

# **GOVERNMENT DEGREE COLLEGE CHEBROLE**

**Guntur District, Andhra Pradesh, Pin 522212**

**Affiliated to Acharya Nagarjuna University**

Email: [jkc.chebrole@gmail.com](mailto:jkc.chebrole@gmail.com) Phone No. **08644-254221**



## **PROGRAMME OUTCOMES (POs) PROGRAMME SPECIFIC OUTCOMES (PSOs) & COURSE OUTCOMES (COs)**

**As per the Curriculum prescribed by  
by Acharya Nagarjuna University**



# GOVERNMENT DEGREE COLLEGE, CHEBROLE

Guntur District, Andhra Pradesh, Pin 522212

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Dt. 02-09-2023

## TO WHOM SO EVER IT MAY CONCERN

### CERTIFICATE

This is to certify that **Programme Outcomes** (POs), and **Course Outcomes** (Cos) of the Programmes offered by this institution **are stated and are displayed on the website** of our institution, as per Criterion -2, Key Indicator 2.6, Metric No. 2.6.1 Self Study Report of NAAC.



*V. Sridhi*  
PRINCIPAL  
GOVT. DEGREE COLLEGE  
CHEBROLU.

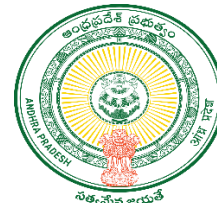


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## PROGRAMME OUTCOMES

The expected Programme Outcomes (POs) on successful completion of Under Graduate programme are

|      |                                                                                                                                                        |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| PO-1 | Students acquires good and effective Communication Skills, Soft Skills and able to participate in job and work environment.                            |
| PO-2 | Students acquire comprehensive knowledge and grasp more academic information included in an undergraduate programme of study.                          |
| PO-3 | Student would be able to analyse and evaluate arguments, assertions and spot pertinent assumptions or implications and create logical arguments        |
| PO-4 | Acquires self learning skills and apply them in emerging demands at work place and life.                                                               |
| PO-5 | Identifies the problem and predicts hypothesis and investigate and interpret empirical data                                                            |
| PO-6 | Show the ability to access, assess, and utilize a variety of relevant information and communication sources, and use suitable tools for data analysis. |
| PO-7 | Students will become employable, eligible for career opportunities in industry or will be able to opt for entrepreneurship.                            |
| PO-8 | Develop social consciousness and involve voluntarily in social developmental activities                                                                |



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## PROGRAMME SPECIFIC OUTCOMES:

The expected Programme Specific Outcomes (PSOs) are as follows

### **B.Sc., (Mathematics, Physics, Chemistry)**

|              |                                                                                                                                                                                        |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>PSO-1</b> | Understand various theoretical concepts related to physical and chemical properties of materials and the role of mathematics in dealing with them in qualitative and quantitative ways |
| <b>PSO-2</b> | Analyse the concepts of Mathematics and Physical Sciences and apply them in various situation and also in solving related problems                                                     |
| <b>PSO-3</b> | Acquires the ability to interlink the skills and knowledge in Mathematics and Physical Sciences to develop an aptitude to address the problems in other branches of science            |
| <b>PSO-4</b> | Acquires the skill needed to handle instruments and adopt laboratory procedures to study physical and chemical properties of materials                                                 |

### **B.Sc., (Mathematics, Physics, Computer Science)**

|              |                                                                                                                                                                       |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>PSO-1</b> | Understand various theoretical concepts related to Physics and Computer Science and the role of Mathematics in dealing with them in qualitative and quantitative ways |
| <b>PSO-2</b> | Acquires the knowledge of computer science skills and mathematical techniques and apply them in a multidisciplinary environment to analyze complex systems            |
| <b>PSO-3</b> | Analyze the concepts of mathematics, physics and computers science able to relate them in numerical programming of various physical systems.                          |
| <b>PSO-4</b> | Ability to interlink the skills developed and acquires an aptitude to address the problems in simulations of material properties, web and mobile app development.     |

### **B.Sc., (Chemistry, Botany, Zoology)**

|              |                                                                                                                                                                                                                                                                        |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>PSO-1</b> | Acquires knowledge on basic concepts of cell biology, genetics, taxonomy, physiology, biochemistry, ecology, evolutionary biology, developmental biology.                                                                                                              |
| <b>PSO-2</b> | Acquires ability to correlate the physiological and biochemical processes in animals and plants and ability to interlink animals, plants and microbes                                                                                                                  |
| <b>PSO-3</b> | Understand the applications of biological sciences in Apiculture, Aquaculture, Sericulture, Animal Husbandry, and Poultry Farm and applications of chemistry in daily life.                                                                                            |
| <b>PSO-4</b> | Acquires required skills as per laboratory standards in the areas of Taxonomy, Physiology, Ecology, Cell biology, Applied Zoology, , Toxicology, Entomology, Nematology, Sericulture, Biochemistry, Animal biotechnology and organic, inorganic and physical chemistry |

### **B. Com., (General)**

|              |                                                                                                                                            |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| <b>PSO-1</b> | Acquires subject skills in commerce, business, accounting, finance, auditing and marketing along with soft skills in Tally and E-Commerce. |
| <b>PSO-2</b> | Analyse the applications of principles and practices in corporate accounting in real time business situations.                             |
| <b>PSO-3</b> | Understand the legal environment and its effect on business, industry, commerce and management.                                            |
| <b>PSO-4</b> | Acquire practical skills to work as tax consultant, audit assistant and also for other financial supporting services.                      |

### **B. Com., (Computer Applications)**

|              |                                                                                                                   |
|--------------|-------------------------------------------------------------------------------------------------------------------|
| <b>PSO-1</b> | Acquire knowledge in Computer programming languages to solve essential business problems.                         |
| <b>PSO-2</b> | Implementing automated accounting practices and application of computer skills for effective conduct of business. |
| <b>PSO-3</b> | Acquires analytical and technical skills to analyze the business problems with ease and efficiency.               |
| <b>PSO-4</b> | Propose feasible ideas and business solutions in accordance with the prevailing day-to-day problems.              |

### **B. A., (History, Economics, Political Science)**

|              |                                                                                                                                                       |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>PSO-1</b> | Understand the cultural, social, political, economic and constitutional environment from the historical perspective in Indian administration          |
| <b>PSO-2</b> | Acquire knowledge in the field of Indian history, world history and the historical occurrences in chronological order                                 |
| <b>PSO-3</b> | Acquires the in depth knowledge on of microeconomic theories and concepts and degree of applicability of macroeconomic concepts                       |
| <b>PSO-4</b> | Acquires the in depth knowledge on the nature of political science and developments in national and international politics and Indian foreign policy. |

# **COURSE OUTCOMES**



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Guntur District, Andhra Pradesh, PIN 522 212

Phone No: 08644-254221, 254322 Email: jkc.chebrole@gmail.com

## DEPARTMENT OF MATHEMATICS

UNDER CBCS FRAMEWORK WITH EFFECT FROM 2020-21

PROGRAMME: THREE-YEAR B.Sc, MATHEMATICS

## PROGRAMME STRUCTURE

|                                                                               |                                                                              |
|-------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| First Semester<br>Course I: Differential Equations                            | Second Semester<br>Course II: Three Dimensional Analytical<br>Solid Geometry |
| Third Semester<br>Course III: Abstract Algebra.                               | Fourth Semester<br>Course IV: Real Analysis.<br>Course V: Linear Algebra     |
| Fifth Semester<br>Course VI: Numerical Methods<br>Course V: Special Functions | Sixth Semester<br>Semester Internship Programme.                             |

## COURSE OUTCOMES

| Course: Semester I - Differential Equations                        |                                                                                                                    |
|--------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| Students after successful completion of the course will be able to |                                                                                                                    |
| CO1                                                                | Solve linear differential equations.                                                                               |
| CO2                                                                | Convert non exact homogeneous equations to exact differential equations by using Integrating factors.              |
| CO3                                                                | Know the methods of finding solutions of differential equations of the first order but not of the first degree.    |
| CO4                                                                | Solve higher order linear differential equations, both homogeneous and non-homogeneous with constant coefficients. |
| CO5                                                                | Understand the concept and apply appropriate methods for solving differential equations.                           |

| <b>Course: Semester II - Three Dimensional Analytical Solid Geometry</b> |                                                                     |
|--------------------------------------------------------------------------|---------------------------------------------------------------------|
| Students after successful completion of the course will be able to       |                                                                     |
| <b>CO1</b>                                                               | Get the knowledge of planes.                                        |
| <b>CO2</b>                                                               | Learn basic idea of lines, spheres and cones.                       |
| <b>CO3</b>                                                               | To understand the properties of planes, lines, spheres and cones.   |
| <b>CO4</b>                                                               | To express the problems geometrically and then to get the solution. |

| <b>Course: Semester III - Abstract Algebra</b>                     |                                                                                                              |
|--------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Students after successful completion of the course will be able to |                                                                                                              |
| <b>CO1</b>                                                         | To acquire the basic knowledge and structure of groups, subgroups and cyclic groups                          |
| <b>CO2</b>                                                         | To get the significance of the notation of a normal subgroup.                                                |
| <b>CO3</b>                                                         | To get the behavior of permutations and operations on them.                                                  |
| <b>CO4</b>                                                         | To study the homomorphisms and isomorphisms with applications.                                               |
| <b>CO5</b>                                                         | To understand the ring theory concepts with the help of knowledge in group theory and to prove the theorems. |
| <b>CO6</b>                                                         | To understand the applications of ring theory in various fields.                                             |

| <b>Course: Semester IV Paper 4 - Real Analysis</b>                 |                                                                                                                               |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Students after successful completion of the course will be able to |                                                                                                                               |
| <b>CO1</b>                                                         | To get clear idea about the real numbers and real valued functions.                                                           |
| <b>CO2</b>                                                         | To obtain the skills of analyzing the concepts and applying appropriate methods for testing convergence of a sequence/series. |
| <b>CO3</b>                                                         | To test the continuity and differentiability and Riemann integration of a function.                                           |
| <b>CO4</b>                                                         | To know the geometrical interpretation of mean value theorems.                                                                |

| <b>Course: Semester IV Paper 5 - Linear Algebra</b>                |                                                                                                                                              |
|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Students after successful completion of the course will be able to |                                                                                                                                              |
| <b>CO1</b>                                                         | To understand the concepts of vector spaces, subspaces, bases, dimension and their properties.                                               |
| <b>CO2</b>                                                         | To understand the concepts of linear transformations and their properties.                                                                   |
| <b>CO3</b>                                                         | To apply Cayley-Hamilton theorem to problems for finding the inverse of a matrix and higher powers of matrices without using routine methods |
| <b>CO4</b>                                                         | To learn the properties of inner product spaces and determine orthogonality in inner product spaces.                                         |

| <b>Course: Semester V (Paper 6A) - Numerical Methods</b>           |                                                                                                       |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Students after successful completion of the course will be able to |                                                                                                       |
| <b>CO1</b>                                                         | To understand the subject of various numerical methods that are used to obtain approximate solutions. |
| <b>CO2</b>                                                         | To understand various finite difference concepts and interpolation methods.                           |
| <b>CO3</b>                                                         | To work out numerical differentiation and integration whenever routine methods are not applicable.    |
| <b>CO4</b>                                                         | To find numerical solutions of ordinary differential equations by using various numerical methods.    |
| <b>CO5</b>                                                         | To analyze and evaluate the accuracy of numerical methods.                                            |

| <b>Course: Semester V (Paper 7A) - Special Functions</b>           |                                                                                                                                                                                                                             |
|--------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Students after successful completion of the course will be able to |                                                                                                                                                                                                                             |
| <b>CO1</b>                                                         | To understand the Beta and Gamma functions, their properties and relation between these two functions, understand the orthogonal properties of Chebyshev polynomials and recurrence relations.                              |
| <b>CO2</b>                                                         | To find power series solutions of ordinary differential equations.                                                                                                                                                          |
| <b>CO3</b>                                                         | To solve Hermite equation and write the Hermite polynomial of order (degree) n, also find the generating function for Hermite polynomials, study the orthogonal properties of Hermite polynomials and recurrence relations. |
| <b>CO4</b>                                                         | To solve Legendre equation and write the Legendre equation of first kind, also find the generating function for Legendre polynomials, understand the orthogonal properties of Legendre polynomials.                         |
| <b>CO5</b>                                                         | To solve Bessel equation and write the Bessel equation of first kind of order n, also find the generating function for Bessel function understand the orthogonal properties of Bessel function.                             |

| <b>Course: Semester VI - Semester Internship Programme</b> |
|------------------------------------------------------------|
|------------------------------------------------------------|



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## DEPARTMENT OF PHYSICS

UNDER CBCS FRAMEWORK WITH EFFECT FROM 2020-21

PROGRAMME: THREE-YEAR B.Sc., PHYSICS

PROGRAMME STRUCTURE

|                                                                                                                                  |                                                                                                                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>First Semester</b><br>Course I: Mechanics, Waves and Oscillations<br><b>Practical Course I (Lab-1)</b>                        | <b>Second Semester</b><br>Course II: Wave Optics<br><b>Practical Course II (Lab-2)</b>                                                                               |
| <b>Third Semester</b><br>Course III: Heat and Thermodynamics<br><b>Practical Course III (Lab-3)</b>                              | <b>Fourth Semester</b><br>Course IV: Electricity, Magnetism and Electronics<br>Course V: Modern Physics<br><b>Practical Courses IV and V:</b><br>(Lab-4) and (Lab-5) |
| <b>Fifth Semester</b><br><b>Skill Enhancement Courses (SECs)</b><br><b>TO CHOOSE ONE PAIR FROM THREE ALTERNATE PAIRS OF SECs</b> |                                                                                                                                                                      |
| <b>Course 6A – Optical Instruments and Optometry</b><br><b>Practical Course 6A (Lab-6A)</b>                                      |                                                                                                                                                                      |
| <b>Course 7A – Optical Imaging and Photography</b><br><b>Practical Course 7A (Lab-7A)</b>                                        |                                                                                                                                                                      |
| <b>Course 6B – Low Temperature Physics and Refrigeration</b><br><b>Practical Course 6B (Lab-6B)</b>                              |                                                                                                                                                                      |
| <b>Course 7B – Solar Energy and Applications</b><br><b>Practical Course 7B (Lab-7B)</b>                                          |                                                                                                                                                                      |
| <b>Course 6C – Applications of Electricity and Electronics</b><br><b>Practical Course 6C (Lab-6C)</b>                            |                                                                                                                                                                      |
| <b>Course 7C – Electronic Instrumentation</b><br><b>Practical Course 7C (Lab-7C)</b>                                             |                                                                                                                                                                      |

### I YEAR - B.Sc., PHYSICS - I SEMESTER - PAPER 1 - Mechanics, Waves and Oscillations

#### COURSE OUTCOMES:

|                                                                                  |                                                                                                                                                                                                          |
|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| On successful completion of this course, the students will be able to understand |                                                                                                                                                                                                          |
| <b>CO-1</b>                                                                      | Understand Newton's laws of motion and motion of variable mass system and its application to rocket motion and the concepts of impact parameter, scattering cross section.                               |
| <b>CO-2</b>                                                                      | Apply the rotational kinematic relations, the principle and working of gyroscope and its applications and the precessional motion of a freely rotating symmetric top.                                    |
| <b>CO-3</b>                                                                      | Comprehend the general characteristics of central forces and the application of Kepler's laws to describe the motion of planets and satellite in circular orbit through the study of law of Gravitation. |

|             |                                                                                                                                                                                                                  |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CO-4</b> | Understand postulates of Special theory of relativity and its consequences such as length contraction, time dilation, relativistic mass and mass-energy equivalence.                                             |
| <b>CO-5</b> | Examine phenomena of simple harmonic motion and the distinction between un-damped, damped and forced oscillations and the concepts of resonance and quality factor with reference to damped harmonic oscillator. |
| <b>CO-6</b> | Appreciate the formulation of the problem of coupled oscillations and solve them to obtain normal modes of oscillation and their frequencies in simple mechanical systems.                                       |
| <b>CO-7</b> | Figure out the formation of harmonics and overtones in a stretched string and acquire the knowledge on Ultrasonic waves, their production and detection and their applications in different fields               |

**I YEAR - B.SC., PHYSICS - I SEMESTER - PRACTICAL PAPER 1 –  
Mechanics, Waves and Oscillations (LAB-1)**

**COURSE OUTCOMES:**

|                                                                                  |                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| On successful completion of this course, the students will be able to understand |                                                                                                                                                                                                                                                                                                                                                           |
| <b>CO-1</b>                                                                      | Perform experiments on Properties of matter such as the determination of moduli of elasticity viz., Young's modulus, Rigidity modulus of certain materials; Surface tension of water , Coefficient of viscosity of a liquid , Moment of inertia of some regular bodies by different methods and compare the experimental values with the standard values. |
| <b>CO-2</b>                                                                      | Know how to determine the acceleration due to gravity at a place using Compound pendulum and Simple pendulum.                                                                                                                                                                                                                                             |
| <b>CO-3</b>                                                                      | Notice the difference between flat resonance and sharp resonance in case of volume resonator and sonometer experiments respectively.                                                                                                                                                                                                                      |
| <b>CO-4</b>                                                                      | Verify the laws of transverse vibrations in a stretched string using sonometer and comment on the relation between frequency, length and tension of a stretched string under vibration                                                                                                                                                                    |
| <b>CO-5</b>                                                                      | Demonstrate the formation of stationary waves on a string in Melde's string experiment.                                                                                                                                                                                                                                                                   |
| <b>CO-6</b>                                                                      | Observe the motion of coupled oscillators and normal modes                                                                                                                                                                                                                                                                                                |

**I YEAR - B.Sc., PHYSICS - II SEMESTER - PAPER 2 - Wave Optics**

**COURSE OUTCOMES:**

|                                                                                  |                                                                                                                                                                                                                               |
|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| On successful completion of this course, the students will be able to understand |                                                                                                                                                                                                                               |
| <b>CO-1</b>                                                                      | Understand the phenomenon of interference of light and its formation in (i) Lloyd's single mirror due to division of wave front and (ii) Thin films, Newton's rings and Michelson interferometer due to division of amplitude |
| <b>CO-2</b>                                                                      | Distinguish between Fresnel's diffraction and Fraunhofer diffraction and observe the diffraction patterns in the case of single slit and the diffraction grating                                                              |
| <b>CO-3</b>                                                                      | Describe the construction and working of zone plate and make the comparison of zone plate with convex lens                                                                                                                    |
| <b>CO-4</b>                                                                      | Explain the various methods of production of plane, circularly and polarized light and their detection and the concept of optical activity..                                                                                  |
| <b>CO-5</b>                                                                      | Comprehend the basic principle of laser, the working of He-Ne laser and Ruby lasers and their applications in different fields.                                                                                               |
| <b>CO-6</b>                                                                      | Explain about the different aberrations in lenses and discuss the methods of minimizing them                                                                                                                                  |
| <b>CO-7</b>                                                                      | Understand the basic principles of fibreoptic communication and explore the field of Holography and Nonlinear optics and their applications.                                                                                  |

**I YEAR - B.SC., PHYSICS - II SEMESTER - PRACTICAL PAPER 2: Wave Optics (LAB-2)**  
**COURSE OUTCOMES:**

|                                                                                  |                                                                                                                                                                                                           |
|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| On successful completion of this course, the students will be able to understand |                                                                                                                                                                                                           |
| <b>CO-1</b>                                                                      | Gain hands-on experience of using various optical instruments like spectrometer, polarimeter and making finer measurements of wavelength of light using Newton Rings experiment, diffraction grating etc. |
| <b>CO-2</b>                                                                      | Understand the principle of working of polarimeter and the measurement of specific rotatory power of sugar solution                                                                                       |

|             |                                                                                                                                                    |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CO-3</b> | Know the techniques involved in measuring the resolving power of telescope and dispersive power of the material of the prism.                      |
| <b>CO-4</b> | Be familiar with the determination of refractive index of liquid by Boy's method and the determination of thickness of a thin wire by wedge method |

**II YEAR - B.Sc., PHYSICS - III SEMESTER - PAPER 3 – Heat and Thermodynamics**  
**COURSE OUTCOMES:**

|                                                                                  |                                                                                                                                                                                                                                         |
|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| On successful completion of this course, the students will be able to understand |                                                                                                                                                                                                                                         |
| <b>CO-1</b>                                                                      | Understand the basic aspects of kinetic theory of gases, Maxwell-Boltzman distribution law, equipartition of energies, mean free path of molecular collisions and the transport phenomenon in ideal gases                               |
| <b>CO-2</b>                                                                      | Gain knowledge on the basic concepts of thermodynamics, the first and the second law of thermodynamics, the basic principles of refrigeration, the concept of entropy, the thermodynamic potentials and their physical interpretations. |
| <b>CO-3</b>                                                                      | Understand the working of Carnot's ideal heat engine, Carnot cycle and its efficiency                                                                                                                                                   |
| <b>CO-4</b>                                                                      | Develop critical understanding of concept of Thermodynamic potentials, the formulation of Maxwell's equations and its applications.                                                                                                     |
| <b>CO-5</b>                                                                      | Differentiate between principles and methods to produce low temperature and liquefy air and also understand the practical applications of substances at low temperatures.                                                               |
| <b>CO-6</b>                                                                      | Examine the nature of black body radiations and the basic theories.                                                                                                                                                                     |

**II YEAR - B.SC., PHYSICS - III SEMESTER - PRACTICAL PAPER 3 -**  
**Heat and Thermodynamics (LAB-3)**

**COURSE OUTCOMES:**

|                                                                                  |                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| On successful completion of this course, the students will be able to understand |                                                                                                                                                                                                                                                                                             |
| <b>CO-1</b>                                                                      | Perform some basic experiments in thermal Physics, viz., determinations of Stefan's constant, coefficient of thermal conductivity, variation of thermo-emf of a thermocouple with temperature difference at its two junctions, calibration of a thermocouple and Specific heat of a liquid. |

**II YEAR - B.Sc., PHYSICS - IV SEMESTER - PAPER 4 –**  
**Electricity, Magnetism and Electronics**

**COURSE OUTCOMES:**

|                                                                                  |                                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| On successful completion of this course, the students will be able to understand |                                                                                                                                                                                                                                            |
| <b>CO-1</b>                                                                      | Understand the Gauss law and its application to obtain electric field in different cases and formulate the relationship between electric displacement vector, electric polarization, Susceptibility, Permittivity and Dielectric constant. |
| <b>CO-2</b>                                                                      | Distinguish between the magnetic effect of electric current and electromagnetic induction and apply the related laws in appropriate circumstances.                                                                                         |
| <b>CO-3</b>                                                                      | Understand Biot and Savart's law and Ampere's circuital law to describe and explain the generation of magnetic fields by electrical currents.                                                                                              |
| <b>CO-4</b>                                                                      | Develop an understanding on the unification of electric and magnetic fields and Maxwell's equations governing electromagnetic waves.                                                                                                       |
| <b>CO-5</b>                                                                      | Phenomenon of resonance in LCR AC-circuits, sharpness of resonance, Q- factor, Power factor and the comparative study of series and parallel resonant circuits.                                                                            |
| <b>CO-6</b>                                                                      | Describe the operation of p-n junction diodes, zener diodes, light emitting diodes and transistors                                                                                                                                         |
| <b>CO-7</b>                                                                      | Understand the operation of basic logic gates and universal gates and their truth tables.                                                                                                                                                  |

**II YEAR - B.SC., PHYSICS - IV SEMESTER - PRACTICAL PAPER 4 -  
Electricity, Magnetism and Electronics (LAB-4)**

**COURSE OUTCOMES:**

|                                                                                  |                                                                                                                                                                                                 |
|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| On successful completion of this course, the students will be able to understand |                                                                                                                                                                                                 |
| <b>CO-1</b>                                                                      | Measure the current sensitivity and figure of merit of a moving coil galvanometer.                                                                                                              |
| <b>CO-2</b>                                                                      | Observe the resonance condition in LCR series and parallel circuit                                                                                                                              |
| <b>CO-3</b>                                                                      | Learn how a sonometer can be used to determine the frequency of AC-supply.                                                                                                                      |
| <b>CO-4</b>                                                                      | Observe the variation of magnetic field along the axis of a circular coil carrying current using Stewart and Gee's apparatus.                                                                   |
| <b>CO-5</b>                                                                      | Understand the operation of PN junction diode, Zener diode and a transistor and their V-I characteristics.                                                                                      |
| <b>CO-6</b>                                                                      | Construct the basic logic gates, half adder and full adder and verify their truth tables. Further, the student will understand how NAND and NOR gates can be used as universal building blocks. |

**II YEAR - B.Sc., PHYSICS - IV SEMESTER - PAPER 5 – Modern Physics**

**COURSE OUTCOMES:**

|                                                                                  |                                                                                                                                                          |
|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| On successful completion of this course, the students will be able to understand |                                                                                                                                                          |
| <b>CO-1</b>                                                                      | Develop an understanding on the concepts of Atomic and Modern Physics, basic elementary quantum mechanics and nuclear physics.                           |
| <b>CO-2</b>                                                                      | Develop critical understanding of concept of Matter waves and Uncertainty principle.                                                                     |
| <b>CO-3</b>                                                                      | Get familiarized with the principles of quantum mechanics and the formulation of Schrodinger wave equation and its applications.                         |
| <b>CO-4</b>                                                                      | Examine the basic properties of nuclei, characteristics of Nuclear forces, salient features of Nuclear models and different nuclear radiation detectors. |
| <b>CO-5</b>                                                                      | Classify Elementary particles based on their mass, charge, spin, half life and interaction.                                                              |
| <b>CO-6</b>                                                                      | Get familiarized with the nano materials, their unique properties and applications.                                                                      |
| <b>CO-7</b>                                                                      | Increase the awareness and appreciation of superconductors and their practical applications.                                                             |

**II YEAR - B.SC., PHYSICS - IV SEMESTER - PRACTICAL PAPER 5 –  
Modern Physics (LAB-5)**

**COURSE OUTCOMES:**

|                                                                                  |                                                                                                                             |
|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| On successful completion of this course, the students will be able to understand |                                                                                                                             |
| <b>CO-1</b>                                                                      | Measure charge of an electron and e/m value of an electron by Thomson method.                                               |
| <b>CO-2</b>                                                                      | Understand how the Planck's constant can be determined using Photocell and LEDs.                                            |
| <b>CO-3</b>                                                                      | Study the absorption of $\alpha$ -rays and $\beta$ -rays, Range of $\beta$ -particles and the characteristics of GM counter |
| <b>CO-4</b>                                                                      | Determine the Energy gap of a semiconductor using thermistor and junction diode.                                            |

## **SKILL ENHANCEMENT COURSES (SECs)**

### **for Semester V**

#### **Learning outcomes in respect of Skill Enhancement Courses (SECs)**

##### **III YEAR - B.SC., PHYSICS – V SEMESTER - PAPER 6A – Optical Instruments and Optometry**

| On successful completion of this course, the students will be able to |                                                                                                               |
|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| <b>LO-1</b>                                                           | Understand the construction and working principles of various optical instruments used in daily life.         |
| <b>LO-2</b>                                                           | Acquire a critical knowledge on the various defects of eye and their correcting methods with suitable lenses. |
| <b>LO-3</b>                                                           | Demonstrate skills of using biological microscope through hands on experience.                                |
| <b>LO-4</b>                                                           | Understand the various techniques used in optometry and computer based eye testing                            |
| <b>LO-5</b>                                                           | Comprehend the various applications of microscopes and telescopes.                                            |

##### **III YEAR - B.SC., PHYSICS – V SEMESTER – PRACTICAL PAPER 6A – Optical Instruments and Optometry (Lab 6A)**

| On successful completion of this course, the students will be able to |                                                                                                            |
|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| <b>LO-1</b>                                                           | List out, identify and handle various equipment like binoculars, telescopes and microscopes.               |
| <b>LO-2</b>                                                           | Learn the procedures of operation of various optical instruments.                                          |
| <b>LO-3</b>                                                           | Demonstrate skills on testing the power of lenses, improving the resolution of telescopes and microscopes. |
| <b>LO-4</b>                                                           | Acquire skills in observing and measuring the power, focal length and different refractive errors of eye.  |
| <b>LO-5</b>                                                           | Perform some techniques related to testing the blood and other biological samples.                         |
| <b>LO-6</b>                                                           | Understand the technique of operation of Computer eye testing and evaluation.                              |

##### **III YEAR - B.SC., PHYSICS – V SEMESTER - PAPER 7A – Optical Imaging and Photography**

| On successful completion of this course, the students will be able to |                                                                                                               |
|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| <b>LO-1</b>                                                           | Identify the different types of cameras and camera lenses according to different purposes.                    |
| <b>LO-2</b>                                                           | Identify and understand the focal length of the different types of lenses                                     |
| <b>LO-3</b>                                                           | Acquire a critical knowledge on natural and artificial sources of light and their application in photography. |
| <b>LO-4</b>                                                           | Demonstrate skills of camera usage especially Digital Cameras.                                                |
| <b>LO-5</b>                                                           | Understand the various Image development and editing techniques.                                              |
| <b>LO-6</b>                                                           | Comprehend the concept of different types of common shooting techniques.                                      |

##### **III YEAR - B.SC., PHYSICS – V SEMESTER – PRACTICAL PAPER 7A – Optical Imaging and Photography (Lab 7A)**

| On successful completion of this course, the students will be able to |                                                                                                                           |
|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| <b>LO-1</b>                                                           | List out, identify and understand various image formation techniques including Eye.                                       |
| <b>LO-2</b>                                                           | Learn the procedures of using Analog and Digital cameras.                                                                 |
| <b>LO-3</b>                                                           | Demonstrate the focusing techniques of Analog and Digital cameras.                                                        |
| <b>LO-4</b>                                                           | Acquire skills in the editing and development of photos and videos.                                                       |
| <b>LO-5</b>                                                           | Perform some experimental skills related to images, videos using the equipment available in the lab or in a local studio. |

**III YEAR - B.SC., PHYSICS – V SEMESTER - PAPER 6B –  
Low Temperature Physics & Refrigeration**

| On successful completion of this course, the students will be able to |                                                                                                                                  |
|-----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| <b>LO-1</b>                                                           | Identify various methods and techniques used to produce low temperatures in the Laboratory.                                      |
| <b>LO-2</b>                                                           | Acquire a critical knowledge on refrigeration and air conditioning.                                                              |
| <b>LO-3</b>                                                           | Demonstrate skills of Refrigerators through hands on experience and learns about refrigeration components and their accessories. |
| <b>LO-4</b>                                                           | Understand the classification, properties of refrigerants and their effects on environment.                                      |
| <b>LO-5</b>                                                           | Comprehend the applications of Low Temperature Physics and refrigeration.                                                        |

**III YEAR - B.SC., PHYSICS – V SEMESTER – PRACTICAL PAPER 6B –  
Low Temperature Physics & Refrigeration (Lab 6B)**

| On successful completion of this course, the students will be able to |                                                                                                                                               |
|-----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| <b>LO-1</b>                                                           | List out, identify and handle equipment used in refrigeration and low temperature lab.                                                        |
| <b>LO-2</b>                                                           | Learn the procedures of preparation of Freezing Mixtures.                                                                                     |
| <b>LO-3</b>                                                           | Demonstrate skills on developing various Freezing mixtures and materials and their applications in agriculture, medicine and day to day life. |
| <b>LO-4</b>                                                           | Acquire skills in observing and measuring various methodologies of very low temperatures                                                      |
| <b>LO-5</b>                                                           | Perform some techniques related to Refrigeration and Freezing in daily life.                                                                  |

**III YEAR - B.SC., PHYSICS – V SEMESTER - PAPER 7B –  
Solar Energy and Applications**

| On successful completion of this course, the students will be able to |                                                                                        |
|-----------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| <b>LO-1</b>                                                           | Understand Sun structure, forms of energy coming from the Sun and its measurement.     |
| <b>LO-2</b>                                                           | Acquire a critical knowledge on the working of thermal and photovoltaic collectors.    |
| <b>LO-3</b>                                                           | Demonstrate skills related to callus culture through hands on experience               |
| <b>LO-4</b>                                                           | Understand testing procedures and fault analysis of thermal collectors and PV modules. |
| <b>LO-5</b>                                                           | Comprehend applications of thermal collectors and PV modules.                          |

**III YEAR - B.SC., PHYSICS – V SEMESTER – PRACTICAL PAPER 7B –  
Solar Energy and Applications (Lab 7B)**

| On successful completion of this course, the students will be able to |                                                                                                                                                               |
|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>LO-1</b>                                                           | List out and identify various components of solar thermal collectors and systems, solar photovoltaic modules and systems.                                     |
| <b>LO-2</b>                                                           | Learn the procedures for measurement of direct, global and diffuse solar radiation, I - V characteristics and efficiency analysis of solar cells and modules. |
| <b>LO-3</b>                                                           | Demonstrate skills acquired in evaluating the performance of solar cell / module in connecting them appropriately to get required power output.               |
| <b>LO-4</b>                                                           | Acquire skills in identification and elimination of the damaged panels without affecting the output power in a module / array.                                |
| <b>LO-5</b>                                                           | Perform procedures and techniques related to general maintenance of solar thermal and photovoltaic modules.                                                   |

**III YEAR - B.SC., PHYSICS – V SEMESTER - PAPER 6C –  
Applications of Electricity & Electronics**

| On successful completion of this course, the students will be able to |                                                                                                                               |
|-----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>LO-1</b>                                                           | Identify various components present in Electricity& Electronics Laboratory.                                                   |
| <b>LO-2</b>                                                           | Acquire a critical knowledge of each component and its utility (like resistors, capacitors, inductors, power sources etc.).   |
| <b>LO-3</b>                                                           | Demonstrate skills of constructing simple electronic circuits consisting of basic circuit elements.                           |
| <b>LO-4</b>                                                           | Understand the need & Functionality of various DC & AC Power sources.                                                         |
| <b>LO-5</b>                                                           | Comprehend the design, applications and practices of various electrical & Electronic devices and also their trouble shooting. |

**III YEAR - B.SC., PHYSICS – V SEMESTER – PRACTICAL PAPER 6C –  
Applications of Electricity & Electronics (Lab 6C)**

| On successful completion of this course, the students will be able to |                                                                                                            |
|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| <b>LO-1</b>                                                           | List out, identify and handle various equipment in Electrical & Electronics laboratory.                    |
| <b>LO-2</b>                                                           | Learn the procedures of designing simple electrical circuits.                                              |
| <b>LO-3</b>                                                           | Demonstrate skills on the utility of different electrical components and devices.                          |
| <b>LO-4</b>                                                           | Acquire the skills regarding the operation, maintenance and troubleshooting of various Devices in the lab. |
| <b>LO-5</b>                                                           | Understand the different applications of Electromagnetic induction.                                        |

**III YEAR - B.SC., PHYSICS – V SEMESTER - PAPER 7C –  
Electronic Instrumentation**

| On successful completion of this course, the students will be able to |                                                                                                                                                                                  |
|-----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>LO-1</b>                                                           | Identify various facilities required to set up a basic Instrumentation Laboratory.                                                                                               |
| <b>LO-2</b>                                                           | Acquire a critical knowledge of various Electrical Instruments used in the Laboratory.                                                                                           |
| <b>LO-3</b>                                                           | Demonstrate skills of using instruments like CRO, Function Generator, Multimeter etc. through hands on experience.                                                               |
| <b>LO-4</b>                                                           | Understand the Principle and operation of different display devices used in the display systems and different transducers                                                        |
| <b>LO-5</b>                                                           | Comprehend the applications of various biomedical instruments in daily life like B.P. meter, ECG, Pulse oximeter etc. and know the handling procedures with safety and security. |

**III YEAR - B.SC., PHYSICS – V SEMESTER – PRACTICAL PAPER 7C –  
Electronic Instrumentation (Lab 7C)**

| On successful completion of this course, the students will be able to |                                                                                                                                                                     |
|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>LO-1</b>                                                           | List out, identify and handle various equipment in Instrumentation Laboratory or Electronic Laboratory.                                                             |
| <b>LO-2</b>                                                           | Learn the construction, operational principles of various instruments.                                                                                              |
| <b>LO-3</b>                                                           | Demonstrate skills on handling, Maintenance & trouble shooting of different instruments used in the Labs.                                                           |
| <b>LO-4</b>                                                           | Acquire skills in observing and measuring various electrical and electronic quantities.                                                                             |
| <b>LO-5</b>                                                           | Perform some techniques related to Biomedical Instrumentation and measurement of Certain physiological parameters like body temperature, B.P. and sugar levels etc. |



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## DEPARTMENT OF CHEMISTRY

UNDER CBCS FRAMEWORK WITH EFFECT FROM 2020-21

PROGRAMME: THREE-YEAR B.Sc, CHEMISTRY

### PROGRAMME STRUCTURE

|                                                                                                                             |                                                                                                                     |
|-----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| First Semester<br>Course I: Inorganic & Physical Chemistry                                                                  | Second Semester<br>Course II: Organic & General Chemistry                                                           |
| Third Semester<br>Course III: Organic Chemistry & Spectroscopy                                                              | Fourth Semester<br>Course IV: Inorganic, Organic and Physical Chemistry<br>Course V: Inorganic & Physical Chemistry |
| Fifth Semester<br>Course V: Inorganic, Organic and Physical Chemistry<br>Course VI: Inorganic, Organic & Physical Chemistry | Sixth Semester<br>Intern ship                                                                                       |

## Course outcomes

### SEMESTER – I

#### Course I (Inorganic & Physical Chemistry) 60 hrs. (4h/w)

##### Course outcomes:

At the end of the course, the student will be able to;

1. Understand the basic concepts of p-block elements
2. Explain the difference between solid, liquid and gases in terms of intermolecular interactions.
3. Apply the concepts of gas equations, pH and electrolytes while studying other chemistry courses.

## **LABORATORY COURSE -I 30hrs (2 h / w)**

**Practical-I** Analysis of SALT MIXTURE (At the end of Semester-I)

**Qualitative inorganic analysis (Minimum of Six mixtures should be analysed) 50 M**

### **Course outcomes**

At the end of the course, the student will be able to;

1. Understand the basic concepts of qualitative analysis of inorganic mixture
2. Use glassware, equipment and chemicals and follow experimental procedures in the laboratory
3. Apply the concepts of common ion effect, solubility product and concepts related to qualitative analysis

## **SEMESTER – II**

### **Course II – (Organic & General Chemistry) 60 hrs (4h/w)**

#### **Course outcomes**

At the end of the course, the student will be able to;

1. Understand and explain the differential behavior of organic compounds based on fundamental concepts learnt.
2. Formulate the mechanism of organic reactions by recalling and correlating the fundamental properties of the octants involved.
3. Learn and identify many organic reaction mechanisms including Free Radical Substitution, Electrophilic Addition and Electrophilic Aromatic Substitution.
4. Correlate and describe the stereo chemical properties of organic compounds and reactions.

## **LABORATORY COURSE-II 30hrs (2 h / w)**

### **Practical-II Volumetric Analysis**

(At the end of Semester-II)

#### **Course outcomes:**

At the end of the course, the student will be able to;

1. Use glassware, equipment and chemicals and follow experimental procedures in the laboratory
2. Understand and explain the volumetric analysis based on fundamental concepts learnt in ionic Equilibria

3. Learn and identify the concepts of standard solutions, primary and secondary standards
4. Facilitate the learner to make solutions of various molar concentrations. This may include: The concept of the mole; Converting moles to grams; Converting grams to moles; Defining Concentration; Dilution of Solutions; Making different molar concentrations.

### **SEMESTER - III**

#### **Course III (ORGANIC CHEMISTRY & SPECTROSCOPY) 60hrs (4 h / w)**

##### **Course outcomes:**

At the end of the course, the student will be able to;

1. Understand preparation, properties and reactions of haloalkanes, haloarenes and oxygen containing functional groups.
2. Use the synthetic chemistry learnt in this course to do functional group transformations.
3. To propose plausible mechanisms or any relevant reaction.

#### **LABORATORY COURSE -III 30hrs (2 h / w)**

##### **Practical Course-III Organic preparations and IR Spectral Analysis**

(At the end of Semester- III)

##### **Course outcomes:**

On the completion of the course, the student will be able to do the following:

1. How to use glassware, equipment and chemicals and follow experimental procedures in the Laboratory
2. How to calculate limiting reagent, theoretical yield, and percent yield
3. How to engage in safe laboratory practices by handling laboratory glassware, equipment, and chemical reagents appropriately
4. How to dispose of chemicals in a safe and responsible manner
5. How to perform common laboratory techniques including reflux, distillation, recrystallization, vacuum filtration.
6. How to create and carry out work up and separation procedures
7. How to critically evaluate data collected to determine the identity, purity, and percent yield of Products and to summarize findings in writing in a clear and concise manner

## **SEMESTER - IV**

**Course IV (INORGANIC, ORGANIC AND PHYSICAL CHEMISTRY) 60hrs (4 h / w)**

### **Course outcomes:**

At the end of the course, the student will be able to;

1. To learn about the laws of absorption of light energy by molecules and the subsequent photo chemical reactions
2. To understand the concept of quantum efficiency and mechanisms of photo chemical reaction.

## **LABORATORY COURSE -IV 30hrs(2 h / w)**

**Practical Course-IV Organic Qualitative analysis 50 M**

(At the end of Semester- IV)

### **Course outcomes:**

At the end of the course, the student will be able to;

1. Use glassware, equipment and chemicals and follow experimental procedures in the laboratory
2. Determine melting and boiling g points of organic compounds
3. Understand the application of concepts of different organic reactions studied in theory part of Organic chemistry

## **SEMESTER - IV CourseV(INORGANIC &PHYSICAL CHEMISTRY) 60 hrs (4 h / w)**

### **Course outcomes:**

At the end of the course, the student will be able to;

1. Understand concepts of boundary conditions and quantization, probability distribution, most Probable values, uncertainty and expectation values
2. Application of quantization to spectroscopy.
3. Various types of spectra and their use in structured extermination

## **SEMESTER -V**

**Course V LABORATORY COURSE 30hrs (2 h / w)**

**Practical-Course –V Conductometric and Potentiometric Titrimetry 50 M**

### **Course outcomes:**

At the end of the course, the student will be able to;

1. Use glassware, equipment and chemicals and follow experimental procedures in the laboratory
2. Apply concepts of electrochemistry in experiments
3. Be familiar with electroanalytical methods and techniques in analytical chemistry which study an Analyte by measuring the potential (volts) and/or current ( amperes) in an electrochemical cell Containing the analyte

## **SEMESTER - IV**

**Course V (INORGANIC, ORGANIC AND PHYSICAL CHEMISTRY) 60hrs (4 h / w)**

### **Course outcomes:**

At the end of the course, the student will be able to;

1. To learn about the laws of absorption of light energy by molecules and the subsequent photo chemical reactions.
2. To understand the concept of quantum efficiency and mechanisms of photo chemical reaction.

**LABORATORY COURSE -V 30hrs(2 h / w)**

**Practical Course-Organic Qualitative analysis 50 M**

**(At the end of Semester- IV)**

### **Course outcomes:**

At the end of the course, the student will be able to;

1. Use glassware, equipment and chemicals and follow experimental procedures in the laboratory
2. Determine melting and boiling points of organic compounds
3. Understand the application of concepts of different organic reactions studied in theory part of organic chemistry

**SEMESTER - V Course VI (INORGANIC & PHYSICAL  
CHEMISTRY) 60 hrs (4 h / w)**

**Course outcomes:**

At the end of the course, the student will be able to;

1. Understand concepts of boundary conditions and quantization, probability distribution, most Probable values, uncertainty and expectation values
2. Application of quantization to spectroscopy.
3. Various types of spectra and their use in structural determination



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### DEPARTMENT OF BOTANY

UNDER CBCS FRAMEWORK WITH EFFECT FROM 2020-21

PROGRAMME: THREE-YEAR B.Sc, BOTANY

### PROGRAMME STRUCTURE

|                                                                                                             |                                                                                                                               |
|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>First Semester</b><br>Course I: Fundamentals of Microbes and Non-vascular Plants.                        | <b>Second Semester</b><br>Course II: Basics of Vascular plants and Phytogeography.                                            |
| <b>Third Semester</b><br>Course III: Anatomy and Embryology of Angiosperms, Plant Ecology and Biodiversity. | <b>Fourth Semester</b><br>Course IV: Plant Physiology and Metabolism.<br>Course V: Cell Biology, Genetics and Plant Breeding. |
| <b>Fifth Semester</b><br>Course VI : Plant Tissue Culture<br>Course V: Mushroom cultivation                 | <b>Sixth Semester</b><br>Semester Internship Programme.                                                                       |

## COURSE OUTCOMES (COs)

Course Code: BOT1SK

Course Name: Fundamentals of Microbes and Non-vascular Plants.

| Upon completion of this course, the student will be able to: |                                                                                                    |
|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| CO 1                                                         | Illustrate diversity among the viruses and prokaryotic organisms and categorize them.              |
| CO 2                                                         | Classify fungi, lichens, algae and bryophytes based on the structure reproduction and life cycles. |
| CO 3                                                         | Analyze and ascertain the plant disease symptoms due to viruses and Bacteria.                      |
| CO 4                                                         | Evaluate the ecological and economic value of microbes, thallophytes and bryophytes.               |

Course Code: BOT2SK

Course Name: Basics of Vascular plants and Phytogeography.

| Upon completion of this course, the student will be able to: |                                                                                                                     |
|--------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| CO 1                                                         | Classify and compare Pteridophytes and Gymnosperms based on their morphology, Anatomy reproduction and life cycles. |
| CO 2                                                         | Explain the process of fossilization and compare the characteristics of extinct and extant plants.                  |
| CO 3                                                         | Analyze the morphological of the most common angiosperm plants of their localities and recognize their families.    |
| CO 4                                                         | Locate different Phytogeographical regions of the world and India and can analyze their floristic wealth.           |

Course Code: BOT3SK

Course Name: Anatomy and Embryology of Angiosperms, Plant Ecology and Biodiversity.

| Upon completion of this course, the student will be able to: |                                                                                                         |
|--------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| CO 1                                                         | Understand on the organization of tissues and tissue systems in plants.                                 |
| CO 2                                                         | Illustrate and interpret various aspects of embryology.                                                 |
| CO 3                                                         | Appraise various qualitative and quantitative parameters to study the population and community ecology. |
| CO 4                                                         | Correlate the importance of biodiversity and consequences due to its loss.                              |

Course Code: BOT4SK

Course Name: Plant Physiology and Metabolism.

| Upon completion of this course, the student will be able to: |                                                                                                                        |
|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| <b>CO 1</b>                                                  | Comprehend the importance of water in plant life and mechanisms for transport of water and solutes in plants.          |
| <b>CO 2</b>                                                  | Evaluate the role of minerals in plant nutrition and their deficiency symptoms                                         |
| <b>CO 3</b>                                                  | Critically understand the light reactions and carbon assimilation process responsible for synthesis of food in plants. |
| <b>CO 4</b>                                                  | Evaluate the physiological factors that regulate growth and development in plants.                                     |
| <b>CO 5</b>                                                  | Examine the role of light on flowering and explain physiology of plants under stress conditions.                       |

Course Code: BOT5SK

Course Name: Cell Biology, Genetics and Plant Breeding.

| Upon completion of this course, the student will be able to: |                                                                                                               |
|--------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| <b>CO 1</b>                                                  | Distinguish prokaryotic and eukaryotic cells and design the model of a cell.                                  |
| <b>CO 2</b>                                                  | Discuss the basics of Mendelian genetics its variations and interpret inheritance of traits in living beings. |
| <b>CO 3</b>                                                  | Understand the application of principles and modern techniques in plant breeding.                             |
| <b>CO 4</b>                                                  | Explain the organization of a eukaryotic chromosome, and structure of genetic material.                       |
| <b>CO 5</b>                                                  | Explain the procedures of selection and hybridization for improvement of crops.                               |

Semester V:

Course Code: BOT 6C

Course Name: 6C Plant Tissue Culture

| Upon completion of this course, the student will be able to |                                                                                           |
|-------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| <b>CO1</b>                                                  | Comprehend the basic knowledge and application of tissue Culture                          |
| <b>CO2</b>                                                  | Identify various facilities required to set up a plant tissue cultural laboratory         |
| <b>CO3</b>                                                  | Acquire a critical knowledge on sterilization techniques related to plant tissue cultural |
| <b>CO4</b>                                                  | Understand the bio transformation technique for production of secondary metabolites       |

Semester V

Course Code: BOT 7C

Course Name: 7C Mushroom Cultivation

| Upon completion of this course, the student will be able to |                                                                                                 |
|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| <b>CO1</b>                                                  | Understand the structure and life of a mushroom and discriminate edible and poisonous mushrooms |
| <b>CO2</b>                                                  | Identify the basic infrastructure establish a mushroom culture unit                             |
| <b>CO3</b>                                                  | Demonstrate skills preparation of compost and spawn                                             |
| <b>CO4</b>                                                  | Explain the methods of storage preparation of value-added products and marketing                |



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### DEPARTMENT OF ZOOLOGY

UNDER CBCS FRAMEWORK WITH EFFECT FROM 2020-21

PROGRAMME: THREE-YEAR B.Sc - Zoology

### PROGRAMME STRUCTURE

|                                                                                                     |                                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>First Semester</b><br>Course I: Animal Diversity - Biology of Non-Chordates.                     | <b>Second Semester</b><br>Course II: Animal Diversity – Biology Of Chordates.                                                                     |
| <b>Third Semester</b><br>Course III: Cell Biology, Genetics, Molecular Biology And Evolution.       | <b>Fourth Semester</b><br>Course IV: Animal Physiology, Cellular Metabolism And Embryology.<br><br>Course V: Immunology and Animal Biotechnology. |
| <b>Fifth Semester</b><br>Course VI Sustainable Aquaculture<br>Course VII Post Harvesting Technology | <b>Sixth Semester</b><br>Intern ship – Long term                                                                                                  |

### COURSE OUTCOMES

#### COURSE 1: ANIMAL DIVERSITY BIOLOGY OF INVERTEBRATES

**COURSE OUTCOMES:** By the completion of the course, the graduate should able to-

- Describe general taxonomic rules on animal classification
- Classify Protozoa to Coelenterate with taxonomic keys.
- Classify Phylum Platy helminths to Annelida phylum using examples from parasitic adaptation and vermin composting.
- Describe Phylum Arthropoda to Mollusca using examples and the importance of insects and Molluscs.
- Describe Echinodermata to Hemi Chordata with suitable examples and larval stages in relation to the phylogeny.

## **COURSE 2: ANIMAL DIVERSITY – BIOLOGY OF CHORDATES**

**COURSE OUTCOMES:** By the completion of the course the graduate should be able to –

- Describe general taxonomic rules on animal classification of chordates.
- Classify Protochordata to Mammalia with taxonomic keys.
- Understand Mammals with specific structural adaptations
- Understand the significance of dentition and evolutionary significance.
- Understand the origin and evolutionary relationship of different phyla from Prochordata to Mammalia.

## **COURSE 3: CELL BIOLOGY, GENETICS, MOLECULAR BIOLOGY AND EVOLUTION**

**COURSE OUTCOMES:** The overall course outcome is that the student shall develop a deeper understanding of what life is and how it functions at the cellular level. This course will provide students with deep knowledge in Cell Biology, Animal Biotechnology and Evolution and by the completion of the course the graduate shall able to-

- To understand the basic unit of living organisms and to differentiate the organisms by their cell structure.
- Describe the fine structure and function of the plasma membrane and different cell organelles of a eukaryotic cell.
- To understand the history of the origin of a branch of genetics and gain knowledge on heredity, the interaction of genes, and various types of inheritance patterns existing in animals.
- Acquiring in-depth knowledge of various aspects of genetics involved in sex determination, human karyotyping and mutations of chromosomes resulting in various disorders
- Understand the central dogma of molecular biology and the flow of genetic information from DNA to proteins.
- Understand the principles and forces of the evolution of life on earth, the process of evolution of new species and apply the same to develop new and advanced varieties of animals for the benefit of the society

## **COURSE 4: ANIMAL PHYSIOLOGY, CELLULAR METABOLISM AND EMBRYOLOGY**

**COURSE OUTCOMES:** This course will provide students with deep knowledge of Physiology, Cellular metabolism and Molecular Biology and by the completion of the course the graduate shall able to-

- Understand the functions of important animal physiological systems including digestion, cardio-respiratory and renal systems.
- Understand the muscular system and the neuro-endocrine regulation of animal growth, development and metabolism with special knowledge of hormonal control of human reproduction.
- Describe the structure, classification and chemistry of biomolecules and enzymes responsible for the sustenance of life in living organisms.
- Develop a broad understanding of the basic metabolic activities pertaining to the catabolism and anabolism of various biomolecules
- Describe the key events in early embryonic development starting from the formation of gametes up to gastrulation and formation of primary germ layers.

## **COURSE-5: IMMUNOLOGY AND ANIMAL BIOTECHNOLOGY**

**COURSE OUTCOMES:** This course will provide students with deep knowledge of immunology, genetics, embryology and ecology and by the completion of the course the graduate shall able to –

- To get knowledge of the organs of the Immune system, types of immunity, cells and organs of immunity.
- To describe the immunological response as to how it is triggered (antigens) and regulated (antibodies).
- Understand the applications of Biotechnology in the fields of industry and agriculture including animal cell/tissue culture, stem cell technology and genetic engineering.
- Get familiar with the tools and techniques of animal biotechnology.

## **COURSE-6: SUSTAINABLE AQUACULTURE**

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

- To know the present status of aquaculture and its role in the world economy and food production
- To understand the pond ecosystems and natural food production.
- To improve the technical knowledge on preparation and management of fish and shrimp ponds.
- To gain knowledge on the estimation of different parameters in culture ponds for better aquaculture practices
- Acquire knowledge on the culture of Freshwater Fishes and prawn.
- Understand the nutritional requirements of finfishes and shellfishes under cultural conditions.
- Apply the knowledge on microbial infection, disease diagnosis and control measures.

## **COURSE-7: POST HARVESTING TECHNOLOGY**

**COURSE OUTCOMES:** At the end of the course, students will be able to-

- Describe spoilage-causing microorganisms of fish and fishery products
- Analyzing post-mortem changes in fish
- Understand the freezing technology and canning of fish
- Understand the curing and drying of fish
- Understand the value-added fish products and Fishery By-products
- Understand the Packaging of fish products
- Understand the biological hazards in seafood
- Understand the Hazard analysis and critical control points in seafood industry
- Understand the National and international standards for fish and fish products



# **GOVERNMENT DEGREE COLLEGE, CHEBROLE**

**Guntur District, Andhra Pradesh**

(Accredited by NAAC with 'B' Grade)

Affiliated to Acharya Nagarjuna University

Email: [jkc.chebrole@gmail.com](mailto:jkc.chebrole@gmail.com) Pin 522212 Phone No. 08644-254221

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## **Department of History**

Semester-wise Syllabus under CBCS 2020-21

### **I Year B. A. Semester – I**

#### **Course1: ANCIENT INDIAN HISTORY & CULTURE (from Indus Valley Civilization to 13<sup>th</sup> Cen A.D)**

#### **Outcomes:**

After successful completion of this course, the student will be able to:

- Identify and define various kinds of sources and understand how history books are Shaped.
- Compare and contrast various stages of progress from IVC to Vedic age and analyze the Jain, Buddhist and Vedic faiths.
- Increase the awareness and appreciation of Transition from Territorial States to Emergence of Empires.
- Analyze the emergence of the Mauryan and Gupta empires during the “classical age” in India.
- Evaluate the key facets of ancient society, polity and culture in South India—the feudalism, and the rise of technology and commerce.
- Critically examine the nature of monarchic rule and develop an comprehensive understanding of cultural evolution during ancient period.
- Visualize where places are in relation to one another through map pointing.

## **I Year B. A. – Semester – II**

### **Course 2: MEDIEVAL INDIAN HISTORY & CULTURE (1206 A.D to 1764 A.D)**

#### **Outcomes:**

After successful completion of this course, the student will be able to:

- Understand the socio, economic and cultural conditions of medieval India
- Describe the advent of Islam in India and study the traces of political and cultural expansion of Turks & Afghans
- Explain the Administration and art and architecture of Vijayanagar Rulers, Mughals and also analyse the rise of the Marathas and the contribution of Shivaji
- Evaluate the establishment of the British rule in India and understand the dangerous consequences disunity at all levels
- Analyze the emergence of composite culture in Indian
- Visualize where places are in relation to one another through map pointing

## **I Year B. A. – Semester – III**

### **Course 3: MODERN INDIAN HISTORY & CULTURE (1764-1947 A. D)**

#### **Outcomes:**

After successful completion of this course, the student will be able to:

- Unearth the true nature of the British rule and its disastrous impact on Indian economy and society
- Gauge the disillusionment of people against the Company's rule even during the early 19th century
- Assess the causes and effects of Reformation movements and also inspire the public to overthrow inequalities of the present day society
- Rise above petty parochial issues after understanding the sacrificial saga of freedom struggle
- Evaluate the undercurrent of communal politics that led to India's partition and identify the enemies of India's integrity and sovereignty
- Visualize where places are in relation to one another through map pointing

## **II Year B. A. – Semester – IV**

### **Course 4: HISTORY & CULTURE OF ANDHRA (FROM 1512 TO 1956 AD)**

#### **Outcomes:**

After successful completion of this course, the student will be able to:

- Interpret social and political and cultural transformation from medieval to modern Andhra
- Relate key historical developments during medieval period occurring in coastal Andhra and Telangana regions and analyze socio - political and economic changes under QutbShahi rulers
- Understand gradual change, or change in certain aspects of society in Andhra, rather than rapid or fundamental changes
- Explain how the English East India Company became the most dominant power and outline the impact of colonial policies on different aspects in Andhra
- Outline the issues related to caste, women, widow remarriage, child marriage, social reforms and the laws and policies of colonial administration towards these issues
- Take pride in the non-violence struggle for Indian Independence and relate the importance of peace in everyday life
- Apply the knowledge of the regional history to understand the regional, linguistic and other cultural aspirations of the present day society
- Visualize where places are in relation to one another through map pointing

## **I/II Year B. A. – Semester IV**

### **Course 5: HISTORY OF MODERN WORLD (From 15<sup>th</sup> Cent. AD to 1945 AD)**

#### **Outcomes:**

After successful completion of this course, the student will be able to:

- Demonstrate advanced factual knowledge of world histories, politics, and cultures
- Assess and appraise the developments in art, literature, and society during the Renaissance and utilize content knowledge of the Reformation and Counter Reformation to make predictions about the evolution of Christianity in Europe and abroad
- Evaluate the causes for the Glorious Revolution and American Revolution and identify the background for the evolution of human rights movement
- Understand the main events of the French Revolution and its significance in the shift in European culture from Enlightenment to Romanticism
- Think how Russia's traditional monarchy was replaced with the world's first Communist state.
- Know how the world wars affected people all over the world and the destruction they caused
- Develop the intellectual curiosity and habits of thought that will lead to life-long learning and continued engagement with European history, literature, culture, languages, and current affairs and acquire advanced international and intercultural competency through coursework in international studies
- Visualize where places are in relation to one another through map pointing

### **III Year B. A. – Semester V**

#### **SEMESTER INTERNSHIP PROGRAMME**

### **III Year B. A. – Semester VI**

#### **Course 6B: Tourism and Hospitality Services**

##### **Outcomes:**

Students after successful completion of the course will be able to:

1. Understand hospitality as a career
2. Inculcate interpersonal skills
3. Develop the ability for multitasking and crisis management
4. Understands the spirit of teamwork
5. Acknowledge the importance of guest service and satisfaction

### **III Year B. A. – Semester VI**

#### **Course 7B: Tourish Guide and Operating Skills**

##### **Outcomes:**

Students after successful completion of the course will be able to:

1. Acquire tour guiding, operating and soft skills
2. Understand different situations under which one has to work
3. Cultivate cultural awareness and flexibility
4. Understand and apply team spirit
5. Plan and organize tour operations efficiently



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## **DEPARTMENT OF ECONOMICS**

UG CBCS SYLLABUS w.e.f. 2020-2021

### **ECONOMICS (UG) SYLLABUS**

For Semesters I To VI

| <i>SEM</i> | <i>COURSE</i>                                                                                       | <i>TITLE OF COURSE</i>                           | <i>HOURS</i> | <i>CREDITS</i> | <i>MARKS</i> |
|------------|-----------------------------------------------------------------------------------------------------|--------------------------------------------------|--------------|----------------|--------------|
| I          | 1                                                                                                   | Microeconomic Analysis                           | 5            | 4              | 100          |
| II         | 2                                                                                                   | Macroeconomic Analysis                           | 5            | 4              | 100          |
| III        | 3                                                                                                   | Development Economics                            | 5            | 4              | 100          |
| IV         | 4                                                                                                   | Economic Development in India And Andhra Pradesh | 5            | 4              | 100          |
|            | 5                                                                                                   | Statistical Methods for Economics                | 5            | 4              | 100          |
| V          | PROJECT WORK (As per University Guidelines)<br>(CSP + Short Term Internship + Long Term Internship) |                                                  |              |                |              |
| VI         | 6C                                                                                                  | Insurance Services                               | 5            | 4              | 100          |
|            | 7C                                                                                                  | Banking And Financial Services                   | 5            | 4              | 100          |

## **BA (ECONOMICS) – COURSE OUTCOMES**

### ***SEM – I – MICRO ECONOMIC ANALYSIS (COURSE-1):***

|      |                                                                                                                                                                                                                |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CO-1 | Understanding various terms and concepts relating to microeconomic analysis with the help of examples of real life                                                                                             |
| CO-2 | Consumer's equilibrium and consumer's surplus using indifference curve analysis.                                                                                                                               |
| CO-3 | Various laws and principles of consumption, production, and income distribution.                                                                                                                               |
| CO-4 | Analysis and evaluation of various laws and principles of microeconomic analysis and market conditions and application of the concept of demand elasticity and its relation with Average and Marginal Revenue. |

### ***SEM – II – MACRO ECONOMIC ANALYSIS (COURSE-2):***

|      |                                                                                                                                                                                         |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CO-1 | Remembers and states in a systematic way of various concepts, definitions, laws and principles of macroeconomic theory with reference to income, employment, money, banking and finance |
| CO-2 | Understanding various terms, concepts, laws and principles, theories relating to income, employment, consumption, investment, money, price-level and phases of trade cycles.            |
| CO-3 | Critically examines using data and figures of various theories of macroeconomics with reference to their assumptions, implications and applicability.                                   |

### ***SEM – III – DEVELOPMENT ECONOMICS (COURSE-3):***

|      |                                                                                                                                                                                                                                                                             |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CO-1 | Students can gain knowledge on Various concepts and definitions and indicators relating to economic growth and Development including recent developments                                                                                                                    |
| CO-2 | Understanding Distinction between growth and development with examples, characteristics of developing and developed economies and distinction between the two factors contributing to development, Choice of Techniques and a few important models and strategies of growth |
| CO-3 | Draws critical diagrams and graphs to explain the models and strategies to highlight empirical evidences to support the strategies                                                                                                                                          |

***SEM – IV – ECONOMIC DEVELOPMENT AND INDIAN ECONOMY (COURSE-4):***

|      |                                                                                                                                                                                                                                     |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CO-1 | Develop ideas of the basic characteristics of Indian economy, its potential on natural resources.                                                                                                                                   |
| CO-2 | Understand the importance, causes and impact of population growth and its distribution, translate and relate them with economic development.                                                                                        |
| CO-3 | Grasp the importance of planning undertaken by the government of India, have knowledge on the various objectives, failures and achievements as the foundation of the ongoing planning and economic reforms taken by the government. |
| CO-4 | Understand agriculture as the foundation of economic growth and development, analyse the progress and changing nature of agricultural sector and its contribution to the economy as a whole.                                        |
| CO-5 | Not only be aware of the economy as a whole, they would understand the basic features of Mizoram's economy, sources of revenue, how the state government finance its programmes and projects.                                       |

***SEM – IV – STATISTICAL METHODS FOR ECONOMICS (COURSE-5):***

|      |                                                                                                                                                                                                                                                           |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CO-1 | Understands the importance of statistics and its applications, method of classification of primary data and also uses the Correlation and Regression analysis, time series and index numbers in economic analysis.                                        |
| CO-2 | Analysis and evaluation of different kinds of statistical problems using various principals and formulae relating to central tendency, correlation, regression, time series and indices and to interpret data and suggest solutions to economic problems. |
| CO-3 | Draws the critical diagrams and graphs like histogram, frequency polygon and frequency curve, different types of bar diagrams, pie diagram and their uses in economic analysis.                                                                           |

***SEM – VI – INSURANCE SERVICES (COURSE-6C):***

|      |                                                                                                                         |
|------|-------------------------------------------------------------------------------------------------------------------------|
| CO-1 | Knowledge and understanding about the Concept and Principles of Insurance, Insurance Services and Regulations in India. |
| CO-2 | Apply such knowledge to Insurance Market Opportunities in Local Area.                                                   |
| CO-3 | Analyze and evaluate the local Insurance Service market and formulate business and livelihood opportunities             |
| CO-4 | Practical Skills to practice as an Agent for Insurance Services in the local area and earn Livelihoods                  |

***SEM – VI – BANKING AND FINANCIAL SERVICES(COURSE-7C):***

|      |                                                                                                                                        |
|------|----------------------------------------------------------------------------------------------------------------------------------------|
| CO-1 | Knowledge and understanding about the concept and essentials banking and financial services.                                           |
| CO-2 | Apply such knowledge to identify the employment opportunities in banks and other financial institutions.                               |
| CO-3 | Practical Skills to start get employment in Banks and other financial institutions as business correspondence or marketing agent or so |



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### DEPARTMENT OF POLITICAL SCIENCE

### UNDER CBCS FRAMEWORK WITH EFFECT FROM 2020-21

PROGRAMME: THREE YEAR B.A POLITICAL SCIENCE

### PROGRAMME STRUCTURE

|                                                             |                                                                                                                   |
|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>First Semester</b><br>-INTRODUCTION TO POLITICAL SCIENCE | <b>Second Semester</b><br>-BASIC ORGANS OF THE GOVERNMENT                                                         |
| <b>Third Semester</b><br>- INDIAN GOVERNMENT AND POLITICS   | <b>Fourth Semester</b><br>-INDIAN POLITICAL PROCESS<br>-WESTERN POLITICAL THOUGHT                                 |
| <b>Fifth Semester</b><br>- INTERNSHIP                       | <b>Sixth Semester</b><br>- ELECTORAL POLITICS AND VOTING BEHAVIOUR-6D<br>-LEGISLATIVE PROCEDURES AND PRACTICES-7D |

#### COURSE OUTCOMES :

#### COURSE : SEMESTER I – INTRODUCTION TO POLITICAL SCIENCE

|      |                                                                                                                                                    |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| CO-1 | Recall the previous knowledge about Political Science and understand the nature and scope, traditional and modern approaches of Political Science. |
| CO-2 | Understand concepts intrinsic to the study of Political Science.                                                                                   |
| CO-3 | Have solid theoretical understanding of Rights and its theories along with the basic aspects of certain political ideologies.                      |
| CO-4 | Apply the knowledge to observe the field level phenomena                                                                                           |

#### COURSE: SEMESTER II- BASIC ORGANS OF THE GOVERNMENT

|      |                                                                                                                                              |
|------|----------------------------------------------------------------------------------------------------------------------------------------------|
| CO-1 | Understand the Origin and Evolution of the concept of Constitutionalism and Classification of Constitutions.                                 |
| CO-2 | Acquaint themselves with different theories of origin of State.                                                                              |
| CO-3 | Understand and analyses organs and forms of Governments along with a deep insight into the various agents involved in the political process. |
| CO-4 | Apply the knowledge to analyse and evaluate the existing systems                                                                             |

### **COURSE: SEMESTER III- INDIAN GOVERNMENT AND POLITICS**

|             |                                                                                                                                                                                |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CO-1</b> | Acquire knowledge about the historical background of Constitutional development in India, appreciate philosophical foundations and salient features of the Indian Constitution |
| <b>CO-2</b> | Analyze the relationship between State and individual in terms of Fundamental Rights and Directive Principles of State Policy.                                                 |
| <b>CO-3</b> | Understand the composition of and functioning of Union Government as well as State Government and finally                                                                      |
| <b>CO-4</b> | Acquaint themselves with the judicial system of the country and its emerging trends such as judicial reforms.                                                                  |

### **COURSE : SEMESTER- IV- INDIAN POLITICAL PROCESS – (PAPER-1)**

|             |                                                                                                                                                               |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CO-1</b> | Know and understand the federal system of the country and some of the vital contemporary emerging issues.                                                     |
| <b>CO-2</b> | Evaluate the electoral system of the country and to identify the areas of electoral reforms.                                                                  |
| <b>CO-3</b> | Know the constitutional base and functioning of local governments with special emphasis on 73 <sup>rd</sup> & 74 <sup>th</sup> Constitutional Amendment Acts. |
| <b>CO-4</b> | Understand the dynamics of Indian politics, challenges faced and gain a sensitive comprehension to the contributing factors.                                  |
| <b>CO-5</b> | Apply the knowledge and critically comprehend the functioning of some of the regulatory and governance institutions.                                          |
| <b>CO-6</b> | Propose theoretical outline alternate models                                                                                                                  |

### **COURSE : SEMESTER- IV- WESTERN POLITICAL THOUGHT (PAPER-II)**

- To delineate the contribution of classical political thinkers to western political thinkers
- To cover the early medieval period to the beginning of the modern thought
- To highlight the importance liberal thought
- To understand the basic concept of liberal democratic thought
- To enlighten the philosophical idealism and its critique

**COURSE : SEMESTER V – INTERNSHIP (6Months)**

**COURSE : SEMESTER VI - ELECTORAL POLITICS AND VOTING BEHAVIOUR-6D  
(PAPER-I)**

1. Acquaint student with the structure and manner of functioning of Election Commission of India.
2. Understand the political issues in Electoral Politics.
3. Provide an overview on voter turnout, voting behavior in India.
4. Aware of the role of new media and technology in election campaign.
5. Develop an understanding of the required skills for data collection, research in election management.

**COURSE : SEMESTER VI -: LEGISLATIVE PROCEDURES AND PRACTICES-7D  
(PAPER-II)**

- Make familiar with legislative procedures and practices.
- Equip the students with the adequate skills of participation in deliberative processes and democratic decision making.
- Understand complex policy issues, draft new legislation, analyze ongoing bills, make speeches and floor statements.
- Provide skills to be part of a legislative support team and expose them to real life legislative work.
- Enhance understanding of procedures, practices, different committees and motions in the House.

GOVERNMENT DEGREE COLLEGE: CHEBROLE: ANDHRA PRADESH

DEPARTMENT OF COMMERCE

ACADEMIC YEAR 2021-2022

SUBJECT OUTCOMES, SUBJECT SPECIFIC OUTCOMES & COURSE OUTCOMES

**B. COM (COMPUTERAPPLICATIONS) – COURSE OUTCOMES**

1. Enables learners to get theoretical and practical exposure in the commerce sector which includes Accounts, Commerce, Marketing, Management, Economics, Environment etc.
2. Develops communication skills and build confidence to face the challenges of the corporate world.
3. Enhances the capability of decision making at personal and professional levels.
4. Makes students industry ready and develop various managerial and accounting skills for better professional opportunities.
5. develops entrepreneurial skills amongst learners
6. Community Service projects after II semester will give proper awareness about the various social issues to the students, and also inculcate the research techniques and methods.
7. Internship after V semester and VI semester will give practical knowledge how the accountancy, management, marketing theory's are implemented in the real world scenario, This also leads self-employment, and imbibes new entrepreneur skills

**B. COM (COMPUTERS & GENERAL) – SUBJECT VISE OUTCOMES**

| Course |                            | Outcomes                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                        |
|--------|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| S.No   | Subject                    | Learning Outcome                                                                                                                                                                                                                                                                                                                                                                     | Specific Outcome                                                                                                                                                                                                                                                                                                                       |
| 1      | Fundamentals of Accounting | <ol style="list-style-type: none"><li>1. Transmits understanding of basic concepts of business along with setting business unit and logical provisions for initiating business.</li><li>2. Gives clue to learners on entrepreneurship and exposes them to problems and prospects of women entrepreneurs.</li><li>3. Conveys to the learners the current trends in business</li></ol> | <ol style="list-style-type: none"><li>1. Analyze the difference between cash book and pass book in terms of balance and make reconciliation.</li><li>2. Critically examine the balance sheets of a sole trader for different accounting periods. Design new accounting formulas &amp; principles for business organizations.</li></ol> |

|   |                                    |                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                              |
|---|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2 | Business Organization & Management | <ol style="list-style-type: none"> <li>1. Understand different forms of business organizations. Comprehend the nature of Joint Stock Company and formalities to promote a Company.</li> <li>2. Describe the Social Responsibility of Business towards the society.</li> <li>3. Critically examine the various organizations of the business firms and judge the best among them</li> </ol> | <ol style="list-style-type: none"> <li>1. Design and plan to register a business firm. Prepare different documents to register a company at his own.</li> <li>2. Articulate new models of business organizations.</li> </ol> |
| 3 | Business Environment               | <ol style="list-style-type: none"> <li>1. Understand the concept of business environment. Define Internal and External elements affecting business environment.</li> <li>2. Explain the economic trends and its effect on Government policies.</li> <li>3. Critically examine the recent developments in economic and business policies of the Government.</li> </ol>                      | <ol style="list-style-type: none"> <li>1. Evaluate and judge the best business policies in Indian business environment.</li> <li>2. Develop the new ideas for creating good business environment</li> </ol>                  |
| 4 | Information Technology             | <ol style="list-style-type: none"> <li>1. Provides fundamental computing knowledge and empowers the use of office productivity tools.</li> <li>2. Familiarizes students with E-Commerce infrastructure and Electronic Payment systems used in today's Digital age</li> </ol>                                                                                                               | <ol style="list-style-type: none"> <li>1. Provides computerized Accounting and Auditing knowledge.</li> </ol>                                                                                                                |
|   |                                    |                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                              |
| 5 | Financial Accounting               | <ol style="list-style-type: none"> <li>1. Understand the concept of consignment and learn the accounting treatment of the various aspects of consignment.</li> <li>2. Analyze the accounting process and preparation</li> </ol>                                                                                                                                                            | <ol style="list-style-type: none"> <li>1. Determine the useful life and value of the depreciable assets and maintenance of Reserves in business entities.</li> <li>2. Design an accounting system for different</li> </ol>   |

|   |                             |                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                          |
|---|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                             | <p>of accounts in consignment and joint venture.</p> <p>3. Distinguish Joint Venture and Partnership and to learn the methods of maintaining records under Joint Venture</p>                                                                                                                                                                                  | <p>models of businesses at his own using the principles of existing accounting system.</p>                                                                                                                                               |
| 6 | Business Economics          | <p>1. Describe the nature of economics in dealing with the issues of scarcity of resources. Analyze supply and demand analysis and its impact on consumer behavior.</p> <p>2. Evaluate the factors, such as production and costs affecting firms' behavior.</p> <p>3. Recognize market failure and the role of government in dealing with those failures.</p> | <p>1. Use economic analysis to evaluate controversial issues and policies.</p> <p>2. Apply economic models for managerial problems, identify their relationships, and formulate the decision-making tools to be applied for business</p> |
| 7 | Banking Theory and Practice | <p>1. Understand the basic concepts of banks and functions of commercial banks. Demonstrate an awareness of law and practice in a banking context.</p> <p>2. Engage in critical analysis of the practice of banking law.</p> <p>3. Organize information as it relates to the regulation of banking products and services.</p>                                 | <p>1. Critically examine the current scenario of Indian Banking system.</p> <p>2. Formulate the procedure for better service to the customers from various banking innovations.</p>                                                      |
| 8 | E-Commerce & Web Designing  | <p>1. Understand the basic concepts of technology used in the fields of management systems</p> <p>2. Have the knowledge of different management information systems</p>                                                                                                                                                                                       | <p>1. Be aware of the ethical, social, and security issues of information system</p>                                                                                                                                                     |
|   |                             |                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                          |
|   |                             | <p>1. Understand the concept of Non-profit organizations and its</p>                                                                                                                                                                                                                                                                                          | <p>1. Prepare financial statements for partnership firm on</p>                                                                                                                                                                           |

|    |                          |                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                   |
|----|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9  | Advanced Accounting      | <p>accounting process</p> <ol style="list-style-type: none"> <li>2. Comprehend the concept of single-entry system and preparation of statement of affairs</li> <li>3. Familiarize with the legal formalities at the time of dissolution of the firm</li> </ol>                                                                                           | <p>dissolution of the firm.</p> <ol style="list-style-type: none"> <li>2. Employ critical thinking skills to understand the difference between the dissolution of the firm and dissolution of partnership</li> </ol>                                                              |
| 10 | Business Statistics      | <ol style="list-style-type: none"> <li>1. Understand the importance of Statistics in real life</li> <li>2. Formulate complete, concise, and correct mathematical proofs.</li> <li>3. Frame problems using multiple mathematical and statistical tools, measuring relationships by using standard techniques</li> </ol>                                   | <ol style="list-style-type: none"> <li>1. Build and assess data-based models.</li> <li>2. Learn and apply the statistical tools in day life. Create quantitative models to solve real world problems in appropriate contexts</li> </ol>                                           |
| 11 | Marketing                | <ol style="list-style-type: none"> <li>1. Develop an idea about marketing and marketing environment.</li> <li>2. Understand the consumer behavior and market segmentation process.</li> <li>3. Comprehend the product life cycle and product line decisions.</li> <li>4. Know the process of packaging and labeling to attract the customers.</li> </ol> | <ol style="list-style-type: none"> <li>1. Formulate new marketing strategies for a specific new product.</li> <li>2. Develop new product line and sales promotion techniques for a given product.</li> <li>3. Design and develop new advertisements to given products.</li> </ol> |
| 12 | Programming with C & C++ | <ol style="list-style-type: none"> <li>1. Helps to develop a programmer</li> </ol>                                                                                                                                                                                                                                                                       | <ol style="list-style-type: none"> <li>1. Lets you get hands on with low level programming concepts and its helps to understand how computers think and operate</li> </ol>                                                                                                        |
|    |                          |                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                   |
|    |                          | <ol style="list-style-type: none"> <li>1. Understand the Accounting treatment of Share Capital and aware of process of book building.</li> </ol>                                                                                                                                                                                                         | <ol style="list-style-type: none"> <li>1. Participate in the preparation of consolidated accounts for a corporate group.</li> </ol>                                                                                                                                               |

|    |                              |                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                |
|----|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 14 | Corporate Accounting         | <ol style="list-style-type: none"> <li>2. Demonstrate the procedure for issue of bonus shares and buyback of shares.</li> <li>3. Comprehend the important provisions of Companies Act, 2013 and prepare final accounts of a company with Adjustments</li> </ol>                                                                                                                                                    | <ol style="list-style-type: none"> <li>2. Understand analysis of complex issues, formulation of well-reasoned arguments and reaching better conclusions.</li> <li>3. Communicate accounting policy choices with reference to relevant laws and accounting standards</li> </ol> |
| 15 | Cost & Management Accounting | <ol style="list-style-type: none"> <li>1. Understand various costing methods and management techniques.</li> <li>2. Apply Cost and Management accounting methods for both manufacturing and service industry.</li> <li>3. Prepare cost sheet, quotations, and tenders to organization for different works.</li> <li>4. Analyze cost-volume-profit techniques to determine optimal managerial decisions.</li> </ol> | <ol style="list-style-type: none"> <li>1. Compare and contrast the financial statements of firms and interpret the results.</li> <li>2. Prepare analysis of various special decisions, using relevant management techniques</li> </ol>                                         |
| 16 | Income Tax                   | <ol style="list-style-type: none"> <li>1. Acquire the complete knowledge of the tax evasion, tax avoidance and tax planning</li> <li>2. Understand the provisions and compute income tax for various sources.</li> <li>3. Grasp amendments made from time to time in Finance Act.</li> </ol>                                                                                                                       | <ol style="list-style-type: none"> <li>1. Compute total income and define tax complications and structure.</li> <li>2. Prepare and File IT returns of individual at his own.</li> </ol>                                                                                        |
| 17 | Business Laws                | <ol style="list-style-type: none"> <li>1. Understand the legal environment of business and laws of business.</li> <li>2. Highlight the security aspects in the present cyber-crime scenario.</li> <li>3. Apply basic legal</li> </ol>                                                                                                                                                                              | <ol style="list-style-type: none"> <li>1. Engage critical thinking to predict outcomes and recommend appropriate action on issues relating to business associations</li> </ol>                                                                                                 |

|    |                             |                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                      |
|----|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |                             | knowledge to business transactions. Understand the various provisions of Company Law                                                                                                                                                                                                                                                                             | and legal issues.<br>2. Integrate concept of business law with foreign trade.                                                                                                                                                                                        |
| 18 | Auditing                    | <ol style="list-style-type: none"> <li>1. Understanding the meaning and necessity of audit in modern era</li> <li>2. Comprehend the role of auditor in avoiding the corporate frauds</li> <li>3. Identify the steps involved in performing audit process</li> <li>4. Determine the appropriate audit report for a given audit situation</li> </ol>               | <ol style="list-style-type: none"> <li>1. Apply auditing practices to different types of business entities</li> <li>2. Plan an audit by considering concepts of evidence, risk and materiality</li> </ol>                                                            |
| 19 | Goods and Service Tax       | <ol style="list-style-type: none"> <li>1. Understand the basic principles underlying the Indirect Taxation Statutes.</li> <li>2. Examine the method of tax credit. Input and Output Tax credit and Cross Utilization of Input Tax Credit.</li> <li>3. Identify and analyze the procedural aspects under different applicable statutes related to GST.</li> </ol> | <ol style="list-style-type: none"> <li>1. Compute the assessable value of transactions related to goods and services for levy and determination of duty liability.</li> <li>2. Develop various GST Returns and reports for business transactions in Tally</li> </ol> |
| 20 | Data base Management System | <ol style="list-style-type: none"> <li>1. Explain the relationship between the fundamental elements of data base management system</li> </ol>                                                                                                                                                                                                                    | <ol style="list-style-type: none"> <li>1. Familiar with the basic database storage structures</li> </ol>                                                                                                                                                             |
| 21 | Community Service Project   | <ol style="list-style-type: none"> <li>1. To helps the students to get awareness about the various social issues and problems</li> </ol>                                                                                                                                                                                                                         | <ol style="list-style-type: none"> <li>1. To provide the Research skills and research writing techniques</li> </ol>                                                                                                                                                  |
| 22 | Internships                 | <ol style="list-style-type: none"> <li>1. Helps the students to get understand with the practical scenario, about the various management, organizing techniques and marketing strategies</li> </ol>                                                                                                                                                              | <ol style="list-style-type: none"> <li>1. This course will imbibe the entrepreneur skills to the new aspirants.</li> </ol>                                                                                                                                           |



# GOVERNMENT DEGREE COLLEGE, CHEBROLE

Accredited by NAAC with 'B' Grade

Affiliated to Acharya Nagarjuna University,

Guntur District, Andhra Pradesh, PIN 522 212

Phone No: 08644-254221, 254322 Email: jkc.chebrole@gmail.com

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## DEPARTMENT OF ENGLISH

UNDER CBCS FRAMEWORK WITH EFFECT FROM 2020-21

PROGRAMME: THREE-YEAR B.Com, B.A., and B.Sc General English

### PROGRAMME STRUCTURE

|                                                                                                         |
|---------------------------------------------------------------------------------------------------------|
| <b>First Semester</b><br>Course I: English Praxis Course-I<br>A Course in Listening and Grammar         |
| <b>Second Semester</b><br>Course II: English Praxis Course-II<br>A Course in Reading and Writing Skills |
| <b>Third Semester</b><br>Course III: English Praxis Course-III<br>A Course in Conversational Skills     |

### PROGRAMME OUTCOMES:

|             |                                                                                                                                 |
|-------------|---------------------------------------------------------------------------------------------------------------------------------|
| <b>PO-1</b> | Expose and empower undergraduate learners with the necessary communication skills in order to be successful in their life goals |
| <b>PO-2</b> | To acknowledge the importance of English as an essential foreign language and compete in the international scenario             |
| <b>PO-3</b> | To equip learners with the critical thinking skills and soft skills required for their progress                                 |
| <b>PO-4</b> | Use English in formal and informal styles                                                                                       |

### PROGRAMME SPECIFIC OUTCOMES:

|              |                                                                                                           |
|--------------|-----------------------------------------------------------------------------------------------------------|
| <b>PSO-1</b> | Developing Listening skill, Reading skills, Study Skills and writing skills for professional requirements |
| <b>PSO-2</b> | Develop every day communication skills among the learners                                                 |
| <b>PSO-3</b> | Promote social and emotional skills.                                                                      |
| <b>PSO-4</b> | Strengthening vocabulary and sentence structure                                                           |
| <b>PSO-5</b> | Underlining the importance of human values of empathy and service                                         |

**I YEAR - B.Com(CA), B.A., & B.Sc., - I SEMESTER**  
**PAPER 1 – A Course in Listening and Grammar**

**COURSE OUTCOMES:**

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

|             |                                                                                                                            |
|-------------|----------------------------------------------------------------------------------------------------------------------------|
| <b>CO-1</b> | Learn basic grammar required to express himself/herself in English                                                         |
| <b>CO-2</b> | Acquire knowledge of Listening as a language skill                                                                         |
| <b>CO-3</b> | Acquire knowledge of Listening as a language skill                                                                         |
| <b>CO-4</b> | Understands the structure of a paragraph and acquires the ability to write simple paragraphs                               |
| <b>CO-5</b> | Demonstrate an understanding of the supra segmental features of speaking such as Pronunciation, Word Stress and Intonation |
| <b>CO-6</b> | Understands the importance of Soft Skills and acquires the ability to use soft skills in daily life                        |
| <b>CO-7</b> | Demonstrate an understanding of basic writing skills such as spelling and punctuation                                      |

**I YEAR - B.Com., B.A., & B.Sc., (CA) - II SEMESTER**  
**PAPER 2: A Course in Reading and Writing Skills**

**COURSE OUTCOMES:**

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

|             |                                                                                                                  |
|-------------|------------------------------------------------------------------------------------------------------------------|
| <b>CO-1</b> | Understand the terms Skimming and Scanning, intensive reading and extensive reading and use them effectively     |
| <b>CO-2</b> | Learn to be passionate and recognizes the need for social equality                                               |
| <b>CO-3</b> | Develop writing skills- expand ideas, how to be concise and how to communicate in informal and official contexts |
| <b>CO-4</b> | Exposure to the strategies of note-making and note taking                                                        |

## II YEAR - B.Com (CA), B.A., & B.Sc - III SEMESTER

### PAPER 3– A Course in Conversational Skills

#### COURSE OUTCOMES:

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

|      |                                                                                                                                       |
|------|---------------------------------------------------------------------------------------------------------------------------------------|
| CO-1 | practices social functions such as greetings, introductions, making requests, asking and giving information, agreeing and disagreeing |
| CO-2 | Understands the components of an effective speech                                                                                     |
| CO-3 | Builds up a repository of words for active usage                                                                                      |
| CO-4 | Understands the meaning of leadership and the definition of an effective democracy                                                    |



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### DEPARTMENT OF TELUGU

UNDER CBCS FRAMEWORK WITH EFFECT FROM 2020-21

I YEAR – I SEMESTER

PAPER 1 – : General Telugu – I

#### COURSE OUTCOMES

బి.ఎ., బి.కా., బి.యస్.సి., తదితర ప్రోగ్రాములు

అంశం: జనరల్ తెలుగు

కోర్సు-1 : ప్రాచీన తెలుగు కవిత్వం

యూనిట్ల సంఖ్య: 5

అభ్యసన ఫలితాలు:-

పీరియడ్ల సంఖ్య: 60

ఈ కోర్సు విజయవంతంగా ముగించాక, విద్యార్థులు క్రింది అభ్యసన ఫలితాలను పొందగలరు.

1. ప్రాచీన తెలుగుసాహిత్యం యొక్క ప్రాచీనతను, విశిష్టతను గుర్తిస్తారు.  
తెలుగుసాహిత్యంలో ఆదికవి నన్నయ కాలంనాటి భాషాసంస్కృతులను, ఇతిహాసకాలం నాటి రాజనీతి విషయాలపట్ల పరిజ్ఞానాన్ని సంపాదించగలరు.
2. శివకవుల కాలంనాటి మతపరిస్థితులను, భాషావిశేషాలను గ్రహిస్తారు. తెలుగు నుడికారం, సామెతలు, లోకోక్తులు మొదలైన భాషాంశాల పట్ల పరిజ్ఞానాన్ని పొందగలరు.
3. తిక్కన భారతంనాటి మత, ధార్మిక పరిస్థితులను, తిక్కన కవితాశిల్పాన్ని, నాటకీయతను అవగాహన చేసుకోగలరు.
4. ఎఱ్ఱన సూక్తివైచిత్ర్యాన్ని, ఇతిహాస కవిత్వంలోని విభిన్న రీతులపట్ల అభిరుచిని పొందగలరు. శ్రీనాథుని కాలం నాటి కవితావిశేషాలను, మొల్ల కవితా విశిష్టతను గుర్తించగలరు.

5. తెలుగు పద్యం స్వరూప స్వభావాలను, సాహిత్యాభిరుచిని పెంపొందించుకుంటారు.  
ప్రాచీన కావ్యభాషలోని వ్యాకరణాంశాలను అధ్యయనం చేయడం ద్వారా  
భాషాసామర్థ్యాన్ని, రచనల మెళకువలను గ్రహించగలరు.

**I YEAR - II SEMESTER**  
**PAPER 1 – : General Telugu – II**

**COURSE OUTCOMES:**

ఏ., బి.కాం., బి.యస్.సి., తదితర ప్రోగ్రాములు అంశం: జనరల్ తెలుగు

సెమిస్టర్-2

కోర్సు-2 : ఆధునిక తెలుగు సాహిత్యం

యూనిట్ల సంఖ్య: 5

పీరియడ్ల సంఖ్య: 60

+ అభ్యసన ఫలితాలు:-

ఈ కోర్సు విజయవంతంగా ముగించాక, విద్యార్థులు క్రింది అభ్యసన ఫలితాలను పొం 1.  
ఆంగ్లభాష ప్రభావం కారణంగా తెలుగులో వచ్చిన ఆధునిక సాహిత్యాన్ని, దాని విశిష్టతను  
గుర్తిస్తారు.

2. సమకాలీన ఆధునిక సాహిత్య ప్రక్రియలైన "వచన కవిత్వం, కథ, నవల, నాటకం,  
విమర్శలపై అవగాహన పొందుతారు.

3. భావకవిత, అభ్యుదయ కవితాలక్ష్యాలను గూర్చిన జ్ఞానాన్ని పొందుతారు. అస్తిత్వవాద  
ఉద్యమాలపుట్టుకను, ఆవశ్యకతను గుర్తిస్తారు.

4. కథాసాహిత్యం ద్వారా సామాజిక చైతన్యాన్ని పొందుతారు. సిద్ధాంతాల ద్వారా  
కాకుండా, వాస్తవ పరిస్థితులను తెలుసుకోవడం ద్వారా సిద్ధాంతాన్ని సమీక్షించగలరు.

5. ఆధునిక తెలుగు కల్పనా సాహిత్యం ద్వారా సామాజిక, సాంస్కృతిక, రాజకీయ  
చైతన్యాన్ని పొందుతారు.

**II YEAR - III SEMESTER**  
**PAPER 1 – : General Telugu – III**

**COURSE OUTCOMES:**

బి.ఏ., బి.కాం., బి. యస్సి., తదితర ప్రోగ్రాములు

అంశం: జనరల్ తెలుగు సెమిస్టర్-3

కోర్సు-3 : సృజనాత్మక రచన

యూనిట్ల సంఖ్య: 5

పీరియడ్ల సంఖ్య: 60

+ అభ్యసన ఫలితాలు:-

ఈ కోర్సు విజయవంతంగా ముగించాక, విద్యార్థులు క్రింది అభ్యసన ఫలితాలను పొందగలరు. 1. తెలుగు సాహిత్య అభ్యసన ద్వారా నేర్చుకున్న నైపుణ్యాలను, సృజనాత్మక నైపుణ్యాలుగా మార్చుకోగలరు.

2. విద్యార్థులు భాషాతత్వాన్ని, భాష యొక్క ఆవశ్యకతను, భాష యొక్క ప్రాధాన్యాన్ని గుర్తిస్తారు. మనిషి వ్యక్తిగత జీవనానికి, సామాజికవ్యవస్థ పటిష్టతకు భాష ప్రధానమని తెలుసుకుంటారు. తెలుగుభాషలోని కీలకాంశాలైన 'వర్ణం - పదం - వాక్యా'ల ప్రాధాన్యాన్ని గుర్తిస్తూ, వాగ్రూప- లిఖితరూప వ్యక్తీకరణ ద్వారా భాషానైపుణ్యాలను మెరుగుపరచుకోగలరు.

3. భాషానైపుణ్యాలను అలవరచుకోవడంతోపాటు వినియోగించడం నేర్చుకుంటారు. రచనా, భాషానైపుణ్యాలను సృజనాత్మక రూపంలో వ్యక్తీకరించగలరు.

4. ప్రాచీన పద్యరచనతో పాటు ఆధునిక కవిత, కథ, వ్యాసం, మొదలైన సాహిత్యప్రక్రియల నిర్మాణాలకు సంబంధించిన సిద్ధాంతవిషయాలను నేర్పడంతో పాటు వారిలో రచనా నైపుణ్యాలను పెంపొందించుకోగలరు.

5. సృజన రంగం, ప్రసారమాధ్యమ రంగాల్లో ఉపాధి అవకాశాలను అందిపుచ్చుకోగలరు.

6. అనువాద రంగంలో నైపుణ్యం సంపాదించగలరు.



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### DEPARTMENT OF HINDI

UNDER CBCS FRAMEWORK WITH EFFECT FROM 2020-21

#### I YEAR - I SEMESTER

#### PAPER 1 – HIN1004: General Hindi – I

#### COURSE OUTCOMES:

##### HIN1004: General Hindi – I

Prose : 1) GADYA SANDESH 2) KATHALOK ,Grammar, Translation & Letter writing

By the end of the course during the First semester, with 4 hours a week and 3 credits a Semester, students will be able to

- Develops the skills of Hindi language
- Expands the knowledge of vocabulary
- Analyze and apply critical thinking skills with reference to society
- Understand similarities between languages
- Analyze and know the modern Hindi prose and its critics
- Appreciate modern Hindi short stories
- Acquire grammar skills
- Practices drafting personal letters

#### I YEAR - II SEMESTER

#### PAPER 1 – HIN2004: General Hindi – II

#### COURSE OUTCOMES:

##### HIN2004: General Hindi – II

Prose :1) GADYA SANDESH 2) KATHALOK -Grammar, Translation & Letter writing

By the end of the course during the Second semester, with 4 hours a week and 3 credits a Semester, students will be able to

- providing
- quality education
- able to become a good officers , Research scholars, teachers, and artists.
- As the prescribed syllabus is Skill based students get proficiency in all skills like speaking, writing, understanding, and expressing.
- Appreciate Hindi Essays, Short Stories
- Acquire and demonstrate the advanced skills of letter writing.

## II YEAR - III SEMESTER

### PAPER 1 – HIN3004: General Hindi – III

#### COURSE OUTCOMES:

#### HIN3004: General Hindi – III

Kavya-Deep, History of Hindi literature, General Essay, Translation & Functional Hindi

By the end of the course during the Third semester, with 4 hours a week and 3 credits a Semester, students will be able to

- Acquires the knowledge of Hindi Literature, Poets and Poetry
- Develops the knowledge of history of Hindi literature
- Inculcates the habit of thinking on general issues through essays
- Translates Hindi to English and vice-versa
- Practices drafting of official letters