

**PROGRAMME OUTCOMES:**

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| <b>2.6 Student Performance and Learning Outcomes</b> |
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| <b>Department of Chemistry</b>                       |

| <b>Department of Chemistry</b>  |  |
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| <b>Programme Outcomes<br/>And<br/>Programme Specific<br/>Outcomes</b> | The purpose of the undergraduate chemistry program is to provide the key knowledge base and laboratory resources to prepare students for careers as professionals in the field of chemistry, industrial chemistry for graduate study in chemistry, biological chemistry and related fields. To inculcate the scientific temperament in the students and outside the scientific community.  |
|   | Able to analyse soil, water, fertilizers, fuel, cement, paints and pigments, to gain knowledge in spectroscopical methods. There is scope for problems identification, problem solving, self expression, crisis management, interacting and involving in the community & enterprising presentation. To explain nomenclature, stereochemistry, structures, reactivity, and mechanism of the chemical reactions. Understand good laboratory practices and safety. At the end of three years, the students will be equipped with a certificate with the conventional degree in science. |

| <b>Course Outcomes</b>  |  |
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| <b>Course</b>   | <b>Outcomes</b>  |
| BSc I – DSC-CHEM-IA<br>Inorganic:<br>Atomic<br>Structure, Chemical Periodicity,<br>Chemical bonding and<br>Molecular structure, Ionic<br>Bonding, Covalent bonding,<br>Molecular Orbital approach.<br>Organic:<br>Fundamentals of Organic<br>Chemistry, Stereochemistry,<br>Aliphatic Hydrocarbons,<br>Alkanes, Alkenes, Alkynes. | It is provide a great deal of information about Properties of Electrons, Protons and Neutrons. Gives the Meaning of Atomic Number and Atomic mass and Isotopy.<br>Periodicity provides the location of elements and properties of elements.<br>Chemical bond is the attraction between atoms, ions or molecules that enables the formation of compounds.<br>To gives the idea about some fundamental topics of Organic chemistry such as Aromaticity, Nucleophile, Electrophile, cleavage of bonds and Huckel's rule.<br>Students will understood the Conformations of organic compounds and Isomerism in Organic compounds.<br>Students experience types of Hydrocarbons and properties of different type of hydrocarbons |

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| <p>BSc II – DSC-CHEM-IB</p> <p>Physical:<br/>Thermodynamics and the laws of Thermodynamics, Ionic Equilibria.</p> <p>Inorganic: s-Block elements.</p> <p>Organic:<br/>Aromatic hydrocarbons, Alkyl halides, Aryl halides, Alcohols, Phenols, Ethers, Aldehydes, ketones.</p> | <p>. To understand the term Thermo dynamics and general characteristics of laws of thermodynamics</p> <p>To understand the types of Electrolytes, properties of different types of electrolytes.</p> <p>To understand the general characteristics of the s-block elements.</p> <p>To give an elementary idea of Aromatic hydrocarbon and its reactions.</p> <p>To impart the students a thorough knowledge about structures and properties of Alkyl halides, Aryl halides, Alcohols, Phenols, Ethers, Aldehydes and Ketones.</p> |
| <p>BSc III – DSC-CHEM-IC</p> <p>Physical<br/>Solutions, phase equilibrium, conductance, electrochemistry, p-block elements,</p> <p>Organic:<br/>Amines and diazonium salts, Amino Acids, peptides and proteins, Carbohydrates</p>  | <p>It gives a thorough knowledge of solutions, its laws, miscibility of liquids and the effect of temperature on miscibility.</p> <p>It gives thorough knowledge of phase equilibrium and conductance of Solution. To have an idea about the important aspects of electrochemistry.</p> <p>To give an elementary idea of amines and Diazonium salts, amino acids, peptides and proteins, to have an overview of different structure of proteins.</p> <p>It gives basic knowledge on carbohydrates.</p>                           |
| <p>BSc IV – DSC-CHEM-ID</p> <p>Transition elements<br/>Coordination chemistry<br/>Crystal field theory<br/>Physical chemistry;<br/>Kinetic theory of gases<br/>Liquids<br/>Solids<br/>Chemical kinetics</p>  | <p>To understand the general characteristics of the d and f block elements.</p> <p>It gives an elementary idea of VBT, and crystal field theory.</p> <p>. To provide an insight into the kinetic aspects, chemical equilibrium of reactions and gases.</p> <p>To enable them understand about the properties of liquids like viscosity, surface tension.</p> <p>It gives an elementary idea of solids, X-Ray crystallography.</p>  |
| <p>BSc V-SEC-CHEM-1</p> <p>Basic analytical chemistry<br/>Analysis of soil<br/>Analysis of water<br/>Analysis of food products<br/>Chromatography</p> <p>BSc V-SEC-CHEM-2</p> <p>Pharmaceutical Chemistry and Fermentation.</p>  | <p>It gives an insight of Analytical data, errors.</p> <p>It gives a knowledge of analysing soil, water and food products.</p> <p>To give students a comprehensive understanding of principles of chromatography</p> <p>.</p> <p>It gives a basic knowledge of design and development of drugs and<br/>The types of fermentation.</p>  |

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| <p>BSc V – DSE-CHEM-I<br/>Evaluation of analytical data,<br/>Gravimetric Analysis,<br/>Spectroscopic Analysis,<br/>Organometallic compounds,<br/>Heterocyclic compounds,<br/>Colligative properties and<br/>Thermodynamics-II</p>   | <p>. To understand the thorough knowledge of theoretical aspects of analytical data, theory of gravimetry analysis, Heterocyclic compounds, Grignard reagent and Sulphur compounds.<br/>To impart the students a thorough knowledge about the selected heterocyclic compounds, various organic synthesis.<br/><br/>It gives an elementary idea of the characteristics, fundamentals of NMR Spectroscopy and Colligative properties.</p>                                 |
| <p>BSc VI –SEC- CHEM-3<br/>Fuel Chemistry<br/><br/>BSc VI –SEC- CHEM-4<br/>Chemistry of Cosmetics and<br/>Perfumes.</p>   | <p>To provide an insight into the fuel chemistry, i.e. coal and petrochemical chemistry and Lubricants.<br/><br/>To make students capable of understanding the concept of cosmetics, its preparation and perfumes.</p>  |
| <p>BSc VI – DSE-CHEM-2<br/>Industrial Chemistry, Oils, fats,<br/>Soaps and detergents, Synthetic<br/>polymers, Synthetic<br/>dyes, Alkaloids, Terpenes, Hormones<br/>and Vitamins, Protection and<br/>deprotection of functional groups.<br/>PHYSICAL CHEMISTRY<br/>Molecular<br/>spectroscopy, Electrochemical<br/>Energy sources and Radiation<br/>chemistry.</p> | <p>It enables them to have an Industrial knowledge of cement, ceramics, paints and pigments.<br/>To get an overview about the chemotherapy &amp; soaps and detergents.<br/>It gives knowledge of synthesis of polymers, dyes.<br/>To impart essential theoretical knowledge on Alkaloids, Terpenes, Hormones and Vitamins.<br/>It gives an insight about Molecular spectroscopy, about dry cell and secondary cell.<br/>It throws knowledge on Radiation Chemistry.</p> |

| <b>Department of Commerce</b>   |  |
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| <b>Programme Outcomes</b>   | Develops management skills.  |
|   | Develops entrepreneurial ability   |
|   | Develops numerical ability.  |
|   | Well familiar with business regulatory framework   |
|   | Having basic knowledge of important business laws and basic principles of economics.   |
|   | Develops basic computer skills, programming skills and accounting information system with Tally.   |
| <b>Programme Specific Outcomes</b>  | To build strong foundation of knowledge of commerce in different areas.  |
|   | To develop the skills of various technical uses in commerce.   |
|   | To develop an attitude of strong morale in staff competition.  |
|   | To promote students about entrepreneurial development.   |
|   | To develop a strong platform of commerce activities.   |
|   | To develop quality leadership in financial area.   |
|   | Students will be able to demonstrate progressive learning of various tax issues and tax forms related to individuals, students will be able to demonstrate knowledge in setting up a computerized set of accounting books. |
|   | Students will demonstrate progressive affective domain development of values, the role of accounting in society and business.  |
|   | Students will learn relevant managerial accounting career skills applying both quantitative and qualitative knowledge to their future careers in business.   |
| Learners will be able to do higher education (e.g. M.Com., C.A., ICWA) and advance research in the field of commerce & finance. |  |
| <b>Course Outcomes</b>  |  |
| <b>Course</b>   | <b>Outcomes</b>  |
| Financial Accounting  | To provide basic knowledge about the accounting principles and procedures.   |
| Secretarial Practice  | To enlighten the students' knowledge on companies act and secretarial practices.   |
| Business Economics  | To understand how the business organizations work by applying economic principles in their business.   |
| Business Environment  | To provide the basic knowledge on the meaning conveyed by the word 'Business', understand the various forms of business and impact of various aspects on business environment.   |
| Marketing Management  | Enable the student to understand the principles of marketing management, market segmentation Product Life Cycle, pricing, branding, etc.   |
| Accounting Theory   | To familiarize students with various theories of accounting.   |

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| Retail Management                          | To familiarize students with the decision involved in running a retail firm and the concepts and principles for making those decisions.  |
| Banking Law and Practice                   | To enlighten the students' knowledge on Banking Regulation Acts. After the successful completion of the course the student should have a thorough knowledge on Indian Banking system and Acts pertaining to it.                                |
| Corporate Accounting                       | To enlighten the students on accounting procedures followed by the companies and enable them to be aware on the Corporate Accounting in conformity with the provision of the Companies Act.  |
| Economics                                  | To make the student to understand how the business organization work by applying economic principles in their business management  |
| Principles of Entrepreneurship Development | To make students well versed in concept relating to entrepreneur, knowledge in the finance institution and subsidies.  |
| Business Statistics                        | To inculcate knowledge on demonstrate understanding of basic concepts of probability and statistics embedded in their course.  |
| Business Communication                     | To enable the students to develop employability skills for the workplace with effective written and oral communication skills.   |
| Modern Business Law                        | To inculcate knowledge of various laws related to business such as law of contract, law of sale of goods, law of agency, negotiable instruments act, etc...  |
| Financial Management                       | To inculcate knowledge on the basic accounting concepts, double entry book keeping system and various books of accounts preparation of final accounts, etc.  |
| Management Accounting                      | Imparting the knowledge about accounts in management.  |
| Income Tax                                 | The course aims to provide an in-depth knowledge on the provisions of income tax. To familiarize the students with recent amendments in income tax.  |
| Costing                                    | To keep the students conversant with the ever-enlarging frontiers of Cost knowledge.   |
| Indian Financial Markets                   | Imparting about financial markets.   |
| Goods and Service Tax                      | The course aims to provide an in-depth knowledge on the provisions of Goods and Service Tax. To familiarize the students with recent amendments in GST.  |
| Auditing Practice                          | Familiarizing the students with auditing principles and practices.   |
| Indian Financial Services                  | To familiarize students with various Indian Financial Services.  |
| Computer Applications                      | Gives the deeper understanding to students of both information technology and commerce, thereby enabling the budding graduates to pursue careers in either of the two fast growing industries viz. IT Industry, Commerce and Financial sector. |

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| <b>Department of Kannada</b>                    |  |
| Programme Specific Outcomes<br>Optional Kannada | Enabling the students to analyse and review the literary work.     |
|   | To acknowledge original sources of Kannada culture and literature. |

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|  | Enabling students to obtain higher education in Kannada literature and criticism.   |
|  | Enabling students to compose novels, poetry, essays, short stories, etc.  |
|  | Enabling students to read and appreciate the old or ancient Kannada.  |
|  | To equip the students to become the teachers and journalists  |
| Programme Specific Outcomes<br>Basic Kannada                 | Students are expected to be able to comprehend and interpret minimum literary texts, poems, essays, short stories.  |
|  | To understand and reflect on literary trends and analyse the contribution of the Kannada writers.   |
|  | To develop confidence in the four skills; Listening, Speaking, Reading and Writing.   |
|  | To be able to develop minimum vocabulary built up required to structure out their thought.  |
|  | To be able to draft letters, reports, dialogues and the like.   |
| <b>Course Outcomes</b>                                       |   |
| <b>Course</b>  | <b>Outcomes</b>   |
| B.A. I: Ancient and Medieval Kannada Literature.             | Students are enabled to understand the range, significance and scope of ancient and medieval literature.  |
| B.A. II: History of Modern Kannada Literature.               | Students are acquainted with the knowledge of history of modern Kannada literature.   |
| B.A. III: Indian and Western Poetics and Critical Theories.  | Enablement of students to understand and analyse Indian and western poetics and critical theories.  |
| B.A. IV: Kannada Prosody and Figures of Speech.              | Students will be aware of the importance of the knowledge of Kannada prosody and figures of speech in Kannada poetry.   |
| B.A. V: Traditional Kannada Grammar and Kannada Linguistics. | Students are enabled to have a holistic idea of the traditional Kannada grammar and Kannada Linguistics.  |
| B.A. VI: Novel, Drama, Travelogue, Criticism, Research       | Enablement of students to understand and appreciate novel, drama, poetry, travelogue, critical essays. They will be aware of the critical sense about literary texts.   |
| B.Sc./B.Com. Basic Selected Poetry and Prose                 | Students are acquainted with literary texts, short stories, poems and knowledge of perfect spoken Kannada.  |
| B.A. Basic Selected Poetry and Prose                         | Development of self directed understanding of high Kannada language and capability of self-expression.  |
| <b>Department of English</b>                                 |   |
| Programme Specific Outcomes<br>Optional English              | Literary acumen: Through exposure to great literature, students will understand the importance of the literature of the past and contemporary cultures and to equip them to find connections and constitutes. |

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|  | Culture Integration: Students will be aware of the importance of the coexistence of different cultural prospective and be tolerant to views |
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|  | different from their own. The course seeks to enable students to use their study of literature to initiate cultural, ethical and global awareness.  |
|  | Academic Writing: The students will be able to develop an argument in writing, state facts clearly arrive at a clear conclusion using appropriate vocabulary and synthetic structures. The students will learn to read, analyze and interpret works of literature, to acquire them with the forms, structures and the aesthetics of style and technique of literary works. They are enabled to have skills of interpretation analysis, appreciation of literature as well as writing and presentation skills. That would eventually help in careers like journalism and media, publishing, research and teaching. |
| Programme Specific Outcomes<br>Basic English | To be able to comprehend and interpret minimum literary texts (poems, essays, short stories)  |
|  | To understand and reflect on literary tends and analyze the contribution of the British writers and the Indian writers in English.  |
|  | The learner should develop confidence in the four skills (listening, speaking, reading and writing)   |
|  | To be able to do short tasks like drafting letters/ dialogues/ reports and the like.  |
|  | Minimum vocabulary build up, required to structure out their thoughts.  |

### Course Outcomes

| Course   | Outcomes  |
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| BA I – History of English Literature, Bacon’s Essays, Structure of literature and Literary Forms & Terms.  | Enablement of students to understand and the range, significance and scope of English Literature. They are enabled to understand Bacon’s essays, Literary forms and terms.  |
| BA II – History of English Literature, Rape of the Lock, Study of Literature and Literary Forms and Terms. | Enablement of students to understand and appreciate English Literature, drama, literature and forms.  |
| BA III – History of English Literature, Selected Poems and Modern English Grammar                          | Empowerment of the students to critically understand analyze poems across a wide range of literary age and context. Students are also enabled to learn the rules & structure of English language by learning English grammar. |
| BA IV – History of English Literature, Selected Short Stories and General Linguistics.                     | Advancement of their acquaintance with the English writers of modern age. Development of critical creative writing by studying short stories.   |

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| BA V – Literary Criticism<br>Paper I: History of Indian English Literature<br>Paper II: Selected Poems, Translation Studies | Paper I: Enablement of students to understand and appreciate the critical literary essays. They are enabled to develop the critical sense about literary texts.<br>Paper II: Development of awareness towards the problems of interpreting Indian culture via the English language and acquaintance with work of significance Indian writers of poetry, prose and fiction. They are enabled to understand the basic concepts of translation. |
| BA VI<br>Paper I: History of English Language, English Phonetics.<br>Paper II: Classics Drama & Social Work and Literary    | Paper I: Enablement of students to understand and appreciate the classics and literary theories.<br>Paper II: A holistic idea of the distinctive features of history of English language. Students are enabled to develop critical idea about literary theories.   |

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| Theories.  |   |
| BA/BSc/BCom – I -Basic<br>Prose, Poetry and Grammar and Composition                | Development of considerable acquaintance of the students with literary texts short stories, poems & the knowledge of grammar and spoken English.  |
| BA/BSc/BCom – II - Basic<br>Prose, Poetry & Grammar and Composition                | Development of self-directed understanding of high language and capability of self expression.  |
| BA/BSc – III - Basic<br>Biographical Sketches, EcoEnglish Grammar and Composition. | Students are enabled to understand their moral responsibilities. They are able to understand the right path based on the value system. Development of environmental awareness. Development of capability of expression their ideas clearly. |
| BA/BSc – IV - Basic<br>Novel, Eco-English Grammar and Composition                  | Students are enabled to understand and appreciate the novel. Development of eco-awareness among students. They are able to express freely and respond to the communications of others in speech writing.                                    |

### **Department of Hindi**

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| Programme Specific Outcomes<br>Optional Hindi | Through exposure to great Hindi literature, students are able to develop literary acumen. They are enabled to equip themselves to find connections and continuities.               |
|   | Students will be aware of the importance of cultural integration. The course enables students to use their study of literature to initiate cultural, ethical and global awareness. |
|   | The students are able to state facts clearly and arrive at a clear conclusion.   |
|   | They are able to read, analyse and interpret literary texts and the aesthetic style and techniques of writing.   |
|   | They are enabled to have writing and presentation skills that would eventually help in careers like journalism, teaching and research.   |



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| Programme Specific Outcomes<br>Basic Hindi | To be able to speak in Hindi and develop confidence in the study skills, listening, reading, writing and speaking. |
|  | To be able to build up vocabulary and structure out their thoughts.  |
|  | To be able to learn language skills and techniques.  |
|  | To be able to learn problem solving and presentation skills.   |
|  | To be able to prepare for higher education.  |
|  | To encourage the students with T.V. medias and mass medias.  |

### Course Outcomes

| Course   | Outcomes  |
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| BA I – History of Hindi Literature, (Adikal) Early period and short stories                  | Enablement of students to understand the range, significance and scope of early Hindi literature. Students are also enabled to understand the themes of Hindi short stories.                        |
| BA II – Hindi poetry and Grammar   | Enablement of students to critically understand and analyse Hindi poetry across a wide range of literary age and context. They are also enabled to learn the rules and structure of Hindi language. |
| BA III – Epillon – Narrative poetry and History of Hindi Literature – Bhaktikal and Reetikal | Students are enabled to have critical insight into Hindi narrative poetry. They are also enabled to understand the range and significance of Hindi literature.                                      |

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| BA IV – One-Act Plays and Grammar   | Students are inspired to write one-act plays by reading famous Hindi one-act plays. They are enabled to build-up vocabulary to structure out their thoughts in Hindi language.  |
| BA V – Paper I: Drama and Medieval Poetry.  | Development of self directed understanding of high language and capability of self-expression by studying drama and medieval poetry.  |
| BA V – Paper II: History of Hindi Literature – Modern Age, Prosody and Figures of Speech. | Advancement of students’ acquaintance with the Hindi writers of modern age. Development of critical creative writing by studying prosody and figures of speech.   |
| BA VI Paper I: Novel – The study of official correspondence and translation               | Students are enabled to understand and appreciate the novel and its thematic significance. They are also able to develop written communication skills by studying official correspondence. They are also enabled to develop translation skills. |
| BA VI Paper II: Poetics and Literary criticism of Hindi Language and Philosophy.          | Students are able to understand and appreciate poetics and Hindi Literary critical essays. They are enabled to have a holistic idea of the distinctive features of History of Hindi Language and Philosophy.                                    |
| B.Sc. I Sem Basic: Indian Short Stories, Grammar and Composition.                         | Students are acquainted with literary texts, short stories and the knowledge of grammar and spoken Hindi.   |
| B.Sc. II Sem Basic: Poetry, General Essays and Translation                                | Students are enabled to understand their moral responsibilities by studying various poems and essays. They are able to translate from source text to target text.   |

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| B.Sc. III Sem Basic: Drama and Translation | Students are inculcated with moral, cultural, ethical values by studying eminent Hindi dramas. They also imbibe translation skills.                               |
| B.Sc. IV Sem Basic: Prose and Translation  | Students are able to comprehend and interpret minimum literary texts, essays, short stories. They are also enabled to understand the difficulties of translation. |

### Department of History

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| Programme Specific Outcomes | Protection historical monuments.  |
|                             | Creation of historical awareness among the students and people of society.                                |
|                             | Growing opportunities for the development of tourism.   |
|                             | Creation of the sense of communal, religious and social harmony among the students and people of society. |
|                             | Creation of the sense of concept about the historical script and development language.                    |

### Course Outcomes

| Course  | Outcomes  |
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| BA I – History and Culture of Karnataka (Early times to 1336 A.D.)    | Understanding the basic objectives of historical monuments.                                 |
| BA II – History and Culture of Kannada (1336 to 1956 A.D.)            | To inculcate sense of History among students and saving the historical heritage, monuments. |
| BA III – History and Culture of Ancient India (Early times to Cholas) | To preserve ancient inscriptions, sculptures, etc.  |
| BA IV – History and Culture of Medieval India (1000 to 1707 A.D.)     | To preserve ancient inscriptions, sculptures, etc.  |
| BA V – Paper I: History of Modern India (from 1707 to 1905)           | To promote historical knowledge among students and public.                                  |
| BA V – Paper II: History of Modern Europe (from 1450 to 1914 A.D.)    | To promote historical knowledge among students and public.                                  |
| BA VI Paper I: History of Modern India (from 1905 to 1956)            | To creating public awareness on the importance of International History and Heritage.       |
| BA VI Paper II: History of Modern Europe (from 1914 to 1990 A.D.)     | Understand the behavior of Indian World History.  |

### Department of Sociology

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| Programme Specific Outcomes | Making the students to understand the sociological approach, this is distinctive from other people. |
|                             | Make the students to understand the social ethics of thinkers of different ages.                    |
|                             | Job opportunities are available in various departments.   |
|                             | To make the students to understand the methodology of social contemporary situation.                |
|                             | Easily know the valuable problems of life.  |

### Course Outcomes

| Course   | Outcomes  |
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| BA I – Introduction to Sociology                           | It is an introductory paper which intends to make the students to acquaint which sociology as a social science.<br>It is to understand the dynamics of sociology. |
| BA II – Community, Institutions, Culture and Social Change | To understand the nature, structure & features of communities.<br>Make the students to be acquainted with basic social institutions.                              |
| BA III – Study of Indian Social Thought                    | To understand the nature of development of social thought. To understand the views of ancient Indian theories.  |
| BA IV – Study of Western Social Thought                    | Make the students to understand the basic theories of western social thought.<br>To make the students to understand the methodology of social sciences.           |
| BA V – Paper I: Study of Indian Society                    | Make the students to understand the Indian Society.<br>To understand the actual nature of Indian Social System.   |
| BA V – Paper II: Rural Development in India                | Make the students to understand the rural development in India.<br>To understand the local tenure system & reforms, Panchayat Rajya System.                       |
| BA VI Paper I: Social Problems in India                    | To understand the nature & causes of changing crimes in India. To understand the nature of Vulnerable problems of Life.   |
| BA VI Paper II: Urban Society in India                     | To understand about the evolution of cities and urban communities. To make the students to be aware with urban problems in India.                                 |

### Department of Political Science

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| Programme Specific Outcomes | Understand the basic concept of political science.   |
|                             | Inculcate the basic principle of Indian Constitution |

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|  | Understand the application of Human Rights in practice. |
|  | Primary knowledge of Public Administration.             |
|  | Analyze the political behavior of voters.               |

### Course Outcomes

| Course                  | Outcomes  |
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| BA I – Political Theory | Understand basic objectives of political theory. It is to understand the dynamics of Political Science. |

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| BA II – Eastern and Western Political Theories.            | To understand the political thinkers & their political ideas & thoughts   |
| BA III – Indian Government and Politics.                   | To understand the Indian Government and Politics.   |
| BA IV – Karnataka Government and Politics                  | Understand Karnataka Government & Politics. Confiscation of the Karnataka & Legislate & Judiciary system.         |
| BA V – Paper I: Public Administration                      | To understand Public Administration. Appointment, Training, Retirement organization, etc.                         |
| BA V – Paper II: Indian Administration                     | To understand Indian Administration (Central & State Relations)   |
| BA VI Paper I: International Relationship                  | To understand the SAARC, NATA, SAT, G20, WTO, UNO, Foreign Policy, etc.   |
| BA VI Paper II: Political Process and Institution in India | To understand parliamentary system, democracy, federal system, Indian party system, election, coalition politics. |

### Department of Physics

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| Programme Specific Outcomes | Understand the dept knowledge of various subjects of Physics.   |
|                             | Providing high quality education in physics within an environment committed to excellence in both teaching and research.  |
|                             | Educating students in the core of physics, including substantial practical and experimental physics, while enabling students to train in both the theoretical and practical aspects.                              |
|                             | Usage of mathematics in physics equations to describe, interpreting results and critically comparing them with experiment and observation.  |
|                             | Perform job in various fields' viz. Science, Engineering, Education, Banking, Business and Public Service, etc with precision, analytical mind, innovative thinking, clarity and expression, systematic approach. |
|                             | To be able to do short tasks like drafting letters/ dialogues/ reports and the like.  |
|                             | Minimum vocabulary build up, required to structure out their thoughts.  |

### Course Outcomes

| Course                                     | Outcomes   |
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| BSc I – Mechanics and Properties of Matter | The properties of solids like elasticity help the students to identify the materials suitable for the construction of buildings, houses, etc. Properties of fluids like viscosity and surface tension help the students in their daily life and agriculture. This syllabus will cater the basic requirements for their higher studies. This course will provide a theoretical basis for doing experiments in related area. |
| BSc II – Sound and Thermal                 | Understand the importance of Thermo-dynamical functions and  |

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| Physics  | <p>applications of Maxwell's relations.<br/>Analyses thermal conductivity and black body radiation.<br/>This course is to develop a working knowledge of sound &amp; thermal mechanics and to use this knowledge to explore various applications related to topics in material science.</p>   |
| BSc III – Geometrical Optics and Electricity – I   | <p>Realize the importance of cardinal points &amp; the natural behavior of aberration in lens.<br/>Electricity and Electrodynamics have the key role in the development of modern technological world.<br/>This course aims to provide necessary foundation in optics and electricity which prepare the students for an intensive study of advanced topics at a later stage.</p>  |
| BSc IV – Physical Optics and Electricity – II  | <p>With the help of wave nature of light, understand the process of polarization, interference and diffraction.<br/>Study in depth the transient current response of CR, LC, CR and LCR circuits, which is essential in designing as well as understanding the working of electronic circuits.<br/>A course in electricity and electrodynamics is thus an essential component of Physics program at graduate level. This course is expected to provide a sound foundation in electricity and electrodynamics.</p>   |
| BSc V – Classical Mechanics, Electronics, Relativity, Quantum Mechanics and Spectroscopy   | <p>Fundamental ideas of special theory of relativity such as length contraction and time dilation and mass – energy invariance.<br/>To become familiar with photoelectric effect and Compton effect and hence be aware how quantum theory emerged &amp; have gained a clear knowledge about wave properties of particles, De Broglie waves and its implications on the uncertainty principle.<br/>This course is a prelude to advanced theoretical studies in Condensed Matter Physics, Spectroscopy, Astrophysics, Electrodynamics and Nuclear Physics.</p>  |
| BSc VI – Solid State Physics, Nuclear Physics, Energy Sources, Digital Electronics, Special Materials, Integral Transforms, Optoelectronics, Communication, Programming, Integrated Electronics. | <p>Qualitative ideas about solar energy, physical principle of conversion of solar energy into heat energy, solar energy harvesting devices like solar cells, solar cookers, solar greenhouses, etc.<br/>Have a basic knowledge of semiconductor physics, acquire knowledge about how a semiconductor diode rectifies an input ac signal &amp; learn how to construct a transistor amplifier and how its gain varies with frequency known about various number systems and their applications.<br/>This course is intended to give an insight to computer hardware and computer applications. Students will familiarize with microprocessors which are the backbone of computers. C programming enables the students to develop computer programs which can solve mathematical equations which will be useful for research and job.</p> |
| <b>Department of Mathematics</b>   |   |

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| Programme Specific Outcomes  | Describe several areas of Mathematics beyond calculus.   |
|  | Express their interest in Mathematics.   |
|  | Explain why Mathematical thinking is valuable in daily life.   |
|  | Solving model applied problems.  |
|  | Describe the library research skills in the area of Mathematics.   |
|  | Discuss Mathematics in historical context with contemporary nonmathematical events.  |
|  | Identify significant contributions in Mathematics from women to outside of Europe.   |
| <b>Course Outcomes</b>   |  |
| <b>Course</b>  | <b>Outcomes</b>  |
| BSc I: Real Numbers, Limits and Continuity, Higher Order Derivatives, Mean Value Theorems, Indeterminate Forms, Determinants, Matrices, Set Theory, Theory of Equations, Trigonometry. | Solving the example on limits by using L.Hospital rule.<br>Solve applied problems using matrices.<br>Students will be able to formulate problem in the language of sets.<br>Solve system of linear equations by using matrices.  |
| BSc II: Boolean Algebra, Number Theory, Sphere, cone and Cylinder. Differential and Integral Calculus.   | Calculus concepts.<br>Define & interpret divisibility, congruence & greatest common deviser, prime power factorization.<br>Derivation of standard equations of sphere, cone and cylinder.<br>Formulate & interpret statement present in Boolean lattice.   |
| BSc III: Mathematical Logic, Real Analysis I & II, Group Theory I & II, Applications of Definite Integrals, Deferential Equations I & II   | Use definitions of convergence as they applied to sequence & functions apply the mean value theorem.<br>Direct, indirect & disprove by counter example.<br>Distinguish between the concept sequence & series.<br>Assess properties implied by definitions of groups, subgroups, cyclic groups, Lagrange's theorem.<br>Model physical phenomenon using differential equation.<br>To find the area of specific curves. |
| BSc IV: Vector Calculus, Infinite Series I, II, III, Group Theory III, Fourier Series, Fourier Transforms, Differential Equations III &IV  | Represent vector analytically & geometrically and compute dot & cross product of two and three vectors.<br>Differential gradient vectors.<br>Assess properties implied by differentiations of normal subgroup, quotient group & examples.<br>Evaluate Fourier coefficients.  |

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| <p>BSc V: Riemann Integration: Improper Integrals, Beta &amp; Gamma Functions, Multiple Integrals.<br/>Solutions of algebraic and transcendental Equations, Numerical solutions of nonhomogeneous systems. Finite Differences Interpolation, Numerical Differentiation and Integration. Solution initial</p> | <p>Evaluate double &amp; triple integration &amp; its application.<br/>Determine the Riemann integrability of a bounded function.<br/>Solve problems in dynamics system.<br/>Number of applications to scientific and engineering problems.<br/>Demonstrate their understanding how physical phenomenon are modeled by differential equations &amp; dynamics.<br/>To find the geodesic curve, right circular cone and Euler Theorem.<br/>Explain the basic concept of recursion.</p> |
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| <p>value problems, Difference Equations, Kinematics, Central Orbit Motion of Projectile, Elastic Impact, Calculus of Variations.</p> |  |
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| <p>BSc VI: Differential Equations, Series Solutions of Ordinary Differential Equations, Legendre Equations and Functions. Partial Differential Equations of 1st Order, Linear &amp; Non-Linear PDE Complex Analysis &amp; Integration Rings &amp; Integral Domains. Topology &amp; Laplace Transforms.</p> | <p>Analyse I &amp; II Order Differential Equations, Legendre Equations. Real line as a complex order field. Determine the basic topological properties of the subsets of the real numbers.<br/>Assess properties implied by differentiations of rings isomorphism homomorphism of rings. Ideal of a ring.<br/>Represent a complex numbers algebraically &amp; analytically.<br/>Define &amp; analyse limits &amp; cty for complex valued functions.<br/>Illustrate the convergence properties of power series.</p> |
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**Department of Botany**

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| <p>Programme Specific Outcomes</p> | <p>Students understand the normal &amp; anomalous secondary growth in local plants.</p>                             |
|                                    | <p>Students develop skill in simple biochemical laboratory procedures.</p>  |
|                                    | <p>Students enhance the ability &amp; thinking power about the pathogens that cause disease to plants.</p>          |
|                                    | <p>Students have developed ethical approach not to the plants &amp; conserve forest.</p>                            |
|                                    | <p>It helps the students to evaluate the performance of multiplication technique &amp; seed storage techniques.</p> |
|                                    | <p>Students gain the knowledge about biotechnological applications in plants for the GMO.</p>                       |

**Course Outcomes**

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|---------------|-----------------|
| <b>Course</b> | <b>Outcomes</b> |
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| BSc I: Plant Anatomy and Embryology   | Students are able to understand the internal structures of plants & developmental pattern.<br>Students are able to understand the process of pollination & fertilization in vascular plants.<br>Students understand the normal & anomalous secondary growth in local plants.  |
| BSc II: Plant physiology and Biochemistry.  | Students develop skill in simple biochemical laboratory procedures.<br>Students are able to understand & explain the concept of Enzyme activities in plant metabolism.<br>Students are able to understand the significance of biomolecules.   |
| BSc III: Diversity of Cryptograms (Algae, Fungi, Bryophytes, Pteridophytes, Gymnosperms, Plant Pathology and Paleobotany) | Students enhance the ability & thinking power about the pathogens that cause disease to plants.<br>Students are equipped with skill related to lab & field based studies.<br>Understand the scope & importance of plant pathology.<br>Students are able to know the prevention & control measures of plant disease. |
| BSc IV: Diversity of Angiosperms their systematic, Economic Botany & Medicinal  | Students are aware of economically important plants which can be used in pharmaceutical industries.<br>Students develop knowledge about various highly evolved plant  |

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| Botany.   | groups and their community structure.  |
| BSc V: PI-Plant breeding, Tissue culture & Horticultural practices.<br>PII-Ecology, Environmental Biology & Phytogeography. | Students have developed ethical approach not to the plants & conserve forest.<br>Students are able to analyse the evolution with general characteristics for future aspects.<br>It helps the students to evaluate the performance of multiplication technique & seed storage techniques. |
| BSc VI: PI-Cell biology, Genetics & Evolution.<br>PII-Molecular Biology, Biotechnology & Immunology.                        | Understand the biochemical nature of Nucleic acid their role in living systems.<br>Understand the concept of cell & their activities.<br>Students gain the knowledge about biotechnological applications in plants for the GMO.  |

### **Department of Zoology**

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| Programme Specific Outcomes | Understand the bases of life processes in the non-chordate & recognize the economically important invertebrate fauna. |
|                             | Students are able to understand the importance of immune systems.   |
|                             | Students are able to recognize the importance of conservation of wild life.   |
|                             | Learn the basic principles involved in the breeding of Desi breeds.   |
|                             | Students apply the knowledge to collect various biological data in their future research work.                        |

### **Course Outcomes**



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|---|---|
| BSc I: Biology of Non-Chordates & Parasitology.   | Familiar with the non-Chordate World that surrounds us.<br>Able to identify the invertebrates & classify them up to the class level with the bases gained knowledge.<br>Understand the bases of life processes in the non-chordate & recognize the economically important invertebrate fauna.<br>Apply the scientific methods in order to prevent disease.                            |
| BSc II: Biology on NonChordates & Comparative Anatomy.  | Familiar with the chordate world that surrounds us.<br>Able to identify the vertebrates & classify them up to the class level with the bases gained knowledge.  |
| BSc III: Developmental Biology, Animal Physiology & Biochemistry.   | Students are able to understand the importance of immune systems.<br>Students understand the initial development process in human.<br>To learn clinical procedures for blood & urine analysis.<br>Students develop skill in simple biochemical laboratory procedures.   |
| BSc IV: Cell Biology, Histology & Animal Behaviour.   | Students are able to understand the process cell division in all organisms.<br>Students are able to understand the behavioral response in domestic animals.   |
| BSc V: PI- Ecology, Evolution, Paleontology, Zoogeography, Wild Life Conservation.<br>PII- Genetics, Biotechnology and Biostatistics. | Students are able to recognize the importance of conservation of wild life.<br>Students are appreciated the contribution of the great scientist & motivated.<br>Students are able to distinguish classical genetics & molecular genetics.<br>Students apply the knowledge to collect various biological data in their future research work.<br>Helpful to study the nearby ecosystem. |
| BSc VI: PI- Appled Zoology.<br>PII- Microbiology,   | Aware about the economically important animals.<br>Identify various methodology & prospective of applied branches of  |
| Nanotechnology, Bioinformatics and Methods of Biology.  | Zoology for the possibilities of self-employment.<br>Learn the basic principles involved in the breeding of Desi breeds.  |