the right context.</p> <p>4) To enhance employability of the students by developing their basic soft skills</p> |
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|  | <b>SYBA</b> | <b>OPTIONAL ENGLISH G2</b> | <p>1) To familiarize students with the various components of language.</p> <p>2) To develop overall linguistic competence of the students.</p> <p>3) To introduce students to some advanced areas of language study.</p> <p>4) To prepare students to go for detailed study and understanding of language.</p> <p>5) To enhance communicative skills of students by developing insight into the working of language.</p>                                       |
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|  | <b>SYBA</b> | <b>OPTIONAL ENGLISH S1</b> | <p>1) To introduce Drama as a major form of literature</p> <p>2) To introduce minor forms of Drama</p> <p>3) To acquaint and enlighten students regarding the literary and the performing dimensions of drama</p> <p>4) To acquaint and familiarize the students with the elements and the types of Drama</p> <p>5) To encourage students to make a detailed study of a few sample masterpieces of English Drama from different parts of the world</p>         |

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|  | <b>SYBA</b> | <b>OPTIONAL<br/>ENGLISH S2</b>  | <ol style="list-style-type: none"> <li>1. To acquaint students with the terminology in poetry criticism</li> <li>2. To encourage students to make a detailed study of a few sample masterpieces of English poetry</li> <li>3. To enhance students awareness in the aesthetics of poetry and to empower them to read, appreciate and critically evaluate poetry independently.</li> </ol>                                                                                                               |
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|  | <b>SYBA</b> | <b>OPTIONAL<br/>ENGLISH SEC</b> | <ol style="list-style-type: none"> <li>1. Enhancing the skill of using English for everyday communication</li> <li>2. To acquaint the students with the verbal and nonverbal communication</li> <li>3. To create opportunities to access exposure of speaking in various contexts</li> <li>4. To acquaint and familiarize the students with soft skills</li> <li>5. To develop interest among the students to interact in English</li> </ol>                                                           |
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|  | <b>SYBA</b> | <b>ECONOMICS<br/>G2</b>         | <ol style="list-style-type: none"> <li>1) To understand fundamentals of modern financial system.</li> <li>2) To understand the recent trends and developments in banking system.</li> <li>3) To understand the role of the Reserve Bank of India in Indian financial system.</li> <li>4) To provide the knowledge of various financial and non-financial institutions.</li> <li>5) To provide the students the intricacies of Indian financial system for better financial decision making.</li> </ol> |
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|  | <b>SYBA</b> | <b>POLITICS G2</b>  | 1) Important sub themes of Political Science as a discipline<br>2) Approaches to study Political Science<br>3) Basic Concepts and Values in Political Science                                                                                                                                                                       |
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|  | <b>SYBA</b> | <b>POLITICS S1</b>  | 1) Major traditions of thought that have shaped political discourse in different parts of the world.<br>2) The great diversity of social contexts and philosophical visions.<br>3) The history of political thought as a series of critical, interconnected and open-ended conversations about the ends and means of the good life. |
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|  | <b>SYBA</b> | <b>POLITICS S2</b>  | 1) Complex relationship between the communication, media and power politics.<br>2) Critical appraisal of practices of political image management, campaigns, propaganda and censorship.<br>3) Indian context of political Journalism                                                                                                |
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|  | <b>SYBA</b> | <b>POLITICS SEC</b> | 1) To acquaint students with the important features of the Constitution of India and with the basic framework of Indian government.<br>2) To familiarize students with the working of the Constitution of India.                                                                                                                    |
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|  | <b>SYBA</b> | <b>GEOGRAPHY<br/>G2</b> | 1) To create the awareness about dynamic environment among the student.<br>2) To acquaint the students with fundamental concepts of environment geography for development in different areas.<br>3) To acquaint students about the past, presents and future utility and potentials of natural resources.<br>4) To make aware students about the problems of environment, its utilization and conservation in the view of sustainable development.<br>5) To make aware the students about the problems of environment , their utilization and conservation in the view of sustainable development |
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|  | <b>SYBA</b> | <b>SOCIOLOGY<br/>G2</b> | 1) To introduce the significance of population studies and explain theories and basic concepts.<br>2) To understand the impact of population on various institutions of society.<br>3) To introduce students to various debates around sources of population data.<br>4) To understand the importance of population studies for policy and development.<br>5) To familiarise students to the dynamics of Indian Population.                                                                                                                                                                       |
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|  | <b>SYBA</b> | <b>HISTORY G2</b>  | <p>1) "History of Modern India" topic as a part of History is a very important section as far as the Syllabus of any competitive examination is possible, especially Civil Services exams.</p> <p>2) Students understand of the stages of development in Modern India, why certain events happened and analysis of the consequences of such developments that paves an impact on our society, economy and our political system.</p> <p>3) Modern Indian history Importance For competitive examination.</p> |
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|  | <b>SYBA</b> | <b>HISTORY S1</b>  | <p>1) Ancient Indian history is very importance for UPSC Examination.</p> <p>2) When students doing study of ancient Indian history that time they know about original culture religion and society.</p> <p>3) Increasing student's wideness.</p> <p>4) Student capable for discuss any Social issue.</p>                                                                                                                                                                                                   |
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|  | <b>SYBA</b> | <b>HISTORY S2</b>  | <p>1) Students got knowledge of concept History of modern Maharashtra.</p> <p>2) Modern Maharashtra history is useful to student for MPSC examination.</p> <p>3) National and social movement in Maharashtra Introduced to students.</p> <p>4) Student got knowledge of Maharashtra Philosophers and their philosophy</p>                                                                                                                                                                                   |
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|  | <b>SYBA</b> | <b>HISTORY SEC</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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|  | <b>TYBA</b> | <b>Marathi G3</b>         | 1) आधुनिक मराठी साहित्यातील विविध साहित्य प्रकारचा परिचय वाढविणे<br>2) निबंध व प्रवासवर्णन या साहित्यप्रकाराचे तात्विक विवेचन करणे<br>3) भाषेचे यथोचित आकलन करण्याची यथायोग्य क्षमता विकसित करणे<br>4) ग्रंथ परीक्षणाची आवड निर्माण करणे                                                                                                                                                                                  |
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|  | <b>TYBA</b> | <b>Marathi S3</b>         | 1) साहित्याचे स्वरूप समजून घेणे.<br>2) साहित्याचे प्रयोजन समजून घेणे.<br>3) साहित्य निर्मिती प्रक्रिया समजून घेणे.<br>4) साहित्याची भाषा समजून घेणे.                                                                                                                                                                                                                                                                      |
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|  | <b>TYBA</b> | <b>Marathi S4</b>         | 1) स्वननिर्मिती प्रक्रिया समजून घेणे.<br>2) मराठीची रुपिम व्यवस्था समजून घेणे .<br>3) भाषा कुल संकल्पना समजून घेणे.<br>4) भाषा विज्ञान संकल्पना समजून घेणे                                                                                                                                                                                                                                                                |
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|  | <b>TYBA</b> | <b>Hindi G3</b>           | 1) छात्रों को हिन्दी की आत्मकथाकारों का परिचय तथा ज्ञान प्राप्त हुआ।<br>2) छात्रों में हिन्दी आत्मकथा तथा काव्य नाटक को समझने , अध्ययन , आस्वादन और मूल्यांकन की क्षमता विकसित हुई।<br>3) छात्रों को प्रवृत्तिका के विविध पहलुओं का ज्ञान प्राप्त हुआ।<br>4) छात्रों में अनुवादकरनेका कौशल विकसित हुआ।<br>5) छात्रों को शब्दयुग्म का ज्ञान प्राप्त हुआ।                                                                   |
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|  | <b>TYBA</b> | <b>COMPULSORY ENGLISH</b> | 1) To introduce students to the best uses of language in literature.<br>2) To familiarize students with the communicative power of English<br>3) To enable students to become competent users of English in real life situations<br>4) To expose students to varied cultural experiences through literature<br>5) To contribute to their overall personality development by improving their communicative and soft skills |
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|  | <b>TYBA</b> | <b>OPTIONAL<br/>ENGLISH G3</b> | 1) To expose students to some of the best samples of Indian English Poetry<br>2) To make the students see how Indian English poetry expresses the ethos and culture of India<br>3) To make them understand creative uses of language in Indian English Poetry<br>4) To introduce students to some advanced areas of language study<br>5) To prepare students to go for detailed study and understanding of literature and language<br>6) To develop integrated view about language and literature among the students. |
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|  | <b>TYBA</b> | <b>OPTIONAL<br/>ENGLISH S3</b> | 1) To introduce students to the basics of novel as a literary form<br>2) To expose students to the historical development and nature of novel<br>3) To make students aware of different types and aspects of novel<br>4) To develop literary sensibility and sense of cultural diversity in students<br>5) To expose students to some of the best examples of novel                                                                                                                                                   |
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|  | <b>TYBA</b> | <b>OPTIONAL<br/>ENGLISH S4</b> | 1) To introduce students to the basics of literary criticism<br>2) To make them aware of the nature and historical development of criticism<br>3) To make them familiar with the significant critical approaches and terms<br>4) To encourage students to interpret literary works in the light of the critical approaches<br>5) To develop aptitude for critical analysis                                                                              |
|  |             |                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|  | <b>TYBA</b> | <b>ECONOMICS<br/>G3</b>        | 1) Understand the differences between Economic growth and Development, Indicators of Economic Development.<br>2) Understand Characteristics of Developing Countries.<br>3) Understand Constraints on Development Process.<br>4) Understand theories and Approaches of economic development.<br>5) Understand some growth models<br>6) To understand macroeconomic policies, roll of foreign capital and economic planning etc. in developing countries. |
|  |             |                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|  | <b>TYBA</b> | <b>POLITICS G3</b>             | 1) To introduce the students to the structure of Local Self Government of Maharashtra.<br>2) To make students aware of the various Local Self Institutions, their functions, compositions and importance.<br>3) To identity the role of Local Government and Local Leadership in development.                                                                                                                                                           |
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|  | <b>TYBA</b> | <b>POLITICS S3</b> | <p>1) Students enable to explain the role of British imperial on local government in India.</p> <p>2) Students enable to understand the contributions of various committees on local government.</p> <p>3) Students enable to describe the features and provisions of Constitutional Amendment Acts regarding Local Government Institutions.</p> <p>4) Students enable to equip the learner to play an active and responsible leadership role in the functioning of Local Government Institutions.</p> <p>5) Students enable to describe the significance and role of Grama Sabha in Maharashtra.</p>                                                                          |
|  |             |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|  | <b>TYBA</b> | <b>POLITICS S4</b> | <p>1) Students enable to demonstrate understanding of various activities of governmental administrators that fall under the rubric of public administration to include rule-making, ratemaking, and other regulatory activities, policy making and the delivery of services and programs</p> <p>2) Students enable to understand the 20th century emergence of the modern administrative state as a result of the technological, social, economic and political pressures that have emerged in national industrialized and developed complex, interdependent systems.</p> <p>3) Students enable to understanding of public administration as a career field in government.</p> |
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|  | <b>TYBA</b> | <b>GEOGRAPHY<br/>G3</b> | 1) Understand the relationship of man and environment<br>2) Study of human evolution and races of man kinds.<br>3) Understand the concept of Determinism, Posibilism and Stop and Go determinism.<br>4) Understand the modes of life of Bhill, gonad, Nagas and Tribes in India<br>5) Importance of Right to Information Acts.<br>6) Understand the history of population<br>7) Study of distribution and density of population.<br>8) Get knowledge of population theories.<br>9) Study types, cause, effects of migration. |
|  |             |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|  | <b>TYBA</b> | <b>SOCIOLOGY<br/>G3</b> | 1) To acquaint the students with recent trends in criminology, changing profile of crime and criminals.<br>2) To prepare the students for professional roles of correctional agents in agencies of criminal justice administration.                                                                                                                                                                                                                                                                                          |
|  |             |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|  | <b>TYBA</b> | <b>HISTORY G3</b>       | 1) Students got knowledge of concept in world history.<br>2) Students got global event knowledge it is use for increased intellectual level.<br>3) World trend of thinking, Marxist, Communalism, Dictatorship, Empearalism, Nazizum, fascism, Terrorism, Feminism, Globalization, etc introduced to Students.                                                                                                                                                                                                               |
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|                            | <b>TYBA</b>  | <b>HISTORY S3</b>         | <ol style="list-style-type: none"> <li>1. Students known source of history,</li> <li>2. Practically student known to how much write history.</li> <li>3 Increased the knowledge of research in history</li> <li>4. Students know external and internal Criticism.</li> <li>5 Students know historian works.</li> </ol>                                                                                                                                                                                                           |
|                            |              |                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                            | <b>TYBA</b>  | <b>HISTORY S4</b>         | <ol style="list-style-type: none"> <li>1) Students know history of America.</li> <li>2) Concept of American history introduced to Students</li> <li>3) Students know causes of Great Depression and policy of New Deal and Fear Deal.</li> <li>4) Students know American politics in world.</li> <li>5) Students got knowledge of international relation with America.</li> </ol>                                                                                                                                                |
| <b>Bachelor of Science</b> | <b>FYBSC</b> | <b>Physical Chemistry</b> | <ol style="list-style-type: none"> <li>1) Students will be able to apply thermodynamics principles to physical and chemical process.</li> <li>2) Students to understand exergonic and endergonic reaction.</li> <li>3) Students to understand concept to ionization process occurred in acids, bases and pH scale.</li> <li>4) students will be able to apply third law of thermodynamics and its applications.</li> <li>5) Students to understand degree of hydrolysis and pH for different salts, buffer Solutions.</li> </ol> |

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|  |  | <b>Organic Chemistry</b>            | <p>1) students are expected to understand the fundamentals, principles and recent development in subject area.</p> <p>2) To create foundation for research and development in chemistry.</p> <p>3) Discuss stereochemistry, configuration and conformation.</p> <p>4) Distinguish between alkanes, alkenes and alkynes.</p> <p>5) It is expected to inspire and boost interest of the students towards chemistry as the main subject.</p> |
|  |  | <b>Chemistry Practical Course-1</b> | <p>1) To understand chromatographic techniques for separation of constituents of mixtures.</p> <p>2) Importance of chemical safety and lab safety while performing experiments in laboratory.</p> <p>3) To prepare buffer solutions.</p> <p>4) Elemental analysis of organic compounds.</p> <p>5) To know techniques of PH measurements.</p>                                                                                              |
|  |  | <b>Inorganic Chemistry</b>          | <p>1) Students applied various theories and to reveal atomic structure.</p> <p>2) Design skeleton of long form of periodic table.</p> <p>3) Discuss assumption and need of VSEPR theory.</p> <p>4) Write name symbol and electronic configuration.</p> <p>5) Explain characteristics of types of bonds.</p>                                                                                                                               |
|  |  | <b>Analytical Chemistry</b>         | <p>1) Relation between molecular formula and empirical formula.</p> <p>2) Basics of chromatography and types of chromatography.</p> <p>3) Working of pH meter.</p> <p>4) To solve stoichiometric problems.</p> <p>5) To understand separation of binary mixtures and analysis.</p>                                                                                                                                                        |

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|  |              | <b>Chemistry Practical</b>               | 1) Preparations and mechanisms of reactions involved.<br>2) Analysis of commercial products.<br>3) Inorganic estimations using volumetric analysis.<br>4) Purification of organic compounds.<br>5) It would help in development of practical skills of the students.                                                                          |
|  | <b>SYBSC</b> | <b>Physical and analytical chemistry</b> | 1) Explain factors affecting rate of reaction.<br>2) Apply adsorption process to real life problem.<br>3) Solve problems applying equations.<br>4) Perform calculations involved in volumetric analysis.<br>5) To prepare standard solution and perform standardization of solutions.                                                         |
|  |              | <b>Inorganic and Organic Chemistry</b>   | 1) Draw and explain molecular orbital energy level diagram for homo and hetero diatomic molecules.<br>2) Apply IUPAC nomenclature to co-ordination compound.<br>3) Give the mechanisms of reactions involved.<br>4) To correlate reagent and reactions.<br>5) Identify and draw the structures of compounds.                                  |
|  |              | <b>Chemistry Practical-3</b>             | 1) Understand systematic methods of identification of substance by chemical methods.<br>2) Write balanced equation for the chemical reactions performed in the laboratory.<br>3) Set up the apparatus properly.<br>4) Systematic working skill in laboratory will be imparted in student.<br>5) Verify theoretical principles experimentally. |

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|  |              | <b>Physical And Analytical chemistry</b> | 1) Discuss meaning of phase component and degree of freedom.<br>2) Derive distribution law and its thermodynamics proof.<br>3) Apply conductometric methods of analysis to real problem in analytical laboratory.<br>4) Explain construction and working of colorimeter.<br>5) Explain separation of ionic substances.                                    |
|  |              | <b>Inorganic and Organic Chemistry</b>   | 1) Students will able to explain different types of isomerism in coordination complexes.<br>2) Explain limitations of valence bond theory.<br>3) Calculate field stabilization energy and magnetic moment for various complexes.<br>4) Perform inter conversion of functional group.<br>5) Draw the structures of different conformations of cyclohexane. |
|  |              | <b>Chemistry Practical - 4</b>           | 1) Perform organic and inorganic synthesis.<br>2) Set up the apparatus properly for the designed experiment.<br>3) Correlate the theory of the experiments.<br>4) Perform the quantitative chemical analysis of substances and able to explain principles behind it.<br>5) Explain practical output with the help of theory.                              |
|  | <b>FYBSC</b> | <b>MATHEMATICS</b>                       |                                                                                                                                                                                                                                                                                                                                                           |

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|  |  | <b>MT-111</b><br><b>Algebra</b> | <p>1) Students should be able to recall basic facts about mathematics, solve various properties of integers and use the basic concepts of divisibility, congruence and their application.</p> <p>2) Students will be able to apply mathematical induction and well ordering principle.</p> <p>3) Students will be able to solve problems based on division algorithm, greatest common divisor, Euclid lemma.</p> <p>4) Students will be able to learn fundamental number of arithmetic prime numbers, Euclid lemma, congruence and basic properties of congruence.</p> <p>5) Student will be able to learn sum and product moduli of complex number.</p> <p>6) Students will be able to learn roots of complex numbers, <math>n</math>th roots of unity.</p> |
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|  |  | <b>MT-112-<br/>Calculus-1</b>                | <p>1) students should identify algebraic and order properties of <math>\mathbb{R}</math>, well ordering property of <math>\mathbb{N}</math> and bernoulli's inequality.</p> <p>2) students will learn and identify the absolute value functions and its property, triangle inequality and example based on it</p> <p>3) Students will be familiar about this sequences and their limits, limits theorem, monotone sequence and weierstrass theorem.</p> <p>4) Verify the values of limit of functions at a point using the definition of limit.</p> <p>5) Learn about continuous functions with examples ,properties of continuous functions, boundedness theorem the minimum- maximum theorem.</p> <p>6) Students will know about all the intermediate value theorem, continuous functions maps closed bounded interval to bounded interval.</p> |
|  |  | <b>MT-113-<br/>Mathematics<br/>Practical</b> | <p>1) Students should get a relational understanding of mathematics concepts and consent structures and should be able to follow the patterns involving mathematical reasoning.</p> <p>2) Students will be able to learn the art of problem solving in various field of algebra and calculus.</p> <p>3) Students will learn to solve problems based on sets relation equivalence classes and partition of sets.</p> <p>4) Can solve problem based on mathematical induction well-ordering property absolute value and real line.</p> <p>5) Student will be able to learn and solve the problems on absolute value of a real line completeness property of <math>\mathbb{R}</math>, applications of supremum property.</p>                                                                                                                         |

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|  |  | <b>MT-121-<br/>Analytical<br/>Geometry</b> | <p>1) students will be able to learn about change of axes translation and rotation.</p> <p>2) Able to solve problems on reduction to standard form, centre of conic.</p> <p>3) Learn direction cosines and direction ratios, equation of planes, normal form, plane passing through three noncollinear points.</p> <p>4) Learn distance of point from a plane distance between parallel line system of planes</p> <p>5) Can solve and understand the concepts related to problems based on equation of sphere in different forms, plane sections and sphere equation of circle, intersection of sphere and line.</p>                      |
|  |  | <b>MT-122--<br/>Calculus -2</b>            | <p>1) Students will know the techniques of integration and differentiation of function with real variables.</p> <p>2) Students will be familiar with mean value theorem, intermediate value theorem, derivatives of inverse function.</p> <p>3) identify and apply l'hospital rule Taylor's theorem and maclaurin theorem with Lagranges form of remainder.</p> <p>4) students will learn the types of differential equations and solve differential equations such as exact differential equation, student will able to learn and solve problems on equation of a linenonhomogeneous and linear and Bernoulli differential equation.</p> |

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|  |                  | <b>MT-123-<br/>Mathematics<br/>Practical</b> | <p>1) Students will solve problems on equation of a line in symmetric and unsymmetrical forms ,line passing through two points angle between a line and a plane.</p> <p>2) Solve problems on derivative mean value theorem.</p> <p>3) student will learn the concepts and solve problems on plane passing through three noncollinear points intercept form angle between two planes.</p> <p>4) Can solve problems regarding l'hospital rules indeterminate form ordinary differential equation.</p> <p>5) Can solve problems on equation of a sphere in differential form, equations of a circle in two section of a sphere and a line.</p> |
|  | <b>S.Y.B.Sc.</b> | <b>MATHEMATICS</b>                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

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|  |  | <b>Numerical Methods and its Applications.</b> | 1) Display knowledge of convention such as Error and their computations, Bisection method, The method of false position, Newton - Raphson method.<br>2) student will be able to learn forward, Backward differences and shift operator Study Newton's Interpolation Formulae and Lagrange's Interpolation Formula<br>3) student will be able to learn concept of Numerical Differentiation, Numerical Integration and General quadrature formula. Solving problem on Trapezoidal rule, Simpson's 1/3rd rule and Simpson's 3/8th rule<br>4) Using appropriate numerical methods determine approximate solution of ODE and system of linear equation. Compare different methods in numerical analysis w.r.t accuracy and efficiency of Solution. |
|  |  | <b>Mathematics Practical</b>                   | 1) Learn Maxima software.<br>2) Problem solving on Calculas of several Variables And Numerical Analysis and it's Applications by using Maxima software.<br>3) Knowledge of Application of Mathematics.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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|  |  | <b>Vector<br/>Calculus</b>       | <p>1) Introduction to some definition Curves in Space, Limits and Continuity, Derivatives and Motion, Differentiation Rules for Vector Function, Vector Functions of Constant Length Gain knowledge of Integrals of Vector Functions, Arc Length along a Space Curve, Speed on a Smooth Curve Tangent vector Different curves.</p> <p>2) Learn concept of line Integral of Scalar Functions, Additivity, Line integral in the Plane, Vector Fields, Gradient Fields, Line Integral of Vector Fields, Line Integrals with respect to <math>dx</math>, <math>dy</math>, <math>dz</math>. Problem solving of Work done by a Force over a Curve in Space, Flow Integrals and Circulation for velocity Fields, Flow across the Simple Closed Plane Curve, Path Independence, Conservative and Potential Functions And Green's Theorem.</p> <p>3) Explain the definition of Parameterizations of Surfaces, Implicit surfaces, Surface integrals, Orientation of Surfaces, Surface Integrals of Vector Fields. Student will be able to solved the problem on surface Integrals.</p> <p>4) Able to understand the The Curl Vector Field, Stokes' Theorem, Conservative Fields and stokes' Theorem. Introduction to divergence in three Dimensions, Divergence Theorem and learn unifying the integral theorems.</p> |
|  |  | <b>Mathematics<br/>Practical</b> | <p>1) Learn Maxima software.</p> <p>2) Problem solve on Linear Algebra and vector calculus by using maxima software.</p> <p>3) Problem solving on Algebra and calculus.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

|  | <b>F.Y.B.sc</b> | <b>Zoology</b>                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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|  |                 | <b>Animal Diversity 1 &amp; 2</b> | <p>CO 1) Student should be able to understand the animal diversity around us.</p> <p>CO 2) The learner know the importance of classification of animals.</p> <p>CO 3) The students be aware of classification using the six levels of classification.</p> <p>CO 4) The student should be able to realize his role in nature as a protector, preserver &amp; promoter of life.</p> <p>CO 5) The students should be recognize importance of systematics.</p>                                                                               |
|  |                 | <b>ANIMAL ECOLOGY</b>             | <p>1) The working in nature to save environment will help development of leadership skills to promote betterment of environment.</p> <p>2) The learner appreciates the diversity of ecosystem.</p> <p>3) The learner understand the local lifestyle &amp; problems of the community.</p> <p>4) The student should analyze &amp; evaluate natural resources issues &amp; act on a lifestyle that conserves nature.</p> <p>5) The learner will be able to link the interactions of food chains, food webs and link it with human life.</p> |
|  |                 | <b>ZOOLOGY PRACTICAL PAPERS</b>   | <p>1) The learner understand the knowledge of Invertebrate phylum's.</p> <p>2) Students realize importance of classification.</p> <p>3) The students will be able to classify animals around us.</p> <p>4) Students understand the structure of animal cells &amp; various cell organelles by using microphotographs.</p> <p>5) Students should understand the terminology needed in classification.</p>                                                                                                                                 |

|  | S.Y. B.Sc. | (ZOOLOGY)               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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|  |            | <b>ANIMAL DIVERSITY</b> | <p>1) The students will be able to understand different life functions of higher vertebrates.</p> <p>2) Students should be able to classify &amp; identify the diversity of higher vertebrates.</p> <p>3) Students should recognize the complexity of higher vertebrates.</p> <p>4) The students should be able to appreciate the linkage among different groups of vertebrates.</p> <p>5) The students should realize his role &amp; responsibility towards nature as a protector, trustee and conservator of life, which he has achieved by learning, observing and understanding life.</p> |
|  |            | <b>APPLIED ZOOLOGY</b>  | <p>1) The learner understands the basics about beekeeping tools, equipment &amp; managing beehives.</p> <p>2) The students should know the basic information about fishery.</p> <p>3) The learner should recognize cultural, harvesting method of fishing and fish preservation techniques.</p> <p>4) The learner realize basic technique of sericulture.</p> <p>5) The learner be aware about biology &amp; verities of silkworms.</p> <p>6) The student should identify types of agricultural pests &amp; pest control practices.</p>                                                       |

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|  |                | <b>ZOOLOGY<br/>PRACTICAL<br/>PAPERS</b>     | <p>1) The student should be aware of identification and classification of higher vertebrates.</p> <p>2) The student should realize the use of equipments in sericulture.</p> <p>3) The learner Should know the circulatory &amp; digestive system of rat, its structure and function.</p> <p>4) The students should be able to control agricultural pests.</p> <p>5) The learner should be able to handle Apiculture, Sericulture &amp; fishery industries.</p> |
|  | <b>F.Y.Bsc</b> | <b>Botany</b>                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|  |                | <b>Plant life and<br/>utilization I</b>     | <p>1) Study general outline of plant kingdom.</p> <p>2) Study of cryptogams to understand their diversity.</p> <p>3) Know life cycle pattern of cryptogams (Algae, Lichens, Fungi &amp; Bryophytes).</p> <p>4) Know the systematics, morphology &amp; Structure of Algae, Fungi, lichens &amp; Bryophytes.</p> <p>5) Understand the utilization of Algae, Fungi, lichens &amp; Bryophytes.</p>                                                                  |
|  |                | <b>Plant<br/>morphology<br/>and Anatomy</b> | <p>1) Understand the basic taxonomy &amp; plant morphology.</p> <p>2) Learn about the reproductive parts of plants.</p> <p>3) Know the vegetative characteristics of plants.</p> <p>4) Study of importance of anatomy in taxonomy, physiology &amp; pharmacognosy &amp; weed identification.</p> <p>5) Know different types of tissues.</p>                                                                                                                     |

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|  |  | <b>Practical based<br/>on BO 111 &amp;<br/>BO 112</b> | <ol style="list-style-type: none"> <li>1) Understand plant identification.</li> <li>2) Study vegetative analysis techniques.</li> <li>3) To provide scientific knowledge about diversity of plants.</li> <li>4) Understand the structure &amp; function of plant parts.</li> <li>5) Know mushroom cultivation.</li> </ol>                                                                                                            |
|  |  | <b>Plant life and<br/>utilization II</b>              | <ol style="list-style-type: none"> <li>1) Systematic study of gymnosperms &amp; angiosperms.</li> <li>2) Useful in visual identification of various plants.</li> <li>3) Understand morphological &amp; reproductive characters of spermatophytic plants.</li> <li>4) Understand economic importance of gymnosperms &amp; angiosperms.</li> <li>5) Study utilization of Pteridophytes, gymnosperms &amp; angiosperms.</li> </ol>      |
|  |  | <b>Principals of<br/>plant science</b>                | <ol style="list-style-type: none"> <li>1) Know scope &amp; importance of plant physiology.</li> <li>2) Understand plant &amp; water relation.</li> <li>3) Understand biochemistry of cell &amp; cell biology gives knowledge about cell organelles &amp; their functions.</li> <li>4) Study of central dogma of molecular biology.</li> <li>5) Study of different types of chromosomes.</li> </ol>                                   |
|  |  | <b>Practical based<br/>on BO 121 &amp;<br/>BO 122</b> | <ol style="list-style-type: none"> <li>1) Understand visual identification of various plants.</li> <li>2) Study different morphological &amp; reproductive characters of plants.</li> <li>3) Know Bentham &amp; Hooker's system of classification.</li> <li>4) Study utilization &amp; eco. Importance of angiosperms.</li> <li>5) Study of preparation of slides-meiosis.</li> <li>6) Understand estimation of pigments.</li> </ol> |

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|  | <b>sybsc</b> | <b>Botany</b>                               | 1) Systematic study of angiosperms.<br>2) Understand the morphological and reproductive characters of spermatophyte plants.<br>3) Study concept of botanical nomenclature.<br>4) Know the biotic and abiotic component of ecosystem.<br>5) Understand diversity among various group of plant kingdom.<br>6) Food web food chain in ecosystem |
|  |              | <b>Plant Physiology</b>                     | 1) Know scope and important of plant physiology.<br>2) Understand plant a water relation.<br>3) Understand process of respiration growth a development process in plant.<br>4) To know physiology of flowering of plant.<br>5) Study transpiration process.                                                                                  |
|  |              | <b>Practical based on BO 231 and BO 232</b> | 1) To understand description of flowering plant with botanical terms.<br>2) To study ecological adaptation in plant group.<br>3) To study plant family.<br>4) Understand study of vegetation by list count quadrat method.<br>5) Understand determination of rate of transpiration, WHC & PH of soil, DPD.                                   |
|  |              | <b>Plant Anatomy and Embryology</b>         | 1) Understand epidermal and mechanical tissue system.<br>2) To understand normal and anomalous secondary growth.<br>3) Know the microsporangium and male gametophyte.<br>4) Know the megasporangium and female gametophyte.<br>5) Understand pollination and fertilization process.                                                          |

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|  |                | <b>Plant Biotechnology</b>                  | 1) Understand tissue culture techniques.<br>2) Understand the concept of bioinformatics genomics and proteomics.<br>3) Understand the concept of bioremediation.<br>4) Know the single cell protein.<br>5) Understand the plant genetic engineering.                                                                                |
|  |                | <b>Practical based on BO 241 and BO 242</b> | 1) To study different tissue system.<br>2) To study tetrasporangiate anther and type of ovule.<br>3) To study normal secondary growth and anomalous secondary growth in plant.<br>4) Know the equipment instrument used in plant tissue culture laboratory.<br>5) Understand laboratory cultivation of Spirullina.                  |
|  | <b>Physics</b> | <b>FYBSC</b>                                |                                                                                                                                                                                                                                                                                                                                     |
|  |                | <b>Mechanics and properties of matter</b>   | 1) Through understanding about work, energy, force, velocity, acceleration, which helps students in their day to day life<br>2) The information will teach the students about the rotating bodies<br>3) Get the knowledge about surface tension, viscosity and application of the elasticity and surface tension in day to day life |

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|  |  | <b>Physics principle and application</b> | 1) To understand different model of atom.<br>2) To understand the prerequisites and working principle and application of LASER.<br>3) To study different types of bonding in solid.<br>4) To demonstrate and understanding of electromagnetic wave and it's spectrum and its application.<br>5) Develop quantitative and qualitative analysis and problem solving skills of structure. |
|  |  | <b>Physics laboratory - 1A</b>           | 1) To understand the mechanics and properties of matter and physics principles experimentally                                                                                                                                                                                                                                                                                          |
|  |  | <b>Heat and thermodynamics</b>           | 1) Study the laws of thermodynamics.<br>2) To understand different types of thermometry.<br>3) To study mechanics of refrigeration.                                                                                                                                                                                                                                                    |
|  |  | <b>Electricity and magnetism</b>         | 1) To study the concept of the electrostatic like electric force field and potential for stationary charges.<br>2) To study columb's laws & gauss laws.<br>3) To understand dielectric phenomenon and effect of electric field on dielectric.<br>4) To understand the biot-savart and ampers critical laws.<br>5) To study types and properties application of magnetic material.      |
|  |  | <b>Physics laboratory</b>                | 1) To understand the heat and thermodynamics and electricity and magnetic experimentally.                                                                                                                                                                                                                                                                                              |

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|  | <b>S.Y.B.sc</b> | <b>mathematical<br/>method in<br/>physics</b> | 1) To understand the content of complex algebra.<br>2) To understand the concept of partial differentiation equation and their application in physics.<br>3) To understand the concept of singular points of differential equation.<br>4) To understand vector algebra useful in mathematics and physics.<br>5) To Understand the role of partial differential equations in physics. |
|  |                 | <b>Electronic</b>                             | 1) To understand diferent theorems laws to electrical circuits .                                                                                                                                                                                                                                                                                                                     |
|  |                 |                                               | 2)To understand the working principle of transistor op-amp.                                                                                                                                                                                                                                                                                                                          |
|  |                 |                                               | 3)To understand relation in electricity.                                                                                                                                                                                                                                                                                                                                             |
|  |                 |                                               | 4)To study number system and logic gates.                                                                                                                                                                                                                                                                                                                                            |
|  |                 |                                               | 5)To understand the Boolean algebra and logic circuits.                                                                                                                                                                                                                                                                                                                              |
|  |                 |                                               |                                                                                                                                                                                                                                                                                                                                                                                      |
|  |                 | <b>Practical<br/>laboratory 2A</b>            | 1) It has been able to handle the various instrument and equipments.<br>2) To understand and investigate of an experiment.<br>3) Setup experimental equipment to implement an experimental approach.<br>4) Analyze the data, plot appropriate graphs and reach conclusions from data analysis.<br>5) Work in a group to plan, implement and report on a project/experiment.          |

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|  |  | <b>Oscillation Waves and Sound</b>       | 1) To study basic parameter of sound waves.<br>2) To study the motion of different oscillator.<br>3) To study the mathematical aspects of waves.<br>4) To study underlying principle of oscillation and its scope in development.<br>5) To study characteristics of sound, decibel scale and application.                                                                   |
|  |  | <b>Optics</b>                            | 1) To study basic of optics.<br>2) To study the different phenomenon of light waves and application.<br>3) To analyze simple example of interference and diffraction.<br>4) Acquire the basic concept of wave optics.<br>5) Describe how light can constructively and destructively interfere.<br>6) Explain why a light beam spread out after passing through an aperture. |
|  |  | <b>Practical course lab</b>              |                                                                                                                                                                                                                                                                                                                                                                             |
|  |  |                                          |                                                                                                                                                                                                                                                                                                                                                                             |
|  |  | <b>Fundamentals of Computer</b>          | 1) Define working of computers and peripherals, types of software and languages<br>2) Troubleshoot the computer systems and use utility software.<br>3) Choose commands and features of operating systems and application software.<br>4) Use open source software                                                                                                          |
|  |  | <b>Problem Solving and C Programming</b> | 1) Define algorithms and explain their characteristics<br>2) Formulate algorithm and draw flow chart to solve a given problem<br>3) Explain use of appropriate data types, control statements<br>4) Demonstrate ability to use top-down program design                                                                                                                      |

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| <b>Applied Mathematics</b>                  | 1) Relate and apply techniques for constructing mathematical proofs and make use of appropriate set operations, propositional logic to solve problems<br>2) Use function or relation models to interpret associated relationships<br>3) Apply basic counting techniques and use principles of probability<br>4) Given a data, compute various statistical measures of central tendency<br>5) Use appropriate Sampling techniques                  |
| <b>Business Communication</b>               | 1) Apply business communication strategies and principles to prepare effective communication for domestic and international business situations<br>2) Identify ethical, legal, cultural, and global issues affecting business communication.<br>3) Participate in team activities using collaborative work skills.<br>4) Communicate via electronic mail, Internet, and other technologies.<br>5) Deliver an effective oral business presentation |
| <b>Fundamentals of Computers Laboratory</b> | 1) Install operating system and execute various commands<br>2) Effectively use various features of application software<br>3) Create and use spreadsheets effectively<br>4) Prepare effective Presentation                                                                                                                                                                                                                                        |
| <b>C Programming Laboratory</b>             | 1) Formulate an algorithm and draw flowchart for the given problem.<br>2) Implement the given algorithm in C<br>3) Write programs using appropriate data types and control structures in C                                                                                                                                                                                                                                                        |

**FY BCA**

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| <b>Applied Mathematics Laboratory</b>    | 1) Apply mathematical and statistical concepts to solve problems<br>2) Use R to perform statistical operations and data visualization                                                                                                                                                                            |
| <b>Business Communication Laboratory</b> | 1) Effectively listen to lectures, public announcements and news on TV and radio.<br>2) Engage in telephonic conversation.<br>3) Communicate effectively and accurately in English<br>4) Use spoken language for various purposes<br>5) Demonstrate ability to prepare documents used in business correspondence |
| <b>Computer Organization</b>             | 1) Design of combinational circuits<br>2) Design of sequential circuits<br>3) Explain block diagram of CPU, Memory and types of I/O transfers                                                                                                                                                                    |
| <b>Advanced C Programming</b>            | 1) Write programs using pointers, structures and unions<br>2) Use Pre-processor directives<br>3) Manipulate strings using library functions<br>4) Write programs to perform operations on Files                                                                                                                  |
| <b>Operating Systems Concepts</b>        | 1) explain basic concepts of operating system<br>2) use basic Linux commands and Linux documentation<br>3) write shell scripts                                                                                                                                                                                   |
| <b>Database Management Systems – I</b>   | 1) Design E-R Model for given requirements and convert the same into database tables.<br>2) Formulate database queries using SQL<br>3) Design a database in appropriate normal form                                                                                                                              |

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| <b>Bachelor of<br/>Computer<br/>Applications</b> |  | <b>Computer Organization Laboratory</b>           | 1) Design and implement combinational circuits<br>2) Design and implement sequential circuits<br>3) Translate real world problems into digital logic formulations                                                                                                                                 |
|                                                  |  | <b>Advanced C Programming Laboratory</b>          | 1) Write programs using pointers, structures and unions<br>2) Use Pre-processor directives<br>3) Manipulate strings using library functions<br>4) Write programs to perform operations on Files                                                                                                   |
|                                                  |  | <b>Operating Systems Laboratory</b>               | 1) Install Linux and packages, configure environment<br>2) Use commands and editors and use documentation<br>3) Configure Security and network environment                                                                                                                                        |
|                                                  |  | <b>Database Management Systems – I Laboratory</b> | 1) Prepare E-R Diagram for the given problem statement<br>2) Formulate appropriate SQL DDL Queries<br>3) Formulate appropriate SQL DML Queries                                                                                                                                                    |
|                                                  |  | <b>Data Structures</b>                            | 1) Apply appropriate data structures for the given problem.<br>2) Design an efficient algorithm for the given problem.<br>3) Determine the time and space complexity of a given algorithm.                                                                                                        |
|                                                  |  | <b>Database Management Systems – II</b>           | 1) Formulate SQL queries using advanced SQL features.<br>2) Perform Database operations using PL/PostgreSQL.<br>3) Compare and contrast different concurrency control and recovery techniques.<br>4) Apply mechanisms for database security.<br>5) Analyze various database system architectures. |

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| <b>Computer Networks</b>                                | 1) Analyze the requirements for a given organization and select appropriate network architecture, topologies, transmission mediums and technologies.<br>2) Analyze data flow between TCP/IP model using Application, Transport and Network Layer Protocols.<br>3) Illustrate applications of Computer Network.<br>4) Compare and contrast different routing and switching algorithms |
| <b>Data Structures Laboratory</b>                       | 1) Apply appropriate data structures for the given problem.<br>2) Design an efficient algorithm for the given problem and implement it using C Programming.<br>3) Determine the time and space complexity of a given algorithm.                                                                                                                                                      |
| <b>Database Management Systems-II Laboratory</b>        | 1) Formulate SQL queries using advanced features.<br>2) Write stored procedures, cursors and triggers using PL/Postgre SQL.<br>3) Design a database using database normalization technique.                                                                                                                                                                                          |
| <b>Computer Networks and Web Programming Laboratory</b> | 1) Use Networking commands, identify network devices and topology<br>2) Design a website using HTML and CSS.<br>3) Write java scripts<br>4) Interpret and formulate XML queries                                                                                                                                                                                                      |
| <b>Object Oriented Programming and C++</b>              | 1) Compare and contrast procedural and object oriented programming<br>2) Apply principles of OOP<br>3) Design and develop applications using object oriented programming language C++                                                                                                                                                                                                |

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| <b>Web Technology</b>             | 1) Develop web based application using suitable client side and server side web technologies.<br>2) Build Dynamic web site using server side PHP Programming and Database connectivity.<br>3) Build applications using AJAX and XML                                                                                                                   |
| <b>Software Engineering</b>       | 1) Compare and contrast various Software Engineering models<br>2) Decide on appropriate process model for a developing a software project<br>3) Classify software applications and Identify unique features of various domains<br>4) Prepare System Requirement Specification (SRS) for the given problem<br>5) Design and analyze Data Flow diagrams |
| <b>C++ Programming Laboratory</b> | 1) Compare and contrast procedural and object oriented programming<br>2) Apply principles of OOP<br>3) Design and develop applications using object oriented programming language C++                                                                                                                                                                 |
| <b>Web Technology Laboratory</b>  | 1) Design and implement static and dynamic websites using appropriate client side and server side technologies.<br>2) Build Dynamic web site using PHP Programming and Database connectivity.<br>3) Build applications using AJAX and XML and web services.                                                                                           |

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|  |               | <b>Python Programming Laboratory</b>        | 1) Write programs using Python programming constructs.<br>2) Develop applications using Python programming.                                                    |
|  | <b>TY BCA</b> | <b>Java Programming</b>                     | 1) Know the basic concept of Java Programming.<br>2) Understand how to use programming in day to day applications.                                             |
|  |               | <b>Web Technology</b>                       | 1) know & understand concepts of internet programming.<br>2) Understand how to develop web based applications using PHP.                                       |
|  |               | <b>Dot Net Programming</b>                  | 1) Student Will able to do visual programming and event driven programming practically.<br>2) This will enhance applications development skill of the student. |
|  |               | <b>Object Oriented Software Engineering</b> | 1) Understand concept of system design using UML.<br>2) Understand system development through object oriented techniques.                                      |
|  |               | <b>Advanced Web Technologies</b>            | 1) Know & understand and able to implement concepts of internet programming.<br>2) Understand and implement the concepts of XML and AJAX.                      |
|  |               | <b>Advanced Java</b>                        | 1) Able to implement concept of Java Programming.<br>2) To understand how to use programming in day to day applications.<br>3) To develop programming logic.   |
|  |               | <b>Recent Trends in IT</b>                  | 1) To introduce upcoming trends in Information technology.<br>2) To study Eco friendly software development.                                                   |
|  |               | <b>Software Testing</b>                     | 1) To know the concept of software testing.<br>2. To understand how to test bugs in software.<br>3. To develop programming logic.                              |
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