A.D.B. First Grade College, Harapanahalli

Programme outcomes and course outcomes for all Programme

DEPARTMENT OF ENGLISH

Programme Outcomes

- Developing intellectual, personal and professional abilities through effective communicative skills; ensuring high standard of behavioural attitude through literary subjects and shaping the students socially responsible citizens.
- On successful completion of the programme, the students are introduced to communicative skills, to define, classify and understand the methods of communication, to improve their LSRW skills, to enable them to practice those skills in their daily life.

Course Outcomes

- On successful completion of the programme, the students are introduced to communicative skills, to define, classify and understand the methods of communication, to improve their Listening, Speaking, Reading and Writing skills, to enable them to practice those skills in their daily life.
- To gain knowledge on fundamental principles of English grammar including parts of speech, sentence types (simple/compound/complex sentences), subject-verb agreement, pronoun usage, punctuation etc.
- To learn the literary, societal, cultural and historical background of the greatest English writings penned by Indian Authors.
- To familiarize students with the literary texts of ancient and modern literature written by great writers of English.
- To obtain adequate information on colonization and post- war consequences through the literary, cultural biographical and historical background of the greatest writings in Commonwealth literature.

SPECIFIC PROGRAMME OUTCOMES KANNADA OPTIONAL

- To develop communication skills, critical thinking, and national consciousness.
- To empower students for creative writing, reporting, anchoring, analysis and presentation, public speaking etc.
- Helps the students to know the noble values in life making him/her a responsible citizen.
- To enable the students imbibe literary sensibility through study of Indian Literature.

DEPARTMENT OF COMMERCE

Programme Outcome

- This programme provide well trained professionals for Industries, Insurance Companies, Transport Agencies, Banking sectors, Financial companies, Warehousing etc. to meet the well trained manpower requirements.
- The graduates will get hands on experience in various aspects acquiring skills for Marketing Manager, Selling Manager, over all Administration abilities of the company.
- It provides students with the knowledge and technical skills in the accounting and financial fields.

Course Outcomes

- The student should have a thorough knowledge on the accounting practice prevailing in partnership forms and other allied aspects.

- On the successful completion of this subject the students acquires the knowledge about the various types of business organizations and office management.
- To enable the students to learn principles and concepts of Accountancy.
- The students are enabled with the knowledge in the practical applications of accounting.
- The students should be well versed in the fundamental concepts of auditing, entrepreneur, knowledge in the finance institution, project report incentives and subsidies.
- This course aims to provide an in-depth knowledge on the provisions of Income Tax and to familiarize with recent amendments in Income-Tax.
- To keep the students conversant with the ever-enlarging frontiers of Cost Accounting knowledge.
- The student should be able to work efficiently in MS-PowerPoint and Tally.
- This course enables the students with the knowledge about the Capital budgeting,
- Working capital, cash management and financial management techniques.
- The student acquires the knowledge in the Management Accounting Techniques in business decision making.
- To understand the nature of human resources and its significance to the organization.

DEPARTMENT OF PHYSICS

Programme Outcome

- Physics is a branch of science that studies matter and its motion through space and time, along with related concepts such as energy and force. Physics is one of the fundamental sciences because the other natural science deal with systems that seems to obey the law of Physics. According to Physics, the physical laws of matter, energy and the fundamental forces of nature govern the interactions between particles and physical entities (such as plants, molecules, atoms or the subatomic particles).
- Physics deals with a wide variety of systems, certain theories are used by all physicists. Each of these theories were experimentally tested numerous times and found to be an adequate approximation of nature.
- Physics uses mathematics to organize and formulate experimental results and from which new predictions can be made.
- The results from physics experiments are numerical measurements. Technologies based on mathematics, made computational physics as active area of research.

Course Outcomes

- The students will demonstrate a scientific knowledge of the core physics principles in Mechanics, Electromagnetism, Modern Physics and Optics.
- The student will determine the appropriate level of technology for use in experimental design and implementation, analysis of experimental data and numerical and mathematical methods in problem solutions.
- To acquire the basic knowledge of mechanics, properties of matter and gravitation.
- Learn motion of bodies and sound waves.
- To inspire interest for the knowledge of concepts in physical and geometrical physics.
- Develop the concepts of modern physics: Fundamentals of special theory of relativity Quantum mechanics, nuclear physics and particle physics.
- Capable of solving the conceptual problems using skills of modern physics.
- Organize to present the application of modern physics to present technology.

- Study the fundamental concepts of wave optics.
- Understand basic concepts and numerical methods of solid state physics.
- Practice thought provoking problems in solid state physics.
- Improve knowledge in nuclear physics.
- Upgrade the information's on elementary particles.
- Develop interest in nuclear physics.
- Understand the difference between statistics of macroscopic and microscopic world.
- Usage of thermal and statistical principles and its applications.
- Understand the differences between classical mechanics and quantum mechanics.
- Understand the phenomenon of photoelectric effect, Compton Effect on the basis of quantum mechanics.
- Try to use different new techniques to solve atomic problems.
- Understand the conceptual things in the area of Atomic physics.

DEPARTMENT OF CHEMISTRY

Programme Outcome

- Students will demonstrate an understanding of major concepts in all disciplines of chemistry.
- Students will employ critical thinking and the scientific method to design, carryout, record and analyse the results of chemical experiments and get an awareness of the impact of chemistry on the environment, society and cultures outside the specific community.

Course Outcomes

- To develop interest among students in various branches of inorganic chemistry.
- To impart essential theoretical knowledge on atomic structure, periodic properties, chemical bonding, and nuclear chemistry.
- To impart the students a thorough knowledge about the organic chemistry and physical chemistry. In organic chemistry some selected functional groups with a view to develop proper aptitude towards the study of organic compounds and their reactions.
- To enable the students to understand and study Organic reaction mechanisms, basic concepts of thermodynamics, chemical kinetics, surface chemistry and electro chemistry.
- To provide an insight into the characteristics of different types of solutions and provide an insight into the thermodynamic and kinetic aspects of chemical reactions and phase equilibrium in organic students will learn about nomenclature and reaction of some important functional groups in organic compounds
- To understand the general characteristics of the d and f block elements
- To give the students a thorough knowledge of the different theories to explain the bonding in coordination compounds.
- To understand the general characteristics of different states of matter.
- To impart knowledge to the students about the intermolecular forces in gases and liquids, the structure of solids, Defects in solids .give some knowledge about kinetics of the reaction
- To impart the students a thorough knowledge in geometric and optical isomerism.
- To study the fundamentals of terpenes, alkaloids, vitamins, lipids and steroids. Improving knowledge about industrial importance of some organic compounds.
- To impart a thorough knowledge on the fundamentals of microwave, infrared, and NMR spectroscopy.

- To enable the students to solve the simple quantum mechanical models such as simple harmonic oscillator, particle in a 1D- box, rigid rotor, H_2 atom etc.
- To impart a thorough knowledge of the fundamentals of microwave, infrared, Raman, electronic and magnetic resonance spectroscopy, mass spectrometry and photochemistry.
- Impart knowledge about inorganic polymers definition, classification with appropriate examples based on nature of metal-carbon bond of organometallic compounds. Some knowledge about silicates fertilizers and surface coating.
- To acquire the skill to analyse some common alloys and ores.
- Imparting knowledge on lipids, amino acids, peptides, proteins, nucleic acids, enzymes, hormones and vitamins and their role in biological system.

DEPARTMENT OF MATHEMATICS

Course Outcomes

- To develop interest among students in various topics in mathematics like calculus and Matrix theory. Improve the differentiation and integration skills.
- To impart the students a thorough knowledge about the solving the differential equations. Distinguish between ordinary DE and partial DE.
- Understand Mean value theorems in the intervals.
- Get the knowledge of Behaviour of the vectors, findings the area and volume of the regions. Get the basic things of modern algebra.
- Improving the knowledge of higher algebra by studying the ring theory and Linear Algebra.
- Expressing the functions as sine and cosine form. Solving the improper integral problems.
- Get the knowledge about the difference between real valued function and complex valued function. Solving the differentiation and integration of complex valued functions.
- To understand the Laplace Transforms and applications.
- Numerical analysis.

DEPARTMENT OF ELECTRONICS

Programme Outcome

- Ability to apply knowledge of mathematics & science in solving electronics related problems.
- Ability to design and conduct electronics experiments, as well as to analyse and interpret data.
- Ability to design and manage electronic systems or processes that conforms to a given specification within ethical and economic constraints
- Recognize the need for, and be able to engage in lifelong learning.
- Ability to use techniques, skills and modern technological/scientific/engineering software/tools for professional practices.

Course Outcomes

- Study circuits in a systematic manner suitable for analysis and design.
- Understands how to formulate circuit analysis problems in a mathematically tractable way with an emphasis on solving linear systems of equations.
- Analyse the electric circuit using network theorems.
- Determine Sinusoidal steady state response.
- Understand the two–port network parameters with an ability to find out two-port network parameters & overall response for interconnection of two-port networks.
- Describe the behaviour of semiconductor materials.

- Reproduce the I-V characteristics of diode/BJT/MOSFET devices.
- Apply standard device models to explain/calculate critical internal parameters of semiconductor devices.
- Illustrate about rectifiers, transistor and FET amplifiers and its biasing. Also compare the performances of its low frequency models.
- Describe the frequency response of MOSFET and BJT amplifiers.
- Explain the concepts of feedback and construct feedback amplifiers and oscillators.
- Summarizes the performance parameters of amplifiers with and without feedback.
- Understand and represent numbers in powers of base and converting one from the other, carry out arithmetic operations.
- Understand basic logic gates, concepts of Boolean algebra and techniques to reduce/simplify Boolean expressions.
- Analyse and design combinatorial as well as sequential circuits.
- Infer the DC and AC characteristics of operational amplifiers and its effect on output and their compensation techniques.
- Elucidate and design the linear and nonlinear applications of an op-amp and special application ICs.
- Explain and compare the working of multi vibrators using special application IC 555 and general purpose op-amp.
- Understand the basic blocks of microcomputers i.e. CPU, Memory, I/O and architecture of microprocessor's and Microcontroller's.
- Apply the basic knowledge of signals and systems and understand the basics of communication system and analog modulation techniques.
- Apply the knowledge of digital electronics and understand the error control coding techniques.
- Summarize different types of communication systems and its requirements.
- Design and analyse the performance of communication systems.

DEPARTMENT OF BOTANY

Programme outcome

Botany is the broad discipline encompassing various subjects involved with the study of plants. Present trend has been shifted to frontier areas of plant sciences at the cost of traditional botany. There is need to maintain a balance of the traditional botany and modern science and applied approach. It enables the learners to prepare them for future employment in various fields including academics as well as competitive exams.

- Diversity of plants and microbes their habitat, morphology, and reproduction.
- Genetics and molecular biology of plants.
- Fungi and disease causing microbes and fungi.
- Economic value of plants and their use in Biotechnology.

Course Outcomes

- Students would have understanding of the classification, characteristic features, cell structure and growth and reproduction in viruses, bacteria, and various groups of marine and fresh water algae and their ecological and economic importance.
- The relationship between the properties of macromolecules, their cellular activities and biological responses.

- Understanding of Cell metabolism, chemical composition, physiochemical and functional organization of organelle.
- Contemporary approaches in modern cell and molecular biology.
- Understand the world of fungi, lichens and pathogens of plants.
- Understand characteristics the ecological and economic significance of the fungi and lichens.
- Understand the application of mycology in various fields of economic and ecological Significance.
- Understand the economic and pathological importance of fungi, bacteria and viruses.
- Identify common plant diseases and their control measures.
- The students will be made aware of the group of plants that have given rise to land habit and the flowering plants. Through field study they will be able to see these plants grow in nature and become familiar with the biodiversity.
- Students should create their small digital reports where they can capture the zoomed in and zoomed out pictures as well as videos in case they are able to find some rare structure or phenomenon related to these plants.
- Knowledge of various cells and tissues, meristem, epidermal and vascular tissue system in plants.
- Various aspects of growth, development of the tissues and differentiation of various plant organs. Knowledge of basic structure and organization of plant parts in angiosperms.
- Correlation of structure with morphology and functions.
- Students would have first-hand information of plants used as food, the various kinds of nutrients available in the plants. The dietary requirements of proteins, fats, amino-acids, vitamins etc. that can be met by plants.
- The students will learn to perform the micro-chemical tests to demonstrate various components.
- The students will learn about the use of fibre plants, beverages, fruits and vegetables that are integral to day to day life of plants.
- Students will learn to explore the regional diversity in food crops and other plants and their ethno-botanical importance as well.
- To generate interest among the students in Genetics and make them aware about the importance and opportunities in higher education and research, the first unit should be Introductory dealing with how this area has revolutionized all aspects of our life from its growth from Mendel to Genetic Engineering.
- Modes of inheritance of traits/ phenotypes and Phenotype-genotype correlation are the basic learning.
- Understanding of nucleic acid, organization of DNA in prokaryotes and Eukaryotes, DNA replication mechanism, genetic code and transcription process.
- Processing and modification of RNA and translation process, function and regulation of expression.
- Application in biotechnology.
- It acquaint the students with complex interrelationship between organisms and environment; make them understand methods to studying vegetation, community patterns and processes, ecosystem functions, and principles of phytogeography.
- This knowledge is critical in evolving strategies for sustainable natural resource management and biodiversity conservation.
- Understanding of systematic its importance in bio resource utilization and biodiversity management. Nomenclature pattern, Phylogeny, Classification systems of the plants.

DEPARTMENT OF ZOOLOGY

Programme Outcome

- To understand the nature and basic concepts of Zoology. To understand the analysis of relationship among animals, plants, microbes and environment. It provides insight into how "Life" works and consequently, how we work. The concept of students is cleared in the laboratory of Bio- Science.

Course Outcomes

- Students will be able to demonstrate the ability to read, understand and critically review scientific information.
- Students will be able to demonstrate ethical conduct in scientific activities.
- Students will be able to recognize the relationship between structure and function at all levels: molecular, cellular and organism.

DEPARTMENT OF ECONOMICS

Programme Outcome

- A degree in economics provides you with a solid foundation for a carrier in business, government or with the non-profit organization. In this programme you will study how societies, governments, households and individuals create, use, manage and distribute resources.

Course Outcomes

- Understand the behaviour of Indian and world economy.
- To develop the financial literacy for profitable investment.
- To make students aware of the issues of inflation, unemployment, poverty, GDP and Balance of payment.
- It develops the skill to make better decisions in business environment and even in your personal choices.
- To impart the knowledge of Banking, Marketing and different sections of economy so that students will get job opportunities in different economic, financial, banking, marketing and other sections of economy.
- Economists are vital in helping, predict and study responses to changes in policy and market changes, which is an important skill in today's changing business environment.
- Economists also study and help in developing public policies like health care and educational reforms.

DEPARTMENT OF HISTORY

Programme Outcome

- The Bachelor of Arts in History is a broad- based programme that has specific goals, including engaging the mind and imagination of those who study history ; introducing students to worlds, times, places and cultures including their own in a way that they have never thought before.

Course Outcomes

- To create interest towards the cultural and historical background of India.
- To understand the various historical incidents and to help students for preparing competitive examination.
- To help the students to identify and evaluate conflicting interpretations.
- It inspires the students through bravery and courage of our forefather.
- It inculcates critical thinking, reading, writing and research skills among students.

DEPARTMENT OF POLITICAL SCIENCE

Program Specific Outcomes

- Enables the students to grasp the knowledge of political ideals and social & political philosophy, fosters knowledge about constitutionalism and comparative constitutional system.
- Learns about the politics of India along with constitutional structures and institutions.
- Enriches the knowledge of students about western political thinkers of the ancient and medieval period.
- Efforts are being made to appraise the global and regional politics along with the inter-state relationship. They are acquainted with the Indian political thought and movement from ancient to the medieval period. Become aware of the sociological and political issues including institutions and process. They are taught about the organization and theories of public administration with their application in India.

Course Outcome

- Familiarity with different approaches to the study of politics and an ability to apply these to contemporary collective and political problems, and political behaviour.
- An ability to formulate and construct logical arguments about political phenomena and an ability to evaluate these through empirical and theoretical methods.
- An understanding of how political institutions emerge, how they operate, how they interact with their external environment, and how they shape individual and collective behavioural knowledge of basic factual information about politics within an area of specialization including political behaviour, comparative politics, international relations, political theory and methodology.
- Comprehend the basic structures and processes of government systems and theoretical underpinnings.
- Analyse political problems, arguments, information, and/or theories.
- Apply methods appropriate for accumulating and interpreting data applicable to the discipline of political science.

DEPARTMENT OF EDUCATION

Program Outcomes

- State the meaning of Philosophical, Psychological and Sociological aspect of foundation in Education.
- Discuss the nature of Philosophical, Psychological and Sociological aspect of foundation in Education.
- Explain the scope of Philosophical, Psychological and Sociological aspect of foundation in Education.
- Discuss the Historical aspect of foundation in Education.
- Identify the different aspect of Educational Management.
- Explain the different aspects of Educational Technology.
- Distinguish the difference among different foundations of Education.

Course Outcomes

- Discuss the meaning, nature, scope, and aims of education.
- Discuss the meaning and scope of educational philosophy.
- Explain the factors of education and their relationships.

- Discuss the educational view of different Western schools of philosophy namely Idealism, Naturalism, Pragmatism.
- Explain the concept of Democracy, Socialism, and Secularism.
- State the educational philosophies of Swami Vivekananda, Rabindranath Tagore, Mahatma Gandhi, Rousseau, Dewey, and Froebel.
- Discuss the meaning, nature, and scope of Educational sociology and Relation between education and sociology.
- Describe the Social factor and their relation to Education.
- Define social groups, socialization and Social Institution and Agencies of Education.
- Explain the Social change and its impact on Education.
- Discuss the concept, nature, scope, and uses of Psychology in education.
- Explain the influence of growth and development in education.
- Describe the meaning and concept of learning, its theories, and factors.
- Explain the application of learning theories in the classroom situation.
- Discuss the concept and theories of intelligence and creativity.
- Explain the concept and development of personality.
- Discuss the concepts of measurement and evaluation in the field of education.