<u>Attainment of programme outcomes and course outcomes are evaluated by the institution</u>.

The evaluation of attainment of programme outcomes is done at institution level whereas the course outcomes is done at department level. These Outcomes are generally divided into two categories i.e. Skill Based Outcomes and Knowledge Based Outcomes. Activities such as Project Works, Assignments, Seminars etc. besides the practical exams, which are conducted at frequent intervals, help us evaluate the achievement of Skill Based Outcomes.

With regard to the Knowledge Based Outcomes, each subject faculty conduct several slip tests and two mid-term exams to diagnose whether the teaching and learning are going towards reaching the outcomes. In case they are not, we modify our strategies and implement the suitable techniques to reach them.

When the semester end exam results are announced, we assess how far the course outcomes are attained by the students department wise. Based on this analysis, we make decisions concerning the steps to be taken for better attainment of the course outcomes in the upcoming courses. We also take course wise students' feedback in this regard.

When it comes to the attainment of Programme Outcomes, the College Academic Committee lead by the Principal evaluates it at the end of each academic year. The Head of the institution conducts review meetings with each course faculty and provides his feedback besides offering suggestions for improvement.

Program Outcomes

PO1: Domain Expertise

- Acquiring sample cohesive and comprehensive knowledge.
- Instills knowledge in a vibrant way
- Having the plan and execute knowledge properly

PO2: Life Long Learning and Research

- Implement made easy learning
- Inserting emerging trends in the needy places.
- Be inquisitive and establish cause and effective relationship.
- Research, renovate and report.

PO3: Modern Equipment Usage

- Use effective ICT mechanism.
- Insert high order technologies in to NDL, DELNET and NLIST.

PO4: Computing Skills and Ethics

- Promote rational and creative thinking process.
- High light the fact with the heighten mode of thinking un to the mankind.
- Ensure and enable ethical practices to make sound the mankind.

PO5: Complex problem investigations solving

- Challenge the problems.
- Plan and excute property
- Investigate and interpret empirical data
- Design and determine

PO6: Perform effectively as individuals and in Teams

- Work effectively and efficiency as an individuals.
- Coordinate, Co-operate and perform effectively in individuals / groups
- Convest the common into personal interest.

PO7: Efficient communication & Life skills

- Elevate ideas so vibrantly
- Made easy LSRW
- Adapt appropriate media to share information
- Instills skills clearly with creativity.

PO8: Environmental Sustainability

- Predict the environmental challenges
- Think critically and take Pre-cautionary steps
- Educate and visualize to follow environment friendly practices

PO9: Societal Contribution

- Rendering valuable service to the society
- Make patriotic citizen to up hold the values
- Being rational to give the significant contribution to the unprivileged.

PO10: Effective Project Management

- Plan, excute and direct the endeavors of teams to achieve the set targets in time
- Be competent in indentifying strengths, know the weakness and show the opportunities etc effectively.
- Identify the goals, objectives and components so relevantly.

Program Specific Outcomes

B.Sc – Mathematics, Physics, Chemistry (MPC)

PSO 1 : To make the students knowledgeable in mathematical concepts of differential equations, abstract algebra, differential and integral calculus, Vector calculus and numerical methods with applications in the areas Physical Sciences, Chemical Sciences and Statistics.

PSO 2 : To understand the theoretical concepts of mechanics, waves & oscillations, heat and thermodynamics, optics, Electricity and magnetism and modern physics from Physical Sciences and concepts of Physical Chemistry, Organic chemistry and In-organic chemistry from chemical sciences.

PSO 3 : To learn the Practical skills needed in handling the instruments using lab procedures and to study the physical and chemical properties and characteristics of materials.

PSO 4 : To apply the skills and knowledge gained in mathematics and chemical sciences in conducting water analysis.

B.Sc. Mathematics, Physics, Computer science(MPCs)

PSO 1: Know and demonstrate understanding of the concepts from different branches of Mathematics (Calculus, Solid Geometrics, Abstract algebra, Linear Algebra, Fluid Mechanics, Number theory, Integral Transformations)

PSO 2: Use appropriate mathematical concepts and skills to solve problems in both familiar and unfamiliar situations including those in real life context and in completely world in getting jobs

PSO 3: Develop the knowledge, skills and attitudes necessary to pursue further studies in Mathematics and research in Mathematics

PSO 4: Demonstrate an understanding of principles and theories of Physics. These including the following : Newtonian mechanics, Thermodynamics, Electromagnetism, optics Special and general theories of relativity, quantum mechanics, atomic Physics, Molecular Physics, nuclear and elementary particle physics, solid state physics and renewable energy management.

PSO 5: Students will show that they have learned laboratory skills, enabling them to take measurements in a physics laboratory and analyze the measurements to draw valid conclusions.

PSO 6: Students will be capable of oral and written scientific communication, and will prove that they can think critically and work independently

PSO 7: Identify and solve significant problems across a broad range of application areas

PSO 8: Receive comprehensive understanding of programming concepts and to understand software development as a part of Computer Science

PSO 9: Demonstrate proficiency in problem-solving techniques using the computer

PSO 10: Demonstrate life-long learning skills and adapt to emerging markets and technologies.

B.Sc-Botany, Zoology, Chemistry(B.Z.C)

PSO 1 : To understand principles of origin of life and its evolutionary trends, Microbial diversity, chemical theory related to origin of life

PSO 2 : To analyze the taxonomic range of various life forms as per their external characters and internal chemical constitutions (chemo taxonomy)

PSO 3 : To gain the knowledge about ecological and phyto geographical studies related in environmental biodiversity with biotic factors

PSO 4 : To develop skills to study the principles of tissue culture techniques in

biology leads to various diversity of life forms (hybrids) by using the chemically synthesised growth hormones.

PSO 5 : Ability to design the evolution of drugs form the biological sources and its applications without any side effects in nature.

B.COM (Computer Applications)

PSO 1 : To Gain in depth knowledge in the concepts

- Principles of accountings
- Business organization and management
- Principles of Cost and Management Accountancy
- Principles of Auditing

PSO 2 : To become familiar with the computer software such as MS Office, VB, Tally , HTML,DBMS, Adobe Photoshop used in the business operations and applications.

PSO 3 : To enhance the skills of the students in the areas of leadership and entrepreneurship.

PSO 4 : To make the students well versed with the latest business technologies and   e-commerce.

B.A –History, Economics, Political Science (H.E.P)

PSO 1 : To Understand the basic concepts of National Income, Poverty, Employment ,International trade ,Fiscal and the monetary policies, Economic conditions of various historic periods, Satavahana' s Foreign trade, numismatics ,agriculture economy from ancient period to modern times and their role in administration for formulating relevant policies for effective utilization of resources and managing various problems like unemployment and improved standard of living.

PSO 2 : To analyse the economic importance of various sectors like agriculture, industry and service sector different dynasties that influence administration like Chola administration (local self Government) Mauryan administration and (Urban governance) and British administration.

PSO 3 : To understand the impact of agriculture and foreign trade in economic development that attract foreign invaders towards India, resulting in changed administration in due course up-to and after independence.

PSO 4 : To provide life skills required for securing employment by using domain knowledge in Economy systems, Historians/History writing and polity at various levels.

Course Outcomes

DEPARTMENT OF BOTANY
VISVODAYA GOVERNMENT DEGREE COLLEGE
VENKATAGIRI
COURSE OUTCOMES

SEMESTER - I
PAPER I: MICROBIAL DIVERSITY, ALGAE AND FUNGI

On successful completion of this course, the students will be able to

- ❖ Explain origin of life on the earth.
- ❖ Illustrate diversity among the viruses and prokaryotic organisms and can categorize them.
- ❖ Classify fungi, lichens and algae based on their structure, reproduction and life cycles.
- ❖ Analyze and ascertain the plant disease symptoms due to viruses, bacteria and fungi.
- ❖ Examine the general characteristics of bacteria and their cell reproduction/ recombination.
- ❖ Increase the awareness and appreciation of human friendly viruses, bacteria, algae and their economic importance.
- ❖ Conduct experiments using skills appropriate to subdivisions.

SEMESTER - II
PAPER II: DIVERSITY OF ARCHAEGONIATES AND PLANT ANATOMY

On successful completion of this course, the students will be able to

- ❖ Demonstrate an understanding of archegoniatae, Bryophytes, Pteridophytes and Gymnosperms.
- ❖ Develop critical understanding on morphology, anatomy and reproduction of Bryophytes, Pteridophytes and Gymnosperms.
- ❖ Understanding of plant evolution and their transition to land habitat.
- ❖ Demonstrate proficiency in the experimental techniques and methods of appropriate analysis of Bryophytes, Pteridophytes, and Gymnosperms.
- ❖ Develop an understanding of concepts and fundamentals of plant anatomy.
- ❖ Examine the internal anatomy of plant systems and organs.
- ❖ Analyze the composition of different parts of plants and their relationships.
- ❖ Understand the histological organization of plant body.
- ❖ Understand the mechanism of anomalous secondary growth and its significance.

SEMESTER - III
PAPER III: PLANT TAXONOMY AND EMBRYOLOGY

On successful completion of this course, the students will be able to

❖ Comprehend the basic concepts of taxonomy and botanical nomenclature.

❖ Critically understand various taxonomical aids for identification of Angiosperms.

❖ Evaluate the significance of herbarium.

❖ Critically understand various taxonomical aids for identification of Angiosperms.

❖ Analyze the morphology of the most common Angiosperms of their localities and recognize their families.

❖ Identify the local angiosperms of the families prescribed to their genus and species level and prepare herbarium.

❖ Prepare and preserve specimens of local wild plants using herbarium techniques.

❖ Illustrate and interpret various aspects of embryology.

❖ Understand structure and functions of anther wall and pollen wall

❖ Understand the Microsporogenesis, megasporogenesis and embryo sac development.

❖ Understand structure and functions of anther wall and pollen wall.

❖ Understand the dicot and monocot embryo development.

❖ Comprehend the causes of Polyembryony.

SEMESTER - IV
PAPER IV: PLANT PHYSIOLOGY AND METABOLISM

On successful completion of this course, the students will be able to

❖ Comprehend the importance of water in plant life and mechanisms for transport of water and solutes in plants.

❖ Evaluate the role of minerals in plant nutrition and their deficiency symptoms.

❖ Interpret the role of enzymes in plant metabolism.

❖ Critically understand the light reactions and carbon assimilation processes responsible for synthesis of food in plants.

❖ Explain the significance of Photosynthesis and respiration

❖ Analyze the biochemical reactions in relation to Nitrogen and lipid metabolisms.

❖ Evaluate the physiological factors that regulate growth and development in plants.

❖ Examine the role of light on flowering and explain physiology of Senescence.

❖ Conduct lab and field experiments pertaining to Plant Physiology, that is, biophysical and biochemical processes using related glassware, equipment, chemicals and plant material.

SEMESTER - V
PAPER V: CELL BIOLOGY, GENETICS AND PLANT BREEDING
On successful completion of this course, the students will be able to

- ❖ Distinguish prokaryotic and eukaryotic cells and design the model of a cell.
- ❖ Explain the organization of a eukaryotic chromosome and the structure of genetic material.
- ❖ Demonstrate techniques to observe the cell and its components under a microscope.
- ❖ Evaluate the structure and function of genetic material.
- ❖ Analyse the structures and chemical properties of DNA and RNA through various historic experiments.
- ❖ Discuss the basics of Mendelian genetics, its variations and interpret inheritance of traits in living beings.
- ❖ Understand the application of principles and modern techniques in plant breeding.
- ❖ Explain the procedures of selection and hybridization for improvement of crops.

SEMESTER - V
PAPER VI: PLANT ECOLOGY & PHYTOGEOGRAPHY
On successful completion of this course, the students will be able to

- ❖ Discuss the basic concepts of plant ecology, and evaluate the effects of environmental and biotic factors on plant communities.
- ❖ Appraise various qualitative and quantitative parameters to study the population and community ecology.
- ❖ Analysis the phytogeography or phytogeographical divisions of World and India.
- ❖ Understand endemism its types and causes.
- ❖ Develop understanding of the concept and scope of plant biodiversity.
- ❖ Identify the causes and implications of loss of biodiversity.
- ❖ Utilize various strategies for the conservation of biodiversity
- ❖ Correlate the importance of biodiversity and consequences due to its loss.
- ❖ Enlist the endemic/endangered flora and fauna from two biodiversity hot spots in India and assess strategies for their conservation.
- ❖ Conduct experiments using skills appropriate to subdivisions.

SEMESTER - VI
PAPER VII- ELECTIVE (A): ORGANIC FARMING & SUSTAINABLE AGRICULTURE
On successful completion of this course, the students will be able to

- ❖ Develop their understanding on the concept of Organic farming
- ❖ Understand the concept and scope of organic farming
- ❖ Identify the different forms of biofertilizers and their uses
- ❖ Understand the organic crop production practices.

SEMESTER - VI
PAPER VII- ELECTIVE (B): NURSERY, GARDENING AND FLORICULTURE
On successful completion of this course, the students will be able to
- ❖ Understand the basics of nursery types and management.
- ❖ Know different components of parks and some famous gardens of India.
- ❖ Understand the process of Landscaping.
- ❖ Appreciating the economic and aesthetic values of different ornamental plants.
- ❖ Understand the process of sowing seeds in nursery
- ❖ List the various resources required for the development of nursery.
- ❖ Distinguish among the different forms of sowing and growing plants.
- ❖ Analyse the process of Vegetative propagation.
- ❖ Appreciate the diversity of plants and selection of gardening.
- ❖ Examine the cultivation of different commercial ornamental plants.

SEMESTER - VI
PAPER VII- ELECTIVE (C): PLANT TISSUE CULTURE AND ITS BIOTECHNOLOGICAL APPLICATIONS
On successful completion of this course, the students will be able to
- ❖ Understand the core concepts and fundamentals of plant biotechnology and genetic engineering
- ❖ Develop their competency on different types of plant tissue culture.
- ❖ Analyze the enzymes and vectors for genetic manipulations.
- ❖ Examine gene cloning and evaluate different methods of gene transfer.
- ❖ Critically analyze the major concerns and applications of transgenic technology.

PAPER VIII- CLUSTER A-1: PLANT DIVERSITY AND HUMAN WELFARE

On successful completion of this course, the students will be able to

- ❖ Develop understanding of the concept and scope of plant biodiversity
- ❖ Identify the causes and implications of loss of biodiversity
- ❖ Apply skills to manage plant biodiversity
- ❖ Utilize various strategies for the conservation of biodiversity
- ❖ Conceptualize the role of plants in human welfare with special reference to India

SEMESTER - VI

PAPER VIII- CLUSTER A-2: ETHNOBOTANY AND MEDICINAL BOTANY

On successful completion of this course, the students will be able to

- ❖ Understand Ethnobotany as an interdisciplinary science and the relevance of ethnobotany in the present context.
- ❖ Appreciate the role of ethnobotany in modern medicine with special example.
- ❖ Understand the role of ethnic groups in the conservation of plant genetic resources.
- ❖ Get knowledge about Biopiracy, Intellectual Property Rights and protection of traditional Knowledge.
- ❖ understand the History, Scope and Importance of Indigenous Medicinal Sciences like Ayurveda, Sidda and Yunani.
- ❖ Understand the Conservation strategies of endangered and endemic medicinal plants.
- ❖ Recognize the basic medicinal plants.
- ❖ Apply techniques of conservation and propagation of medicinal plants.
- ❖ Setup process of harvesting, drying and storage of medicinal herbs.
- ❖ Propose new strategies to enhance growth of medicinal herbs considering the practical issues pertinent to India

SEMESTER - VI

PAPER VIII- CLUSTER A-3: PHARMACOGNOSY AND PHYTOCHEMISTRY

On successful completion of this course, the students will be able to

- ❖ Understand the fundamental concepts of phytochemistry
- ❖ Develop the skills of cold and hot solvent extraction.
- ❖ Examine the solvent fractionation.
- ❖ Evaluate the process of screening each fraction for plant pathogens or human pathogens
- ❖ Understand the importance and role of pharmacognosy in determining the purity of crude drugs.
- ❖ Understand the methods for testing the secondary metabolites like alkaloids, phenols, flavonoids, tannins and sterols and applied the learnt knowledge in phytochemistry.

Visvodaya Govt. Degree College, Venkatagiri
SPSR Nellore district 524 132

Department of Computer Applications

I SEMESTER
Computer Fundamentals & Photoshop

CO1: Design layouts for web pages, Paper Adverts, Brouchers, CD Covers, Package Designing
CO2 : Event and Exhibition stall Designs, Pop Ups
CO3: Touch Ups
CO4: Color corrections
CO5 : Paintings, Drawings
CO6 : Converting B/W photo to color

II SEMESTER
Paper-II: PROGRAMMING IN C

Upon successful completion of the course, a student will be able to:

CO1: Appreciate and understand the working of a digital computer
CO2: Analyze a given problem and develop an algorithm to solve the problem
CO3: Improve upon a solution to a problem
CO4: Use the 'C' language constructs in the right way
CO5: Design, develop and test programs written in 'C'

III SEMESTER
DSC-3C OFFICE AUTOMATION TOOLS

CO1: Learn the basic concepts of MS Excel.
CO2: Understanding the formatting options and functions in MS Excel
CO3: Understanding the concepts of Charts and Macros in Ms Excel
CO4: Understanding the concepts Tables and Forms in MS Access .
CO5: Learn the Queries and Reports concepts of MS Access.

IV SEMESTER
DSC-3D : OBJECT ORIENTED PROGRAMMING WITH C++
At the end of this course student will:
CO1: Understand the concept and underlying principles of Object-Oriented Programming

CO2: Understand how object-oriented concepts are incorporated into the Java   programming language
CO3: Develop problem-solving and programming skills using OOP concept
CO4: Understand the benefits of a well structured program
CO5: Develop the ability to solve real-world problems through software development in high-level
     programming language like Java
CO6: Develop efficient Java applets and applications using OOP concept
CO7: Become familiar with the fundamentals and acquire programming skills in the Java language.

V SEMESTER

Paper-V Programming with java

   At the end of this course student will:
CO1: Understand the concept and underlying principles of Object-Oriented Programming
CO2: Understand how object-oriented concepts are incorporated into the Java programming language
CO3: Develop problem-solving and programming skills using OOP concept
CO4: Understand the benefits of a well-structured program
CO5: Develop the ability to solve real-world problems through software development in high-level
     Programming language like Java
CO6: Develop efficient Java applets and applications using OOP concept
CO7: Become familiar with the fundamentals and acquire programming skills in the Java language.

Paper-VI WEB TECHNOLOGY

 CO1: To understand the web architecture and web services.
CO2: To practice latest web technologies and tools by conducting experiments.
CO3: To design interactive web pages using HTML and Style sheets.
CO4: To study the framework and building blocks of .NET Integrated Development Environment.
CO5: To provide solutions by identifying and formulating IT related problems.

VI SEMESTER Paper-VII: Elective-A
Operating Systems

CO1: Analyze the concepts of processes in operating system and illustration of the scheduling of
     Processor for a given problem instance.
CO2: Identify the dead lock situation and provide appropriate solution so that protection
      and security of the operating system is also maintained.
CO3: Analyze memory management techniques, concepts of virtual memory and disk scheduling.
CO4: Understand the implementation of file systems and directories along with the
     interfacing of IO devices with the operating system.

VI SEMESTER Paper-VII: Elective-B
Software Engineering

CO1: Able to understand the Role of Software, Myths and risk management process that is risk strategies.

CO3: Ability to gather and specify requirements of the software projects and analyze the analysis model.

CO4: Able to design Architectural styles and patterns & analyze.

CO5: Describe technical issues related to software quality and testing and ability to work in a term as well as independent of projects.

VI SEMESTER Paper-VII: Elective-C
COMPUTER NETWORKS

After this course, the student will be able to

CO1: Identify the different components in a Communication System and their respective roles.

CO2: Describe the technical issues related to the local Area Networks

CO3: Identify the common technologies available in establishing LAN infrastructure

VI SEMESTER
(Cluster 1) Paper-VIII: Elective –A-1
E-COMMERCE APPLICATIONS

CO1: Ability to gather and understand the concepts of Electronic Commerce.

CO2: Learn to understand the concepts of Supply Chain Management

CO3: Able to differentiate the types of Electronic Payment System

CO4: Able to understand the basic concepts of JavaScript.

CO5: Able to understand the concepts of Control Structures

VI SEMESTER
(Cluster 1) Paper-VIII: Elective –A-2
DATA BASE MANAGEMENT SYSTEM

CO1: Demonstrate the basic concepts and explore the classifications, objectives and evaluation of Database systems.

CO2: Understand the concept of file based system and political database model.

CO3: Learn entity relationship models and normalization

CO4: Identify the basic issues of SQL, Aggregate functions and set operators.

CO5: Expose in Pl/SQL program and control structures.

VI SEMESTER

PROJECT WORK

The objective of the project is to motivate them to work in emerging/latest technologies, help the students to develop ability, to apply theoretical and practical tools/techniques to solve real life problems related to industry, academic institutions and research laboratories.

The project is of 2 hours/week for one (semester VI) semester duration and a student is expected to do planning, analyzing, designing, coding, and implementing the project. The initiation of project should be with the project proposal. The synopsis approval will be given by the project guides.

The project proposal should include the following:

- Title

- Objectives

- Input and output

- Details of modules and process logic

- Limitations of the project

- Tools/platforms, Languages to be used

- Scope of future application

The Project work should be either an individual one or a group of not more than three members and submit a project report at the end of the semester. The students shall defend their dissertation in front of experts during viva-voce examinations.

VI SEMESTER
(Cluster 1) Paper-VIII: Elective –B-1
VISUAL BASIC PROGRAMMING

CO1: Understand the concept and underlying principles of Object-Oriented Programming
CO2: Understand how object-oriented concepts are incorporated into the Visual Basic programming language
CO3: Develop problem-solving and programming skills using OOP concept
CO4: Understand the benefits of a well structured program
CO5: Develop the ability to solve real-world problems through software development using GUI environment
CO6: Develop efficient storing values in Arrays and creating Menus in VB Become familiar with the fundamentals and acquire programming skills in the   Visual Basic

VI SEMESTER
(Cluster 1) Paper-VIII: Elective –B-2
PHP(PERSONAL HOME PAGE)

CO1: Learn data types and control structures of PHP

CO2: Explaining how to work with functions in PHP

CO3: Explaining how to work with Arrays in PHP

CO4: Understanding the concepts of Strings and Functions in PHP

CO5: Understanding the working with Forms Using PHP

VI SEMESTER
(Cluster 1) Paper-VIII: Elective –B-3
PROJECT WORK

The objective of the project is to motivate them to work in emerging/latest technologies, help the students to develop ability, to apply theoretical and practical tools/techniques to solve real life problems related to industry, academic institutions and research laboratories.

The project is of 2 hours/week for one (semester VI) semester duration and a student is expected to do planning, analyzing, designing, coding, and implementing the project. The initiation of project should be with the project proposal. The synopsis approval will be given by the project guides. The project proposal should include the following:

Title

Objectives

Input and output

Details of modules and process logic

Limitations of the project

Tools/platforms, Languages to be used

Scope of future application

The Project work should be either an individual one or a group of not more than three members and submit a project report at the end of the semester. The students shall defend their dissertation in front of experts during viva-voce examinations.

VISVODAYA GOVT DEGREE COLLEGE VENKATAGIRI

(NAAC ''B'' Grade)

Department of Chemistry

COURSE OUTCOMES

SEMESTER   I

COURSE 1: INORGANIC & ORGANIC CHEMISTRY (1304CHE15)

Theory:

At the end of the course, the students will be able to:

> ➢ Gets knowledge about p-block elements
>
> ➢ Acquires knowledge about basic concepts of organic chemistry
>
> ➢ Understands the concept of Aromaticity, Huckel's rule

Laboratory:

1304CHE15: Practical-I Simple Salt Anaiysis

On successful completion of this course, the students shall be able to:
> ➢ Develop skills required for the qualitative analysis of simple salt containing one anion and cation

SEMESTER   II

COURSE II : PHYSICAL & GENERAL CHEMISTRY (2304CHE15)

Theory:

 At the end of the course, the students will be able to:

> ➢ Understands the basic terminology of stereochemistry and molecular representations
> ➢ Gets knowledge about the states of matter in depth and properties of solutions
> ➢ Acquires knowledge about hybridization, valence bond theory and molecular orbital theory
> ➢ Learn about the properties of colloids, sols, emulsions and gels

Laboratory:
2304CHE15: Practical-II Analysis of Mixture Salt

On successful completion of this course, the students shall be able to:

- Use glassware , equipment and chemicals and follow experimental procedures in the laboratory
- Develop skills required for the qualitative analysis of mixture salt containing two anions and two cations

SEMESTER   III

COURSE III : INORGANIC CHEMISTRY & ORGANIC CHEMISTRY (3304CHE15)

Theory:

At the end of the course, the students will be able to:

- Develops insight into Chemistry of d-block and f-block elements
- Develops in-depth knowledge about metal carbonyls and EAN (Effective atomic number)
- Learn about various name reactions and their mechanisms

Laboratory:

3304CHE15: Practical-III Titrimetric analysis and Organic Functional Group Reactions

On successful completion of this course, the students shall be able to:

- How to use glassware equipments and chemicals and follow experimental procedures in the laboratory
- Identifies the nature of functional group present in a given organic compound
- Determine the amount of Fe(II)/Cu(II) through titrimetric analysis
- How to depose of chemicals in a safe and responsible manner
- How to perform common laboratory techniques including reflects distillation re crystallisation vacuum filtration
- How to create and carryout work up and separation procedures
- How to critically evaluate data collected to determine te identify purity and percent yield of products and to summaries findings in writing in clear and concise manner

SEMESTER   IV

COURSE IV : SPECTROSCOPY & PHYSICAL CHEMISTRY (4304CHE15)

Theory:

At the end of the course, the students will be able to:

1) To learn about the loss of a observation of light energy by molecules and the subsequent photo chemical reactions
2) To understand the concepts of quantum efficiency and mechanisms of photochemical reactions.
3) Get awareness about spectroscopic techniques like Electronic, Infra red and Proton magnetic resonance spectroscopy and their uses in structural elucidation of an organic compound
4) Develops in-depth knowledge about Phase equilibrium and its applications
5) Gain the knowledge about conductometric and potentiometric titrations

Laboratory:

4304CHE15: Practical-IV Physical Chemistry and IR Spectral Analysis

On successful completion of this course, the students shall be able to:

➢ Measure the concentration of acids through conductometric titrations
Measure the CST (Critical Solution Temperature) of Phenol-Water system

SEMESTER   V

COURSE IV : INORGANIC, ORGANIC & PHYSICAL CHEMISTRY (5314CHE15)

Theory:

- Learn about various concepts of Coordination chemistry and stereochemistry of coordination compounds
- Understands the stability of metal complexes
- The terminology in Thermodynamics and laws of Thermodynamics

Laboratory:

5314CHE15: Practical-V Organic Chemistry

- Develop skills required for the systematic qualitative analysis of organic compounds and determination of physical constants

COURSE VI : INORGANIC, ORGANIC & PHYSICAL CHEMISTRY (5324CHE15)

Theory:

At the end of the course, the students will be able to:

1) Knows about kinetics of a chemical reaction and the concept of activation energy
2) Understands the various photophysical and photochemical processes
3) Learn the physical and chemical properties of Amino acids

Laboratory:

5324CHE15: Practical-VI Physical Chemistry

On successful completion of this course, the students shall be able to:

- Capable to determine the surface tension and viscosity of a liquid
- Knows the determination of rate constant for acid catalysed ester hydrolysis

SEMESTER VI

63CHE: ELECTIVE-VII-A: ANALYTICAL METHODS IN CHEMISTRY

Theory:

At the end of the course, the students will be able to:

- dentify the importance of solvent extraction and ion exchange method.
- Acquire knowledge on the basic principles of volumetric analysis and gravimetric analysis.
- Demonstrate the usage of common laboratory apparatus used in quantitative analysis.
- Understand the theories of different types of titrations.
- Gain knowledge on different types of errors and their minimization methods.
- Get awareness about separation techniques in chemical analysis and various types of chromatographic techniques, which are essential to become a good researcher
- Understand the principles of volumetric and gravimetric analysis

Laboratory:

63CHE: Practical-VII-A
On successful completion of this practical course, student shall be able to:

- Estimate Iron(II) using standard Potassium dichromate solution
- Learn the procedure for the estimation of total hardness of water
- Demonstrate the determination of chloride using Mohr's method
- Acquire skills in the operation and calibration of pH meter
- Perform the strong acid vs strong base titration using pH meter
- Expertise in Paper chromatography technique, which is a notable purification technique
- EDTA titrations

VISVODAYA GOVT. DEGREE COLLEGE, VENKATAGIRI
SPSR. NELLORE DISTRICT

DEPARTMENT OF COMMERCE

SEMESTER – I: FUNDEMENTAL ACCOUNTING

CO1: To understand the student need for accounting and the conceptual knowledge of accounting classification of accounts and its rules.
CO2: To gain the knowledge of types of subsidiary books different types of cash books.
CO3: To understand the student what is trail balance and how to rectification of errors.
CO4: Student understands the need for bank reconciliation statement.
CO5: To develop the skills of recording financial transactions.

SEMESTER – II : FUNDEMENTAL ACCOUNTING

CO1: To understand the students meaning of depreciation and methods of depreciation.
CO2: To understand the student meaning of provision vs reserve, how to prepare bad debits account, and provision for discount on debtors & creditors accounting and repairs and renewals reserve account.
CO3: To understand and acquiring of the students meaning of bill, parties in the bill and importance of bills of exchange.
CO4: To understand the student importance of consignment and features.
CO5: To understand and acquiring of the students joint venture, features and differences between joint venture and consignment.

SEMESTER – III: CORPORATE ACCOUNTING

CO1: The student should gain the basic knowledge about accounting for share capital.
CO2: To understand the student issue and redemption of debentures and accounting treatment for convertible and non-convertible debentures.
CO3: To understand the students need for good will and methods of good will.
CO4: To understand and acquiring of the students need for valuation of shares and methods of valuation.
CO5: To enable the students to prepare final accounts of companies.

SEMESTER – III: ACCOUNTING FOR SERVICE ORGANIZATIONS

CO1: To understand the students types of service organizations – sec(8) and other provisions of companies Act, 2013.
CO2: To understand the students accounts of electricity supply companies and double accounting system.
CO3: To gain the knowledge of the students Bank accounts and Banking regulation Act, 1969.
CO4: To understand the students life insurance companies act 1956 and prepare final accounts of life insurance companies.
CO5: To understand the students insurance concepts and claims for loss of stock.

SEMESTER – V: BUSINESS LEADERSHIP

CO1: Learn the developing traits, skills and styles & describe qualities of good leader.
CO2: Familiar with the decision making and leadership.
CO3: Analyze the profiles of a few inspirational leaders in business.

SEMESTER – IV : FOUNDATION COURSE - ENTERPRENEURSHIP

CO1: Student to gain the basic knowledge about Entrepreneurship.
CO2: To design a sources of new ideas and techniques for generating ideas.
CO3: To acquire the knowledge about project report and analysis of financial market.
CO4: The student should familiar to NABARD, SIDBI, NIC are the central level instructions.
CO5: To design a small business government policy for SSIs Tax incentives and concessions.

SEMESTER – V : COST ACCOUNTING

CO1: To understand the student role of the financial accounting, cost accounting and Management accounting.
CO2: To understand the student various concepts of accounting systems.
CO3: To understand and acquiring of the student Reconciliation of costing and Financial Banking accounting systems.
CO4: To understand and acquiring of the student benefits and limitations of cost volume and profit analysis.
CO5: To understand the student costing techniques and preparation of various types of budgets.

SEMESTER – I : BUSINESS ORGANIZATION

CO1: To understand the basic concepts and functions of Business Organization.
CO2: To develop a set of personal business career options and apply business ethics and social responsibility.
CO3: To develop a partnership business.
CO4: To study and understand joint stock company and various kinds of congent in India.
CO5: To develop preparation of important documents for incorporates of company.

SEMESTER – IV : BUSINESS LAWS

CO1: To make the students learn the basics or business laws and apply them in real life
CO2: To understand valid offer, acceptance.
CO3: To understand magnify age Act 1875 and guardian and wards Act 1896.
CO4: To understand the students about sale of goods Act 1930.
CO5: To understand cyber law and safety mechanisms.

SEMESTER – II : BUSINESS ENVIRONMENTS

CO1: To understand the environmental factors affecting business and economic and monetary policies influence on business decision mandatory.
CO2: To understand economic growth is fhdia and understand balanced regional development.
CO3: To understand the years planning in India developing India through the five years planning.
CO4: To understand economic policy in India and union budget.
CO5: To understand social political and legal environment in business.

SEMESTER – II : BUSINESS STATISTICS

CO1: To impart knowledge on the application of statistical tools and techniques in business decisions.
CO2: To making and use of M.S.Excel in interpretation of statistical data.
CO3: To understand range, Q.D, M.D, S.D usage M.S.Escel interpretatim of statistical data.
CO4: To understand and use of corrections on computers.
CO5: To understand and use of computers of Index numbers.

SEMESTER – V: GOODS & SERVICE TAX

CO1: To understand of GST and need for Tax reforms.

CO2: To understand models of GST.

CO3: To understand various Taxes and duties and use of computers.

CO4: To understand infer-state goods and services Tax and use of computers.

CO5: To understand time of supply of goods or services and use of computers.

SEMESTER – V: ADVANCED ACCOUNTING

CO1: To understand various self balance system departments.

CO2: to understand single entry system.

CO3: To understand royalty accessories is minimum business and use of computers.

CO4: To understand partnership accents and use of computers.

CO5: To understand liquidation accounts and use of computers.

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Department of Computer Science

B.Sc (Computer Science)
1 SEMESTER

Paper-I : Computer Fundamentals & Photoshop

CO1: Design layouts for web pages, Paper Adverts, Brouchers, CD Covers, Package Designing
CO2 : Event and Exhibition stall Designs, Pop Ups
CO3: Touch Ups
CO4: Color corrections
CO5 : Paintings, Drawings
CO6 : Converting black and white photo to color

II SEMESTER
Paper-II : PROGRAMMING IN C

.Upon successful completion of the course, a student will be able to:

CO1: Appreciate and understand the working of a digital computer
CO2: Analyze a given problem and develop an algorithm to solve the problem
CO3: Improve upon a solution to a problem
CO4: Use the 'C' language constructs in the right way
CO5: Design, develop and test programs written in 'C'

III SEMESTER
Paper-III : OBJECT ORIENTED PROGRAMMING USING JAVA

CO1: Understand the concept and underlying principles of Object-Oriented   programming
CO2: Understand how object-oriented concepts are incorporated into the Java rogramming language
CO3: Develop problem-solving and programming skills using OOP concept
CO4: Understand the benefits of a well structured program
CO5: Develop the ability to solve real-world problems through software development in   high-level
      programming language like Java
CO6: Develop efficient Java applets and applications using OOP concept
CO7: Become familiar with the fundamentals and acquire programing skills in the Java language.

IV SEMESTER
Paper-IV : DATA STRUCTURES

After completing this course satisfactorily, a student will be able to:
CO1: Describe how arrays, records, linked structures, stacks, queues, trees, and graphs are represented
      in memory and used by algorithms
CO2: Describe common applications for arrays, records, linked structures, stacks, queues, trees, and
      graphs.
CO3: Write programs that use arrays, records, linked structures, stacks, queues, trees, and graphs

CO4: Demonstrate different methods for traversing trees
CO5: Compare alternative implementations of data structures with respect to performance
CO6: Compare and contrast the benefits of dynamic and static data structures implementations
CO7:Describe the concept of recursion, give examples of its use, describe how it can be implemented using a stack .
CO8: Discuss the computational efficiency of the principal algorithms for sorting, searching, and hashing.

V SEMESTER
Paper-V: Data Base Management System

On completing the subject, students will be able to:

CO1: Demonstrate the basic concepts and explore the classifications, objectives and evaluation of Database systems.
CO2: Understand the concept of file based system and political database model.
CO3: Learn entity relationship models and normalization
CO4: Identify the basic issues of SQL, Aggregate functions and set operators.
CO5: Expose in Pl/SQL program and control structures.

V SEMESTER
Paper VI : Software Engineering
CO1: Able to understand the Role of Software, Myths and risk management process that is risk strategies.
CO2: Become familiar with software process models.
CO3: Ability to gather and specify requirements of the software projects and analyze the analysis model.
CO4: Able to design Architectural styles and patterns & analyze.
CO5: Describe technical issues related to software quality and testing and ability to work in a term as well as independent of projects.

VI SEMESTER
Paper-VII: Elective-A
Operating Systems
CO1: Analyze the concepts of processes in operating system and illustration of scheduling of processor for a given problem instance.
CO2: Identify the dead lock situation and provide appropriate solution so that protection and security of the operating system is also maintained.
CO3: Analyze memory management techniques, concepts of virtual memory and disk scheduling.
CO4 : Understand the implementation of file systems and directories along with the interfacing of IO devices with the operating system.

VI SEMESTER
Paper-VII: Elective-B
COMPUTER NETWORKS

After this course, the student will be able to
CO1: Identify the different components in a Communication System and their respective roles.
CO2: Describe the technical issues related to the local Area Networks
CO3: Identify the common technologies available in establishing LAN infrastructure

VI SEMESTER

Paper-VII : Elective-C
Web Technologies

To understand the web architecture and web services.

CO1: To practice latest web technologies and tools by conducting experiments.
CO2: To design interactive web pages using HTML and Style sheets.
CO3: To study the framework and building blocks of .NET Integrated Development Environment.
CO4: To provide solutions by identifying and formulating IT related problems.

VI SEMESTER
(Cluster 1) Paper-VIII: Elective –A-1
Foundations of Data Science

CO1: Able to apply fundamental algorithmic ideas to process data.
CO2: Learn to apply hypotheses and data into actionable predictions.
CO3: Document and transfer the results and effectively communicate the findings using visualization techniques.

VI SEMESTER
(Cluster 1) Paper-VIII : Elective –A-2
BIG DATA TECHNOLOGY

CO1: Learn tips and tricks for Big Data use cases and solutions.
CO2: Learn to build and maintain reliable, scalable, distributed systems with Apache Hadoop.
CO3: Able to apply Hadoop ecosystem components.

VI SEMESTER
(Cluster 1 Paper-VIII : Elective –A-3)
COMPUTING FOR DATA ANALYTICS

CO1: Learn the Big Data in Technology Perspective.
CO2: Understanding of the statistical procedures most often used by practicing engineers
CO3: Understand Forecasting methods and apply for business applications

VI SEMESTER
(Cluster 2) Paper-VIII : Elective –B-1
Distributed Systems

CO1: Create models for distributed systems.
CO1: Apply different techniques learned in the distributed system.

VI SEMESTER
(Cluster 2) Paper-VIII : Elective –B-2
Cloud Computing

CO1: Compare the strengths and limitations of cloud computing
CO2: Identify the architecture, infrastructure and delivery models of cloud computing
CO3 : Apply suitable virtualization concept.
CO4 : Choose the appropriate cloud player , Programming Models and approach.
CO5 : Address the core issues of cloud computing such as security, privacy and interoperability

CO6 : Design Cloud Services and Set a private cloud

VI SEMESTER
(Cluster 2) Paper-VIII : Elective –B-3
Grid Computing

CO1: Compare the strengths and limitations of Grid computing
CO2 : Identify the architecture, infrastructure and delivery models of Grid computing
CO3 : Apply suitable virtualization concept.
CO4 : Address the core issues of Grid computing such as security, privacy and interoperability

PROJECT & VIVA-VOCE

The objective of the project is to motivate them to work in emerging/latest technologies, help the students to develop ability, to apply theoretical and practical tools/techniques to solve real life problems related to industry, academic institutions and research laboratories.

The project is of 2 hours/week for one (semester VI) semester duration and a student is expected to do planning, analyzing, designing, coding, and implementing the project. The initiation of project should be with the project proposal. The synopsis approval will be given by the project guides. The project proposal should include the following:

Title
Objectives
Input and output
Details of modules and process logic
Limitations of the project
Tools/platforms, Languages to be used
Scope of future application

The Project work should be either an individual one or a group of not more than three members and submit a project report at the end of the semester. The students shall defend their dissertation in front of experts during viva-voce examinations.

DEPARTMENT OF ECONOMICS
MICRO ECONOMICS – CONSUMAR BEHAVIOUR

SEMESTER – I

CO1: Familiar with concepts of definitions of Economics.

CO2: Know and compare micro and macro economics.
CO3: Analyze the behavior of consumer.
CO4: Acquire knowledge about price and demand.
CO5: Analyze the consumer behavior with ordinal approach.

MICRO ECONOMICS – PRODUCTION AND PRICE THEORY
SEMESTER – II

CO1: Familiar with the concepts of cost and production.

CO2: Analyze and compare the different market structures.
CO3: Acquaint knowledge on monopolistic competition and oligopoly markets.
CO4: Analyze the concept of wage theories and the concept of minimum wages.
CO5: know the concept of rent and theories of rent, interest and politics.

MICRO ECONOMICS – NATIONAL INCOME, EMPLOYMENT AND MONEY
SEMESTER – III

CO1: Familiar with the concepts of macro economics.

CO2: know the concepts of National income and calculating methods of national income.
CO3: Know the classical theory of employment and says low of markets.
CO4: Acquire knowledge on Keynesian theory of employment and consumption and investment functions.
CO5: knowledge about functions of money and theories of money

BANKING AND INTERNATIONAL
TRADE SEMESTER – IV

CO1: Analyze and apply suggestions for controlling trade cycles and inflation.

CO2: Acquire knowledge about banking system.
CO3: Know the non-banking financial institutions and money market.
CO4: knowledge about share market and insurance.
CO5: Know the importance of international trade of balance of trade, balance of payments.

ECONOMIC DEVELOPMENT AND INDIAN ECONOMY SEMESTER – V

CO1: Know the difference between economic growth and economic development.

CO2: Acquire knowledge about balanced unbalanced growth theories.

CO3: know the basic features of Indian economy.

CO4: Know the trends and compositions of poverty inequalities and unemployment in India.

CO5: Understanding the LPG concept and inclusive growth.

INDIA AND ANDHRA PRADESH ECONOMY SEMESTER – VI

CO1: Know the agrarian system in India rural credit and agricultural price policy and food security.

CO2: Familiar with industrial policies and on Indian industrial growth.

CO3: Analyze the pattern of FDIs and disinvestment policies in India.

CO4: Know the objectives of five year plans and NITI Aayog.

CO5: Familiar about Andhra Pradesh economy.

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DEPARTMENT OF ENGLISH

SEMESTER – I

CO1: Made easy and apply critical thinking .... reference to the society

CO2: show the simulation on cross culturalism.

CO3: Remind the rights and responsibilities of women in terms of strengths and weakness.

CO4: educate and visualize on poetry and drama.

CO5: made easy LSRW skills.

COMMUNICATION SKILLS

SEMESTER – II

CO1: Build up the word power and sound syntax.

CO2: widen the language skills focusing on grammatical notes – tenses, verb formations articles and prepositions.

CO3: Visualize listening skills, for global comprehension and composition.

CO4: educate the strategies about reading and writing skills.

CORE SYLLABUS

SEMESTER – II

CO1: Bring social awareness, educate on scientific point of view and on life style.

CO2: create on esthetic since.

CO3: develop the moral order and the spiritual substance.

CO4: made easy the life style and know the society.

CO5: Importing knowledge on grammar.

SEMESTER – III

CO1: Understand the globalization reference to the society.

CO2: Import knowledge on LSRW skills.

CO3: Bring political awareness A study.

CO4: To make clear about grammatical importance through, tenses and transform sentences.

CO5: Impose Employability skills and personality development.

CO6: Create confidence on speaking skills.

SEMESTER – IV

CO1: Inspire self learning through post reading and investigative spirit.

CO2: To clear the ambiguity in understanding soft skills.

CO3: enlighten and encourage to speak English fluently and grammatically.

CO4: promote the writing skills through E-correspondence and E-mail genres.

CO5: Instills enthusiasm and interest through practical activities.

DEPARTMENT OF HISTORY

ANCIENT INDIAN HISTORY AND
CULTURE SEMESTER – I

CO1: Know and evaluate the what is history influence of Geography on History
and Economic and cultural development in civilization.

CO2: Understand and analyze the division of society and religious moments.

CO3: To know and compared the administration of Mauryam empire to present system.

CO4: Learn and evaluate new religions and socio, economic and cultural development
in South India.

CO5: Understand and compared the literature and science in 6th century to present system.

EARLY MEDIEVAL INDIAN HISTORY &
CULTURE SEMESTER – II

CO1: Acquire knowledge and analyze the University Education and Political,
Social, Economic and Cultural developments in South India.

CO2: Know and compared the Dravidian languages in South India and
Village Administration to present system.

CO3: Acquire knowledge about Dravidian style of Art and Architecture.

CO4: Understand and asses the impact of Islam on Indian Society.

CO5: Learn and compared the Bhakthi movement and compared with present days.

LATE MEDIEVAL & COLONIAL HISTORY OF
INDIA SEMESTER – III

CO1: Understand and asses the disintegration of India and Rise of Local Powers.

CO2: Know and evaluate the impact of Mughal on Indian culture and Art
and Architecture.

CO3: Learn and Analyze the new administrative policies in India.

CO4: Analyze the problems of Agriculture and cottage industries compared to
present situation.

CO5: Know and estimate the defend the strength of unit.

SOCIAL REFORM MOVEMENT & FREEDOM
STRUGGLE SEMESTER – IV

CO1: Know and measure the impact of Renaissance on the society and struggle against cast.
CO2: Understand and examine the British Policies in India The Genesis of Freedom Movement.
CO3: Know and evaluate the effects of extreme terrorism.
CO4: Acquire knowledge and estimate principles of Ahimsa and Sathyagraha and their impacts.
CO5: Know and estimate the freedom movement as inspiration the effects of position of the Country.

PAPER V: AGE OF RATIONALISM AND HUMANISM THE
WORLD BETWEEN 15TH & 18TH CENTURIES
SEMESTER – V

CO1: Know and evaluate the Feudalism, Geographical Discoveries and its effects on the world.
CO2: Understand and measure the impact of Renaissance on the Europe culture.
CO3: Know and evaluate the emergence of Nation States, Reformation of a religion and its effects, Origin of Parliament and Constitutional development.
CO4: Know and critic about the effect of colonialism declaration of independence, Bill of rights.
CO5: Learn and measure the revolutionary effects.

PAPER VI: HISTORY & CULTURE OF ANDHRA
DESA SEMESTER – V

CO1: Acquire knowledge about the importance of Telugu languages and Society culture and Art & Architecture.
CO2: Know and evaluate the administration and literature of South India.
CO3: Know and judge the impact of Muslim Rule on Andhra Desa.
CO4: Understand and interpret the change in revenue system introduced by Europeans, Peasants and Tribal Revolts.
CO5: Know and evaluate the changes in society of Andhra Desa due to Modern Education and the development in the Culture of Andhra.

DEPARTMENT OF MATHEMATICS

SEMESTER-1 PAPER-1 : DIFFERENTIAL EQUATIONS

CO1: Solutions of Differential Equations have applications in Engineering sciences and many other fields.
CO2: learn the techniques of finding Tangent and normal.
CO3: Become familiar with the techniques of finding orthogonal trajectories.
CO4: Studies various techniques of solving higher order deferential equations.
CO5: Knowledge of differential equations is useful in Electronics for finding

the proportions of current in the circuit as a function of time.

SEMESTER -II PAPER-2 : SOLID GEOMETRY

CO1: Solid geometry is one of the best tools used to calculate Volume, Surface area etc.
CO2: Students can easily understand the computer graphics and Animation pictures.
CO3: Students gain the knowledge of Robot control Mechanisms and construction
 & design of some musical instruments.
CO4: Geometry has applications in Engineering, Space Physics, Marine

physics Research areas.

SEMESTER-III PAPER-3 : ABSTRACT ALGEBRA

CO1: Understand the concepts of Groups, Rings and Homomorphism techniques.
CO2: Describe the concepts of Symmetry operations in physics.
CO3: Understand the applications Boolean algebra in the field of computer
 science and Engineering.
CO4: Understand the applications in Molecular biology and Bio chemistry

in Translation of DNA into RNA and then into Proteins.

SEMESTER-IV PAPER-4 : REAL ANALYSIS

CO1: Have sufficient understanding of the basic concepts of Natural numbers and
Integers which describes the structure of Real numbers.

CO2: Gains proficiency in Discrete Mathematics and Elementary Mathematics.

CO3: To study the concept of the nature of functions such as increasing,
decreasing and stationary using derivability.

CO4: Understand the concepts of supremum , infimum and integrability

CO5: It is also useful to the students in the fields of Bio-Mathematics, Marine
Biology and Physics.

SEMESTER -V PAPER-5 : RING THEORY AND MATRICES

CO1: The student can understand the application of matrices in solving
linear equations.

CO2: Study the concepts of rank of a matrix, consistent and inconsistent system
of equations.

CO3: Study the concepts of ring homomorphism and integral domain.

CO4: Applications find in the areas of Graph theory, Coding theory in
Research studies.

SEMESTER-V PAPER-6 : LINEAR ALGEBRA

CO1: Understand the fundamental concepts of Groups , Rings and their role
in modern Mathematics and applied contexts.

CO2: Understand the concepts of vector spaces, linear independence
and dependents of vectors.

CO3: Students are benefited l in research areas like coding theory to draw animated
graphs and in physics to find the solutions of Temperature and Velocity etc.

CO4: Understand the diverse situations in Physics, Engineering and other fields.

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DEPARTMENT OF PHYSICS

SEMESTER - I, PAPER -I, MECHANICS & PROPERTIES OF MATTER

CO.1: Physical signification of gradient, divergence and curl of the scalar and Vector fields.

CO.2: Conservation of energy and momentum applicable to rocket motion.

CO.3: Determination of elastic constants and deducing relation between y, n and K.

CO.4: Describing the special theory of relativity postulates. Converting mass in to energy through Einstein relation.

CO.5: Central forces and describing the motion of planets.

SEMESTER – II, PAPER-II, WAVES AND OSCILLATION

CO.1: Deducing differential equations for waves and oscillations by using mathematical tools.

CO.2: Understanding the damped and forced oscillations by deriving differential equations.

CO.3: Understanding the complex vibrations using Fourier theorem.

Co.4: Understanding the vibrations on strings and bars by observing the functions of Violin, Guitars etc.

CO.5: understanding the ultrasonic's and exploring its applications and production.

SEMESTER – III, PAPER – III, WAVE OPTICS

CO.1: Exploring the defects in lenses by studying spherical aberration, chromatic aberration, coma and astigmatism.

CO.2: Understanding the interference by observing the colors in thin films, Newton rings and patterns in wedge shaped films.

CO.3: Formation of spectra by grating and understanding the diffraction through single slit, double slit and N-slit.

CO.4: To understand the polarization by reflection, refraction and double refraction.

CO.5: Understanding the communication through fiber optics and applications of holography.

SEMESTER – IV, PAPER-IV, THERMIDYNAMICS

CO.1: Understanding the Maxwell's law of distribution of molecular
speeds, experimental verification and transport phenomena in gases.
CO.2: Understanding the efficiency and properties of thermodynamic cycles of
heat engines, refrigerator and heat pumps.
CO.3: Deducing relationships among the internal energy, enthalpy, heat capacities,
entropy, and Gibb's and Helmholtz free energy. And able to calculate,
these energy functions from equations of state and heat capacity data.
CO.4: An ability to understand the basics of low temperature and different experimental
methods to produce low temperature and their applications.
CO.5: Familiarizing the in depth knowledge about Wicn's displacement, Rayleigh-
Jean's laws in theory of radiation and measurement of radiation.

SEMESTER – V, PAPER-V, ELECTRICITY, MAGNETISM AND ELECTRONICS

CO.1: To understand the uses of coulomb's law and gauss's law for
electrostatics and properties of dielectric substances.
CO.2: To understand the concept of magnetism and electromagnetic induction such as
self and mutual inductance.
CO.3: To determine the relation between current and voltage in LR, CR and LCR
series and parallel resonance circuits.
CO.4: Acquiring knowledge about semiconductor diode, transistor and transistor as an
amplifier.
CO.5: Understanding the number system in logic gates to interpret logic functions
,circuits, truth table and Boolean algebra expressions.

SEMESTER – VI, PAPER-VI, MODERN PHYSICS

CO.1: By observing dependence of atomic spectral lines on externally applied electric,
magnetic fields and vector atom model.
CO.2: Understanding the dual nature of particle and able to know the electron
diffraction phenomenon.
CO.3: Understanding the Schrödinger wave equations and energy of a particle in one
dimensional box.
CO.4: Understanding the basic ideas of nucleus with its liquid drop model, shell model
and magic numbers.
CO.5: Understanding the x-ray diffraction in crystals and their applications. Basic
concepts of supper connectivity.

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DEPARTMENT OF POLITICAL SCIENCE

SEMESTER – I, PAPER-I: BASIC CONCEPTS OF POLITICAL SCIENCE

CO1: To understand the nature and scope of Political Science

CO2: To know and analyze the origin and evolution of the Modern State.

CO3: To learn and compare conceptual destination between nationality and nation.

CO4: To know and evaluate civil and social rights and their importance in the civil society.

CO5: To learn compare and understand differences between freedom, equality and justice.

SEMESTER – II, PAPER-II: POLITICAL INSTITUTIONS – CONCEPTS, THEORY'S AND INSTITUTIONS

CO1: To know the basic features of federal form of government and unitary form of government,

CO2: To understand the basic features of classical and modern representative democracy.

CO3: To know the nature, role and functions of judiciary and understand judicial review.

CO4: To know structural form of the modern state, basics features of parliamentary and presidential form of government.

CO5: To know the purpose of constitutional law and separation of power.

SEMESTER – III, PAPER-III : INDIAN CONSTITUTION

CO1: To know and understand the ideological legacy of the Indian national moment on the constituent assembly.

CO2: To know and understand the preamble and salient features of Indian constitution.

CO3: To know and understand the fundamental rights and directive principal's and analyze the differences between them.

CO4: To know and understand unitary and federal features in the Indian constitution.

CO5: To know the understand the values of the Indian constitution and understand the nature and role of higher judiciary in India.

SEMESTER – IV, PAPER-IV: INDIAN POLITICAL PROCESS

CO1: To understand the theory of modernization analyzes the transition from traditions to modernity and from pre capitalism to capitalism.
CO2: To know understand the transition of cast system from hierarchy to identity and role of assembly.
CO3: To know understand the analyze the majoritarians and minoritarians in the community and know the role of the state towards religion.
CO4: To know understand the electoral trends of the loksabha from 1952 to 2014 from the one party system to multiparty coalitions and determinants of voting behavior in India.
CO5: To know understand the evolution of party system in India, the ideology and social bases of major political parties: INC, BJP, CPM DMK, BSP, TDP.

SEMESTER – V, PAPER- V : ANCIENT INDIAN POLITICAL THOUGHT

CO1: To understand the traditions of ancient Indian political thought revealed by great thinkers MANU and KAUTILYA.
CO2: To know the great works of RAMMOHAN ROY on religious and social reform.
CO3: To analyze the drain theory and poverty theory of DADABAI NAOROJI.
CO4: To understand and compare the Hindu culture nationalism and Islamic communitarian.
CO5: To understand the democratic egalitarianism of GANDHI, JAWAHARLAL NEHRU, Dr.B.R.AMBETHKAR and M.N.ROY.

SEMESTER – V, PAPER- VI : WESTERN POLITICAL THOUGHT

CO1: To understand and acquire the knowledge about classical western political thought.
CO2: To know the understand the early medieval to the begging of modern thought revealed by S.T. AUGUSTINE and MACHIAVELLI.
CO3: To know the liberal thoughts of THOMAS HOBBES, JOHN LOCK AND ROUSSEAU.
CO4: To know the liberal democracy thought of JEREMY BENTHAM and JOHN STUART MILL.
CO5: To understand the philosophical idealism and its critique revealed by HEGEL AND KARL MARX.

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DEPARTMENT OF TELUGU

SEMESTER – I

CO1: To realize the impact of culture values and religious literacy
CO2: Understanding the old poetry to bring awareness on poetry to know literature
CO3: To have ecological awareness through the description and analysis about Characteristics of plants and social one look.
CO4: Made easy ancient/modern grammar in Telugu

SEMESTER – II

CO1: Importance of salvation and significance marriage system in India.
CO2: cs ta bl is h t hc mo ra l or dc r a nd ct hi ca l v alu cs ct c….
CO3: Understanding feminism and realism and uniqueness of Land.
CO4: Tradition and individuality talent – analyze and understanding, bring awareness on story telling.

SEMESTER – III

CO1: Made easy to implement morals, et hi ca l's and spiritual deeds Death is immaterial.
CO2: Bring a view on aboriginal literature.
CO3: Importance of literature and personality development attitude & action, belief & behavior.
CO4: to acquire knowledge of the Alankaras (prosady) in the ancient literature make students mistake free in Grammar.

SEMESTER – IV

CO1: Impact leadership and bring awareness on organizations.
CO2: Bring awareness on types of leadership and personality development.
CO3: Understanding communication skills and its widen.
CO4: Analyze the organization in the business.
CO5: Im po rt an ce of gr ou p le ad er sh ip pe rs on al / p riv at e et c….

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DEPARTMENT OF ZOOLOGY

SEMESTER – I, PAPER – I : ANIMAL DIVERSITY - NONCHORDATES

CO1: To provide knowledge about protozon and porifera with respective examples like Elphidium Sponges.

CO2: To understand the life cycles of Obelia and Fasciola and Economic importance of Corals.

CO3: To study the characters of Helminthes and Annelida and economic importance of Vermicompost.

CO4: To understand the systemic and functional morphology of Arthropoda, Mollusca and economic importance of aqua culture and pearl formation. **CO5:** To acquire knowledge about star fish and Nonchordata larval forms.

SEMESTER – II, PAPER – II : ANIMAL DIVERSITY - CHORDATES

CO1: To learn about Prochordata with all Physiological aspects and significance.

CO2: To gain knowledge about cyclostomata and pisces with all physical properties and anatomy.

CO3: Fundamental concepts of amphibians, reptilia with illustrations.

CO4: To understand physiology of aves, migration and flight adaptations in birds.

CO5: To gain knowledge about mammalia and dentition in mammals.

SEMESTER – III, PAPER – III : CYTOLOGY – GENETICS AND EVOLUTION

CO1: To know the fundamental concepts of prokaryotic and eukaryotic cells.

CO2: Complete knowledge about cell organelles like E.R, Golgi. Lysosomes, Ribosoms, Mitochondria, Nucleus and Chromosomes.

CO3: To study Mendels work on transmission on traits and principles of inheritance.

CO4: To know about Sexidetermination and chromosomal disorders.

CO5: Familiar with the evolutionary concepts like Lamarckism, Darwinism and evolutionary forces.

SEMESTER – IV, PAPER – IV : EMBRYOLOGY, PHYSIOLOGY & ECOLOGY

CO1: Acquire knowledge about developmental biology and embryology in chick and types, functions of placenta in mammals.

CO2: To know the concepts of digestion respiration, circulation and other physiological activities of mammals.

CO3: To study Nerve impulse transmission, muscle contraction, Hormones and Hormonal control of reproduction in a mammal.

CO4: To understand the ecosystem and importance of abiotic factors and biotic interactions.

CO5: To acquire knowledge about community interactions, concepts of Zoogeography and Zoogeographical importance of oriental, Australian and Ethiopian regions.

SEMESTER – V : PAPER – V : ANIMAL BIOTECHNOLOGY

CO1: To gain knowledge about DNA technology and its applications.

CO2: Familiar with concepts and applications with suitable skills in biotechnology.

CO3: To gain good knowledge about animal cell technology, hybridoma technology and stem cells with suitable illustrations.

CO4: To learn different types of reproduction technologies and transgenic animals and their applications.

CO5: Proficiency and understanding basic concepts of applied biotechnology in different fields.

SEMESTER – V, PAPER – VI : ANIMAL HUSBANDRY

CO1: to gain knowledge about poultry farming.

CO2: To learn about poultry feed management and poultry diseases, useful to the students for poultry farming.

CO3: To know about selection, care and handling of hatching eggs.

CO4: Complete knowledge of breeds and dairy cattle and buffaloes to improve practical skills such as dairy farm.

CO5: To know the principles of care and management of dairy animals.