

GOVERNMENT DEGREE COLLEGE CHEBROLE

Guntur District, Andhra Pradesh, Pin 522212

Affiliated to Acharya Nagarjuna University

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



B.Sc., B. Com., and B.A., Programmes

PROGRAMME OUTCOMES (POs)

PROGRAMME SPECIFIC OUTCOMES (PSOs)

&

COURSE OUTCOMES (COs)

2015-16

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



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DEPARTMENT OF MATHEMATICS

PROGRAMME OUTCOMES

PO1	Scientific temper will be developed in Students.
PO2	Students will acquire basic Practical skills & Technical knowledge along with domain knowledge of different subjects in the science stream.
PO3	Students will become employable; they will be eligible for career opportunities in Industry, or will be able to opt for entrepreneurship
PO4	Students will possess basic subject knowledge required for higher studies, professional And applied courses like Actuaries, Management Studies, Law etc
PO5	Students will be aware of and able to develop solution oriented approach towards Various Social and Environmental issues

PROGRAMME SPECIFIC OUTCOMES

PSO1	A student should be able to recall basic facts about mathematics and should be able to display knowledge of conventions such as notations , terminology
PSO2	A student should get adequate exposure to global and local concerns that explore them many aspects of mathematical sciences
PSO3	Student is equipped with mathematical modeling ability, problem solving skills, creative talent and power of communication necessary for various kinds of employment
PSO4	Student should be able to apply their skills and knowledge that is translate information presented verbally into mathematical form, select and use appropriate mathematical formulae or techniques in order to process the information and draw the relevant conclusion.
PSO5	Enabling students to develop a positive attitude towards mathematics as an interesting and valuable subject of study

COURSE OUTCOMES

Course : Semester I - Ordinary Differential Equations

- CO1: To learn methods to solve linear differential equation with constant and variable coefficients.
- CO2: To learn methods for solving non-homogenous differential equation.
- CO3: To learn method of variation of parameter to solve linear differential equations.
- CO4: To solve first order and higher degree differential equations.
- CO5: To solve orthogonal trajectories

Course: Semester II – 3D Geometry

- CO1: To learn methods of finding various equations of planes and properties and get the knowledge of planes.
- CO2. To learn basic idea of lines, sphere and cones.
- CO3. To understand the properties of planes, lines, spheres and cones.
- CO4. To express the problems geometrically and then to get the solution.

Course : Semester III - Group Theory

- CO1: To learn fundamental properties and mathematical tools such as closure, identity, inverse and generators.
- CO2: To study algebraic structure 'Groups' in detail which is useful in study of Rings, Modules, Algebraic topology, Analysis
- CO3: To enhance abstract thinking of students.
- CO4: To learn to compare two different algebraic structures and study transfer of properties in- between these structures through homomorphism and isomorphism.

Course: Semester IV - Real Analysis

- CO1: To learn basic techniques and examples in analysis to be well prepared for courses like Topology, Measure theory and Functional analysis.
- CO2: To study various types of sets and relations, and concept of countable and uncountable..
- CO3: To study notion of lub and glb which helps to learn integrations which helps to find area under any functions.
- CO4: To apply notion of derivative in mean value theorem and also in higher order derivatives which arise in all applied sciences
- CO5 To study concept of sequence and series and hence find sum of infinite terms with Different Methods.
- CO6 To study theory and applications of Rolle's theorem, Cauchy mean value theorem and Lagrange's mean value theorem and Taylor series.
- CO7 To learn Riemann Integral and its properties in detail, leading to fundamental theorem of calculus and Mean value theorems.
- CO8: To study different tests for solving improper integrals of first and second kind.
- CO9: To study pointwise and uniform convergence of sequences and series of functions.

Course: Sem V - Linear Algebra

- CO1: To learn the importance of vector spaces, basis and dimension and linear transformation in Physics, Engineering, Social sciences and various branches of Mathematics.
- CO2: To learn to find Eigen values and Eigen vectors of a matrix which is used in the study of vibrations, chemical reactions and geometry.
- CO3: To learn Inner Product spaces and Gram-Schmidt process of orthogonalization. CO4: To get well equipped with Mathematical Modelling abilities.

Course : Semester V - Ring Theory

- CO1: To study the algebraic structure Ring in detail through various examples. CO2: To learn the construction of field of quotients of an integral domain. CO3: To study the Rings of polynomials and its factorization over a field.
- CO4: To study the notion of ideals and factor rings with examples.
- CO5: To study Unique Factorization domain, Euclidean Domain and related results

Course : Semester V - Vector Calculus

- CO1: Learn conceptual variations while advancing from one variable to several variables in calculus.
- CO2: Vector differentiation and problems.
- CO3: Inter-relationship amongst the line integral, double and triple integral formulations.
- CO4: Applications of multivariable calculus tools and importance of Green, Gauss and Stokes' theorems in other branches of mathematics.

Course: Semester VI - Numerical Analysis

- CO1: To learn to apply the various numerical techniques for solving real life problems.
- CO2: The problems which cannot be solved by usual formulae and methods can be Solved approximately by using numerical techniques.

- CO3: To fit curve to the data by using 5 different methods of interpolation as well as extrapolation.
- CO4: To find approximate solutions to difficult differential equations occurring in engineering sciences.

Course: Semester – VI Project

- CO1: Problem solving skills of students are enhanced.
- CO2: Theoretical concepts are strengthened by solving maximum no. of problems
- CO3: Due to one to one interaction with the teacher doubts of the students get cleared if any.
- CO4 : Students learn how to apply mathematical concepts to practical and real life problems.
- CO5: Interdisciplinary approach is developed.

Course: Semester VI – Laplace Transforms

- CO1: To learn the evaluation of Laplace transform of different types of functions, their derivatives and integrations.
- CO2: To learn the evaluation of Inverse Laplace transform of functions, their derivatives and integrations, and to learn application of Convolution theorem.
- CO3: To learn to apply Laplace Transform to solve Ordinary Differential equations with constant coefficients.
- CO4: To learn to evaluate the Fourier series of various even and odd functions

Course: Semester VI – Integral Transforms

- CO1: Know about piecewise continuous functions, Dirac delta function, Laplace transforms and its properties. CO2: Solve ordinary differential equations using Laplace transforms.
- CO3: Familiarise with Fourier transforms of functions, relation between Laplace and Fourier transforms.
- CO4: Explain Parseval's identity and applications of Fourier transforms to boundary value problems.
- CO5: Learn Fourier series, Bessel's inequality, term by term differentiation and integration of Fourier series.

Course: Semester VI – Advanced Numerical Analysis

- CO1: To learn Least Square procedures of fitting to straight line, power function, parabola and exponential function.
- CO2: To study concepts of numerical differentiation and working knowledge of problems with difference operators.
- CO3: To learn notions of numerical integration and various methods of numerical integration
- CO4: To solve system of linear equations by adopting numerical methods Gauss elimination, Gauss Jordan and LU decomposition methods.
- CO5: To solve differential equations which can't be solved analytically by Picards, Modified Euler's, R K method.



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DEPARTMENT OF PHYSICS

UNDER CBCS FRAMEWORK WITH EFFECT FROM 2015-16

PROGRAMME: THREE-YEAR B.Sc., PHYSICS

PROGRAMME STRUCTURE

First Semester Course I: Mechanics Practical Course I (Lab-1)	Second Semester Course II: , Waves and, Oscillations Practical Course II (Lab-2)
Third Semester Course III: Wave Optics Practical Course III (Lab-3)	Fourth Semester Course IV: Heat and Thermodynamics Practical Course: IV (Lab- 4)
Fifth Semester Course V: Electricity, Magnetism and Electronics Course VI: Modern Physics Practical Courses V and VI: (Lab-5) and (Lab-6)	Sixth Semester Course VII C: Elective Renewable Energy Practical Course VII(C): (Lab-7)

PROGRAMME OUTCOMES:

PO-1	Scientific temper would be developed among science students studying Physics in particular and studying science in general.
PO-2	Students will acquire basic technical knowledge and Practical skills along with domain knowledge of different subjects in the science stream.
PO-3	Students will become employable; they will be eligible for career opportunities in Industry or will be able to opt for entrepreneurship.
PO-4	Students will be aware of and able to develop solution oriented approach towards various scientific issues in their day to day life.

PROGRAMME SPECIFIC OUTCOMES:

PSO-1	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
PSO-2	Analyse the concepts of Physical and Mathematics and apply them in various situation and also in solving physics problems
PSO-3	Acquires the ability to interlink the skills and knowledge in Mathematics and Physics to develop an aptitude to address the problems in other branches of science
PSO-4	Acquires the skill needed to handle instruments and adopt lab procedures to study physical and chemical properties of materials
PSO-5	Motivate students towards higher education leading to research

I YEAR - B.Sc., PHYSICS - I SEMESTER - PAPER 1 - MECHANICS

COURSE OUTCOMES:

On successful completion of this course, the students will be able to understand	
CO-1	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.
CO-2	Apply the rotational kinematic relations, the principle and working of gyroscope and its applications and the precessional motion of a freely rotating symmetric top.
CO-3	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.
CO-4	Understand postulates of Special theory of relativity and its consequences such as length contraction, time dilation, relativistic mass and mass-energy equivalence.

I YEAR - B.SC., PHYSICS - I SEMESTER - PRACTICAL PAPER 1: MECHANICS (LAB-1)

COURSE OUTCOMES:

On successful completion of this course, the students will be able to understand	
CO-1	Perform experiments on Properties of matter such as the determination of moduli of Elasticity, 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

I YEAR - B.Sc., PHYSICS - II SEMESTER - PAPER 2 - WAVES AND OSCILLATIONS

COURSE OUTCOMES:

On successful completion of this course, the students will be able to understand	
CO-1	Examine phenomena of simple harmonic motion and the distinction between undamped, damped and forced oscillations and the concepts of resonance and quality factor with reference to damped harmonic oscillator.
CO-2	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.
CO-3	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 - II SEMESTER - PRACTICAL PAPER 2: WAVES AND OSCILLATIONS (LAB-2)

COURSE OUTCOMES:

On successful completion of this course, the students will be able to understand	
CO-1	Know how to determine the acceleration due to gravity at a place using Compound pendulum and Simple pendulum.
CO-2	Notice the difference between flat resonance and sharp resonance in case of volume resonator and sonometer experiments respectively.
CO-3	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.
CO-4	Demonstrate the formation of stationary waves on a string in Melde's string experiment.

II YEAR - B.Sc., PHYSICS - III SEMESTER - PAPER 3 – WAVE OPTICS

COURSE OUTCOMES:

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

II YEAR - B.SC., PHYSICS - III SEMESTER - PRACTICAL PAPER 3: WAVE OPTICS (LAB-3)

COURSE OUTCOMES:

On successful completion of this course, the students will be able to understand	
CO-1	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.
CO-2	Understand the principle of working of polarimeter and the measurement of specific rotatory power of sugar solution
CO-3	Know the techniques involved in measuring the resolving power of telescope and dispersive power of the material of the prism.
CO-4	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 - IV SEMESTER - PAPER 4 - HEAT AND THERMODYNAMICS

COURSE OUTCOMES:

On successful completion of this course, the students will be able to understand	
CO-1	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
CO-2	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.
CO-3	Understand the working of Carnot's ideal heat engine, Carnot cycle and its efficiency
CO-4	Develop critical understanding of concept of Thermodynamic potentials, the formulation of Maxwell's equations and its applications.
CO-5	Differentiate between principles and methods to produce low temperature and liquefy air and also understand the practical applications of substances at low temperatures.
CO-6	Examine the nature of black body radiations and the basic theories.

II YEAR - B.SC., PHYSICS - IV SEMESTER - PRACTICAL PAPER 4: HEAT AND THERMODYNAMICS (LAB-4)

COURSE OUTCOMES:

On successful completion of this course, the students will be able to understand	
CO-1	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.

III YEAR - B.Sc., PHYSICS - V SEMESTER-PAPER 5 - ELECTRICITY, MAGNETISM AND ELECTRONICS

COURSE OUTCOMES:

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

III YEAR - B.Sc., PHYSICS - V SEMESTER - PRACTICAL PAPER 5: ELECTRICITY, MAGNETISM AND ELECTRONICS (LAB-5)

COURSE OUTCOMES:

On successful completion of this course, the students will be able to understand	
CO-1	Measure the current sensitivity and figure of merit of a moving coil galvanometer.
CO-2	Observe the resonance condition in LCR series and parallel circuit
CO-3	Learn how a sonometer can be used to determine the frequency of AC-supply.
CO-4	Observe the variation of magnetic field along the axis of a circular coil carrying current using Stewart and Gee's apparatus.
CO-5	Understand the operation of PN junction diode, Zener diode and a transistor and their V-I characteristics.
CO-6	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.

III YEAR - B.Sc., PHYSICS - V SEMESTER-PAPER 6 - MODERN PHYSICS

COURSE OUTCOMES:

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

**III YEAR - B.Sc., PHYSICS - V SEMESTER - PRACTICAL PAPER 6: MODERN PHYSICS
(LAB-6)**

COURSE OUTCOMES:

On successful completion of this course, the students will be able to understand	
CO-1	Measure charge of an electron and e/m value of an electron by Thomson method.
CO-2	Understand how the Planck's constant can be determined using Photocell and LEDs.
CO-3	Determine the Energy gap of a semiconductor using thermistor and junction diode.

III YEAR - B.SC., PHYSICS - VI SEMESTER-PAPER 7(C) - RENEWABLE ENERGY

COURSE OUTCOMES:

On successful completion of this course, the students will be able to understand	
CO-1	Student can understand different forms of energy other than conventional energy.
CO-2	Environmental effects – Water pollution, Depletion of Ozone layer, Global warming etc.,
CO-3	Global Energy Scenario – Energy consumption in various sections, Power generation techniques
CO-4	Indian Energy Scenario – Energy resources available in India and Urban & Rural energy consumption
CO-5	Solar Energy – Applications like Solar Cooker, Solar Cell and advantages.
CO-6	Wind Energy – Conservation energy principles and advantages.
CO-7	Ocean Energy – Tidal Power generation and advantages.
CO-8	Hydrogen Energy – History of Hydrogen Energy and advantages.
CO-9	Bio Energy – Energy from Biomass and conversion of Biomass into fuels and advantages.

**III YEAR - B.Sc., PHYSICS - VI SEMESTER - PRACTICAL PAPER 7(C): RENEWABLE
ENERGY (LAB-7)**

COURSE OUTCOMES:

On successful completion of this course, the students will be able to understand	
CO-1	Performance testing of Solar Cooker
CO-2	Measurement of $v-i$ characteristics of solar cell.
CO-3	Characteristics of Wind

GOVERNMENT DEGREE COLLEGE:: CHEBROLE
DEPARTMENT OF CHEMISTRY
UNDER CBCS FRAMEWORK WITH EFFECT FROM 2015-16
PROGRAMME: THREE-YEAR BSC(MPC)

Programme Outcomes

Completion of programme the student will equip the knowledge about

1. To impart knowledge of general chemistry covering all aspects viz. inorganic, organic, physical and analytical chemistry
2. This create impact interest in post graduate in chemistry.
3. Besides also making them aware of the recent frontier area of knowledge
4. The tools, techniques, methodologies, needed for research in chemistry.
5. To provide laboratory experience to the students by performing volumetric analysis and qualitative analysis.

Programme specific outcomes:

1. To educate students on topics : periodic classification of elements and chemical bonding.
2. To educate students on basic organic chemistry of saturated and unsaturated hydrocarbons and introduction to different types of reactions.
3. To impart knowledge on states of matter – solid, liquid and gaseous states.
4. To educate students on the topics: chemical kinetics, photo chemistry and macro molecules
5. To provide laboratory experience on selected experiments related to topics taught in theory.
6. To provide opportunity and experience of presenting seminar on pre-allotted topics related to theory.

S.No	Semester	Course Code	Course Name	Course Outcome	
1	1	BSC-1	Inorganic&Organic chemistry	After the completion of the course, Students will be able to	
				CO-1	This course gives the students idea about the chemical reactions of inorganic and organic chemistry.
				CO-2	To make student understand different organic compounds with respect to the functional group.

				CO-3 To make student understanding the basic things for chemical reactions ie., electrophilic and nucleophilic, homolytic and heterolytic fission
				CO-4 Describe the trends in physical and chemical properties of group 13 to 17 elements.
				CO-5 Understand the applications of various inorganic substances in different industries.
2	2	BSC-2	Physical & General chemistry	After the completion of the course, students will be able to
				CO-1 After completion of degree students gained the theoretical as well as practical knowledge of handling chemicals
				CO-2 In majority of the daily routine things used for its surface utilisation and understanding the surface phenomena like adsorption, absorption and types of adsorption is important etc.
				CO-3 Students gained the knowledge about solid, liquid and gases
				CO-4 This course is very important for the students. This course gives student idea about the different bondings like covalent bond, ionic bond, coordination covalent bond.
				CO-5 Identify the different crystal systems and crystal structures
3	3	BSC -3	Inorganic and Organic chemistry	After the completion of the course, students will be able to
				CO-1 Describe the trends in the physical and chemical properties of D-block elements and F-block elements..
				CO-2 Study of D-block elements is useful in determination of

					coloured complexes.
				CO-3	List the important uses of metal carbonyls used in manufacturing of various products that are used in daily life..
				CO-4	Explain the uses and importance of alcohols and carbonyl compounds in industries and in daily life.
				CO-5	The practical knowledge is very essential for the identification of various ions and elements.
4	4	BSC-4	Spectroscopy & Physical chemistry	After the completion of the course, students will be able to	
				CO-1	Spectroscopy a part in 2BSc , semester-4 syllabus is very useful in industry ,research and development work for students.
				CO-2	On learning electro chemistry the student is able to generate electric current in an electro chemical cell.This knowledge is used in the making of batteries and fuel cells
				CO-3	The student has command on dilute solutions ,colligative properties ,phase diagrams and freezing mixtures.
				CO-4	Students gained knowledge about different spectroscopes . Like nmr , electronic and IR spectroscopy
				CO-5	Understanding the applications of beer-lamberts law for colorometry experiment.
5	5	BSC-5	Inorganic,physical&organic chemistry	After the completion of the course, students will be able to	
				CO-1	Coordination compounds are found in living systems and have many uses in the home,industry and medicine.
				CO-2	Coordinaion compounds

					play many role in transport of oxygen,electron transfer agent,as a catalyst and photosynthesis process.
				CO-3	Mixed metal complexes play vital role in various biological systems and in different field of chemistry and also play active role in the field of research.
				CO-4	Nitrogen compounds play a role in medicinal chemistry and also play active role in the field of research.
				CO-5	Understand the role of internal energy, enthalpy,entropy and state and illustrate laws of thermodynamics.
6	5	BSC-6	Inorganic,organic&physical chemistry	After the completion of the course, students will be able to	
				CO-1	The more advanced chemical and biochemical aspects and methods are all developed during the course..
				CO-2	The course will provide students very fundamental task performed by inorganic elements in living organisms.
				CO-3	Hetro cyclic compounds are presumably the largest class of organic compounds and wide applicability in pharmacy and agro chemicals.
				CO-4	In organic chemistry carbohydrates constitute one of the most important natural products by their study of classification,structural elucidation.
				CO-5	State and illustrate laws of photo chemistry and quantam yields.
7	6	BSC-	Environmental chemistry	After the completion of the course, students will be able to	

		7(B)		CO-1	Demonstrate knowledge of chemical and bio chemical principals of fundamental environmental process in air water and soil.
				CO-2	Describe water purification and waste water treatment process and the practical chemistry involved.
				CO-3	Describe causes and effects of environmental pollution by energy industry.
				CO-4	Discuss local and global environmental issues based on the knowledge gained throughout the course.
				CO-5	Reorganize different types of toxic substances and responses and analyse toxicological information.
8	6	BSC-8C1	Organic spectroscopic techniques	After the completion of the course, students will be able to	
				CO-1	Demonstrate a good understanding of the electromagnetic spectrum.
				CO-2	Describe the principals of spectroscopic methods such as NMR,IR and UV-VIS.
				CO-3	Identify the absorption frequencies of major functional groups.
				CO-4	Make students aware of the fine structure of ESR absorption.
				CO-5	Learn electronic spectro of di atomic molecules born-oppenheimer approximation.
9	6	BSC-8C2	Advanced organic reactions	After the completion of the course, students will be able to	
				CO-1	Identify and name important organic reactions.
				CO-2	Explain in detail the outcome of organic reactions,also in terms of stereo selectivity.

				CO-3	Plan and evaluate multi step organic reaction sequences using basic retro synthetic analysis
				CO-4	Describe the principles of protecting groups like protection of alcohols and diols, carboxylic acids and amines.
				CO-5	Understand the basis of photosynthetic reactions.
10	6	BSC-8C3	Pharmaceutical and medicinal chemistry	After the completion of the course, students will be able to	
				CO-1	Defination, clssification of the drugs with examples and structures.
				CO-2	Explain the drugs used for various infections diseases caused pathogens.
				CO-3	Explain therapeutic uses of drugs and specific side effect of drug substances.
				CO-4	Describe the chemical degradateion of penicillins .
				CO-5	Explain the classification of anti malaria drugs.



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DEPARTMENT OF COMPUTER SCIENCE UNDER CBCS FRAMEWORK WITH EFFECT FROM 2015-2016 PROGRAMME: THREE - YEAR B.Sc Computer Science

PROGRAMME STRUCTURE

First Semester Course I: Computer fundamentals and Photoshop	Second Semester Course II: Programming in C
Third Semester Course III: Object-oriented programming using Java	Fourth Semester Course IV: Data Structures
Fifth Semester Course V: Database Management System	Sixth Semester Course VI: Software Engineering Elective – I A: Operating Systems B: Computer Networks C: Web Technologies

PROGRAMME OUTCOMES (POs):

- The B.Sc Computer Science helps to develop a widely applicable skill set in computing with strong programming and mathematics skills, as well as wide ranging skills in project management, effective presentations and teamwork.
- Graduate with a portfolio of work fit to present to potential employers.
- Depending on the chosen pathway, you can focus on particular areas of interest such as machine learning, web development, data science and video games.
- The explosive and ever-growing use of technology in business and commerce means that there's a whole range of different career possibilities for computing graduates.
- In terms of job opportunities and salaries, the IT sector is well ahead of most other industrial and commercial sectors.

COURSE 1: COMPUTER FUNDAMENTALS AND PHOTOSHOP

COURSE OUTCOMES:

After the successful completion of course the student should have

- Thorough knowledge on computer fundamentals.
- Photoshop's from the practical to the painterly artistic

- Good understanding on how Photoshop will help you create your own successful images.

COURSE 2: PROGRAMMING IN C

COURSE OUTCOMES:

By the completion of the course the graduate should be able to –

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

COURSE 3: OBJECT- ORIENTED PROGRAMMING USING JAVA

COURSE OUTCOMES

By the completion of the course the graduate shall be able to-

- Understand the concept and underlying principles of Object-Oriented Programming
- Understand how object-oriented concepts are incorporated into the Java programming language.
- Develop problem-solving and programming skills using OOP concept.
- Develop the ability to solve real-world problems through software development. in high-level programming language like Java.
- Develop efficient Java applets and applications.

COURSE 4: DATA STRUCTURES

COURSE OUTCOMES

By the completion of the course the graduate shall be able to-

- Describe how arrays, records, linked structures, stacks, queues, trees, and graphs are represented in memory and used by algorithms.
- Write programs that use arrays, records, linked structures, stacks, queues, trees, and graphs.
- Demonstrate different methods for traversing trees.
- Compare alternative implementations of data structures with respect to performance.
- Describe the concept of recursion, give examples of its use, describe how it can be implemented using a stack.
- Discuss the computational efficiency of the principal algorithms for sorting, searching, and hashing.

COURSE 5: DATABASE MANAGEMENT SYSTEM

COURSE OUTCOMES

By the completion of the course the graduate shall be able to –

- Design and model the data in database.
- Store and retrieve the data stored in the database.

COURSE 5: SOFTWARE ENGINEERING

COURSE OUTCOMES

By the completion of the course the graduate shall be able to –

- Gather and specify requirements of the software projects.
- Ability to analyze software requirements with existing tools.
- Able to differentiate different testing methodologies.
- Able to understand and apply the basic project management practices in real life projects.
- Ability to work in a team as well as independently on software projects.

COURSE 6: ELECTIVE – I

A: OPERATING SYSTEMS

COURSE OUTCOMES

By the completion of the course the graduate shall be able to –

- Understand the basic concepts and functionality of an Operating System.
- Explain what a process is and how processes are managed in an Operating System.
- Compare and contrast various memory management schemes.
- Analyze various CPU Scheduling algorithms.
- Understand deadlock, prevention and avoidance algorithms.

B : COMPUTER NETWORKS

COURSE OUTCOMES

By the completion of the course the graduate shall be able to –

- Explain what a network is, hardware components to set up a network, transmission media and about different types of networks.

- Narrate about the Network Reference Models such as OSI and TCP/IP and functions of each layer in these models.
- Elucidate about the protocols used at each layer detailing their importance and uses.

C: WEB TECHNOLOGIES

COURSE OUTCOMES

By the completion of the course the graduate shall be able to –

- To understand the web architecture and web services.
- To design interactive web pages using HTML and Style sheets.
- To study the framework and building blocks of .NET Integrated Development Environment.
- To provide solutions by identifying and formulating IT related problems.



GOVERNMENT DEGREE COLLEGE, CHEBROLE

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Affiliated to Acharya Nagarjuna University

Guntur District, Andhra Pradesh, PIN 522 212

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DEPARTMENT OF COMMERCE

UNDER CBCS FRAMEWORK WITH EFFECT FROM 2015-16

PROGRAMME: THREE-YEAR B.Com., GENERAL

PROGRAMME OUTCOMES

Completion of programme the student will equip the knowledge about

1. Fundamentals of accounting, Business Organization and Management, Business Economics, Business Statistics, Business Environment, Corporate Accounting, Marketing, Business Laws
2. Inculcate the student capability to words invention creativity in problem solving skills in business
3. Acquire knowledge with different issues of present changing business conditions.
4. Develop the student's thinking patterns in the matters of technical skills managerial qualities Equip the knowledge in the matters of management ,leadership, team work, with social responsibility

COURSE OUTCOMES:

S. No	Semester	Course Code	Course Name	Course Outcome
1	I	BCO 1-SB	Financial Accounting	After the completion of the course, Students will be able to
				CO-1 Identifies, business transactions, and also learns how to record the journal entries in the books of accounts.
				CO-2 Understands how to maintain business records as per business standards.
				CO-3 Able to know how to measure the profits of the business and financial strength by preparing profit and loss accounts and balance sheet.
				CO-4 Learns how to identify and rectify the errors in books of accounts.
				CO-5 Finally understand the Nature of the business concerns.
	I	BCO 1S - 2	Business Organization and Management	After the completion of the course, students will be able to
				CO-1 Knows the different forms of business and its features, merits and demerits.
				CO-2 Equip the knowledge about the entrepreneur characteristics
				CO-3 Familiar with the company form of

2	I	BCO 1S -3	Business Economics		business and its technicalities
				CO-4	Understand the concept of Management and its different styles
				CO-5	Identify the working of various business organization patterns
				After the completion of the course, students will be able to	
				CO-1	Equip the knowledge of what is Business Economic in terms of various economic scholars' thoughts.
				CO-2	Understands the differences between micro and macro economics
				CO-3	Able to know what is Demand and its nature measurements, and practical implications.
	II	BCO 2S-1	Financial accounting-II	CO-4	Identifies the various markets and their nature and price determining techniques.
				CO-5	Familiar with the concept of National Income and its concepts with reference to Indian Economy.
				After the completion of the course, students will be able to	
				CO-1	Introduced with various deprecation techniques
				CO-2	Understands with accounting methods of Consignment, and Joint Ventures
				CO-3	Acquire the knowledge about the maintenance of various reserves by the business organizations
				CO-4	Able to know how to right the journals of bills of exchange
	II	BCO 2S-2	Business environment	CO-5	Understands how to ascertain the profitability and financial position of an enterprise with incomplete records
				After the completion of the course, students will be able to	
				CO-1	Understands about the various concepts of Business Environment
				CO-2	Equip the knowledge about the economic environment with reference to the Indian economy
				CO-3	Identify the social, political and legal environment's
				CO-4	Able to know what are the Economic policies and its importance
				CO-5	Familiar with Global economic environment
	II	BCO 2S-3	Business Economics-2	After the completion of the course, students will be able to	
				CO-1	Understand the techniques of minimization of cost and maximization of profits.
				CO-2	Familiar with the cost of production concepts

				CO-3	Posses the ability of knowing what is GDP and its various concepts
				CO-4	Learns about Liberalization, Privatization and Globalization concepts
				CO-5	Able to know the concept of International Trade and its nature
3	III	BCO 3S-1	Corporate accounting	After the completion of the course, students will be able to	
				CO-1	Equip the knowledge about shares and debentures and their issue and relating matters
				CO-2	Learns about the business goodwill and its various calculation methods
				CO-3	Also Learns how to calculate the value of shares.
				CO-4	Aware about the various provisions and sections of 2013 New Company Act particular section 8 of company act.
				CO-5	Learns how to prepare final accounts of company according to company act.
	III	BCO 3S-2	Business statistics	After the completion of the course, students will be able to	
				CO-1	To equip the basic knowledge and terminology of statistics
				CO-2	Learns different methods of measures of central tendencies.
				CO-3	Also learns how to solve different problems of Dispersion and skewness
				CO-4	Learns to different concepts of co-relations methods
				CO-5	Possess the ability of solving different problems of time series and index numbers.
	III	BCO 3S-3	Banking theory and practice	After the completion of the course, students will be able to	
				CO-1	Understand the nature of Banking system and its nature
				CO-2	Able to know the different types of banking methods
				CO-3	Understand the nature of development of banking Sector
				CO-4	Aware about the Customer and banker relations
				CO-5	Equip the knowledge of new developments in banking systems as collector and paying bankers
4	IV	BCO 4S-1	Accounting for Service Organizations	After the completion of the course, students will be able to	
				CO-1	Learn how the service organizations of sec. 8 of new companies act of 2013
				CO-2	Get awareness about the various procedures of electricity, life insurance accounting procedures
				CO-3	Understand the techniques of banking accounting procedures

				CO-4	Equip the knowledge of various banking regulating act of 1969
				CO-5	Finally able to know to prepare accounts of various service organizations.
	IV	BCO 4S-2	Business law	After the completion of the course, students will be able to	
				CO-1	Equip the knowledge about the various contract laws
				CO-2	Understands how void, voidable contracts
				CO-3	Learns rules about minor contracts
				CO-4	Aware about different cyber laws
				CO-5	Familiar with GST aspects
	IV	BCO 4S-3	Income tax	After the completion of the course, students will be able to	
				CO-1	Learns basic concepts and terms of Income tax act 1961
				CO-2	Understands how to calculate the income from various heads
				CO-3	Familiar with how to carry forward different losses
				CO-4	Equip the knowledge of different exemptions of business
				CO-5	Aware about clubbing of all types of income
	IV	FOUNDATIONAL COURSE	Entrepreneurship	After the completion of the course, students will be able to	
				CO-1	Aware about the entrepreneurship and types
				CO-2	Understand the importance of entrepreneurship in economic development
				CO-3	Familiar with various project developments appraisals and constructions
5	V	BCO 5S-1	Cost accounting	After the completion of the course, students will be able to	
				CO-1	Understands various cost components
				CO-2	Learns different methods of costing
				CO-3	Familiar with various cost parts
				CO-4	Equip the knowledge of importance of costing in pricing of product
				CO-5	Aware about different proformas about cost sheets.
	V	BCO 5S-2	Goods and service tax	After the completion of the course, students will be able to	
				CO-1	Familiar with the Fundamentals of Different concepts of GST
				CO-2	How to register a concern in GST systems
				CO-3	Familiar with differences between Transfer and Supply
				CO-4	Equip the knowledge of various exemptions to GST
				CO-5	Learns how to submit the GST returns

6	V	BCO 5S-3	Commercial geography	After the completion of the course, students will be able to	
				CO-1	Able to understand structure and physical features of the earth
				CO-2	Familiar with Agriculture system in India
				CO-3	Equip the knowledge of forestry and different acts of it
				CO-4	Learns about Mining and minerals in India
				CO-5	Aware about the various issue relating to protect the earth
	V	BCO 5S-4A	Central banking	After the completion of the course, students will be able to	
				CO-1	Learns about development of banking system in India
				CO-2	Familiar with structure and constitution of RBI
				CO-3	Equipped with the knowledge of different monetary measures of RBI
				CO-4	Able to understand controlling of inflation by RBI
				CO-5	Aware the knowledge of fraud checking measures of RBI
	V	BCO5S-4B	Rural and farm credit	After the completion of the course, students will be able to	
				CO-1	Understand the different forms of Farm and rural credit in India
				CO-2	Equip the knowledge of different problems of rural and farm credit
				CO-3	Aware about the concept of financial inclusion
				CO-4	Able to know different credit cards available to farmers in India
				CO-5	Learns to the functions of NABARD, PACS, DCCBS, and RRBs
	VI	BCO6S-1	Marketing	After the completion of the course, students will be able to	
				CO-1	Familiar with the different of Concepts
				CO-2	Learns about 4 P of marking and its importance's
				CO-3	Able to know the different channels of marketing
				CO-4	Understands different pricing techniques
				CO-5	Familiar with the regulating marketing in India
		BCO6S-2	Auditing	After the completion of the course, students will be able to	
				CO-1	Understand the different rules and regulating of auditing
				CO-2	Equip the knowledge of types of auditing
				CO-3	Learns to duties and responsibilities of auditor
				CO-4	Familiar with the ways and means of all forms business organizations auditing
				CO-5	Able to know how to evaluate the assets

					and liabilities of business
	VI	BCO6S-3	Management accounting	After the completion of the course, students will be able to	
				CO-1	Able to understand the different concepts of management accounting
				CO-2	Learns about the insights of working capital
				CO-3	Equip the knowledge of funds and cash flows statements
				CO-4	Familiar with various ratio techniques
				CO-5	Able to assess the financial strength and weakness of various business organizations.
	VI	BCO6S-5A	financial services	After the completion of the course, Students will be able to	
				CO-1	Understands different aspects of financial services
				CO-2	Familiar with the working of various segments of financial institutions
				CO-3	Learns to know the different functions of mutual funds, merchant banks
				CO-4	Able to know the importance of financial services to the economic development
				CO-5	Can assess the financial worthiness of various financial institutions
	VI	BCO 6S-5B	Marketing of financial services	After the completion of the course, Students will be able to	
				CO-1	Able to differentiate between goods and services
				CO-2	Understand the organization of marketing scenario in financial organization
				CO-3	Familiar with the customer loyalty and their importance in marketing of financial services
				CO-4	Understand the concepts of B2B marketing
				CO-5	Equip the knowledge of development of financial marketing in India
	VI	BCO6SP RJ	Project Work	After the completion of the course, Students will be able to	
				CO-1	Learns how to undertake a Project work
				CO-2	Familiar with the different projects works natures and its inputs
				CO-3	Understand the actually working of the financial organizations.
				CO-4	Equip the knowledge of data collection methods
				CO-5	Able to learn how to write project work report



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DEPARTMENT OF COMPUTER APPLICATIONS

UNDER CBCS FRAMEWORK WITH EFFECT FROM 2015-16

PROGRAMME: THREE-YEAR B.Com.,COMPUTER APPLICATIONS

PROGRAMME STRUCTURE

First Semester Course I: Computer Fundamentals and Photoshop	Second Semester Course II: Enterprise Resource Planning
Third Semester Course III: Office Automation Tools	Fourth Semester Course IV: Business Analytics
Fifth Semester Course V: Programming in C (Elective) Course VI: Database Management System (Elective) Course VII: Web Technology (Elective)	Sixth Semester Course VIII : Tally (Elective) Course IX : e-Commerce (Elective) Course X : PHP and MySQL (Elective)

PROGRAMME OUTCOMES:

PO-1	Students should possess the essential domain knowledge to conduct a business, accountancy along with problem-solving skills to build computer-based solutions for business problems.
PO-2	Students should be able to analyze and provide feasible solutions to the real-world business problems using their technical knowledge and implementation skills.
PO-3	Students should acquire the vital knowledge of programming, databases and web technology to tackle business problems effectively.
PO-4	Acquires the basic communication skills, employable skills and technical skills in addition to contemporary business knowledge to become career-ready.

PROGRAMME SPECIFIC OUTCOMES:

PSO-1	Acquire knowledge in Computer programming languages to solve essential business problems.
PSO-2	Implementing automated accounting practices and application of computer skills for effective conduct of business.

PSO-3	Acquires analytical and technical skills to analyze the business problems with ease and efficiency.
PSO-4	Propose feasible ideas and business solutions in accordance with the prevailing day-to-day problems.
PSO-5	Pursue higher education and could develop zeal to do subject-specific research.

I YEAR - B.Com (CA) - I SEMESTER
PAPER 1 - COMPUTER FUNDAMENTALS AND PHOTOSHOP

COURSE OUTCOMES:

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

CO-1	Bridge the fundamental concepts of computers with the present level of knowledge of the students.
CO-2	Acquaint with operating systems, programming languages, peripheral devices, networking, multimedia and internet.
CO-3	Gain expertise on how to use the basic tools of Adobe Photoshop to create and edit images.
CO-4	Use the skills learnt to create graphics for both the web and print media.

I YEAR - B.Com (CA) - II SEMESTER
PAPER 1 – ENTERPRISE RESOURCE PLANNING

COURSE OUTCOMES:

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

CO-1	Understand the importance of Enterprise software, and its role in integrating business functions
CO-2	Analyze the strategic options for ERP identification and adoption.
CO-3	Understand Enterprise Resource Planning architecture to effectively design ERP implementation methodologies.
CO-4	Create reengineered business processes for successful implementation of ERP.

II YEAR - B.Com (CA) - III SEMESTER
PAPER 1 - OFFICE AUTOMATION TOOLS

COURSE OUTCOMES:

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

CO-1	Understand the importance of Automation tools to prepare documents, spreadsheets, and small presentations.
CO-2	Prepare documents and project reports with ease.
CO-3	Acquire the knowledge about creation of spreadsheets embedded with formulas, macros, and to visualize the data for data analysis tasks.
CO-4	Create effective presentations to portray information for better understanding incorporating images, animations etc.

II YEAR - B.Com (CA) - IV SEMESTER
PAPER 1 - BUSINESS ANALYTICS

COURSE OUTCOMES:

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

CO-1	Understand and critically apply the concepts and methods of business analytics.
CO-2	Identify, model and solve decision problems in different settings.
CO-3	Interpret results/solutions and identify appropriate courses of action for a given managerial situation whether a problem or an opportunity.
CO-4	Create viable solutions to decision making problems.

III YEAR - B.Com (CA) - V SEMESTER
PAPER 1 - ELECTIVE - PROGRAMMING IN C

COURSE OUTCOMES:

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

CO-1	Acquire the basic knowledge on the need of programming languages and problem solving techniques.
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CO-2	To develop an in-depth understanding of functional and logical concepts of C Programming.
CO-3	Able to develop the required logic and algorithms for solving business problems.
CO-4	Should possess the ability to learn any new programming language in future at ease.

III YEAR - B.Com (CA) - V SEMESTER
PAPER 2 - ELECTIVE - DATABASE MANAGEMENT SYSTEM

COURSE OUTCOMES:

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

CO-1	Understand and evaluate the role of database management systems in information technology applications within organizations.
CO-2	Design and implement properly structured databases that match the standards in accordance with realistic constraints and conditions.
CO-3	Comprehend on how to use Structured Query Language (SQL) to define and manipulate data in a database system.
CO-4	Explain the process of Transaction management for successful implementation of business transactions.

III YEAR - B.Com (CA) - V SEMESTER
PAPER 3 - ELECTIVE - WEB TECHNOLOGY

COURSE OUTCOMES:

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

CO-1	Understand the Client-Server architecture and possess the essential knowledge to develop web applications.
CO-2	Understand and use the HTML tags to create adaptive web pages for web applications.
CO-3	Apply CSS to implement a variety of presentation effects to the web pages in a web application.
CO-4	Write client-side validations in Java Script and be able to define data for Web applications using XML.

III YEAR - B.Com (CA) – VI SEMESTER

PAPER 1 - ELECTIVE - TALLY

COURSE OUTCOMES:

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

CO-1	Understand and possess in-depth knowledge on how to computerize accounting transactions in Tally and find the financial result concern.
CO-2	To take appropriate financial decisions in a systematic manner.
CO-3	Prepare final accounts and other financial statements in Tally.
CO-4	Interpret the financial statements as well as evaluation of stock at the end.

III YEAR - B.Com (CA) - VI SEMESTER
PAPER 2 - ELECTIVE - E-COMMERCE

COURSE OUTCOMES:

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

CO-1	Understand the impact of Information and Communication Technologies and Internet for successful conduction of Business Operations.
CO-2	Acquire knowledge about various types of e-Commerce models to conduct their business online.
CO-3	Understand the importance, working and the necessity of electronic payment systems to transfer funds online in a secured manner.
CO-4	Take appropriate decisions related to e-Commerce in respect of laws, privacy and security.

III YEAR - B.Com (CA) - VI SEMESTER
PAPER 3 - ELECTIVE - PHP and MySQL

COURSE OUTCOMES:

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

CO-1	Understand the key elements of PHP, MySQL and should be able to explain the importance of PHP for web development.
CO-2	Analyze the fundamental structure of a PHP Web application and be able to create, install, compile and run a web application.

CO-3	Explain the working principle of a database, be able to develop one and know the process of using php MyAdmin to work with MySQL.
CO-4	Describe various methods of connecting to MySQL from PHP and also to connect other data sources such as SQL Server.



GOVERNMENT DEGREE COLLEGE, CHEBROLE, GUNTUR DISTRICT

(Re-accredited by NAAC as Grade ' B ' with CGPA 2.26)

Phone No: 08644-254221

PIN-522212

**DEPARTMENT OF HISTORY
UNDER CBCS FRAMEWORK
PROGRAMME: THREE-YEAR B.A. HISTORY
PROGRAM OUTCOME OF BACHLOR OF ARTS (B.A.)**

History students at Graduation that is B.A. Programme are expected to encourage with following quality which helps them in their future life to achieve the expected goals.

1. Acquire facts and Historian, history as Science and Arts.
2. Specialized of human values and making good citizens.
3. Responsible and dutiful citizen for the nation.
4. Critical thinking skills
5. To be able to communicate effectively in written, graphical & chronicle form.
6. Problem solving skills.
7. Quantitative, Reasoning Skills.

PROGRAM SPECIFIC OUTCOMES (B.A. HISTORY)

- PS01: Students will be able to demonstrate a breadth of training across historical time and space.
- PS02: Students will be able to develop an in-depth understanding of a field, theme or region.
- PS03: Students will be able to demonstrate an historical awareness of the diversity of the human experience across time and space (research papers)
- PS04: Students will be able to apply, assess and debate the major historical schools of thought, methodology and types of sources that historians use to make original arguments (research papers)
- PS05: Students will be able to formulate historical arguments and communicate those arguments in clear and persuasive prose that is Minds.
- PS06: Methodology – Heuristic Criticism – Synthesis – Exposition Errors of History – Objectivity in history.

COURSE OUTCOMES
PAPER-I
ANCIENT INDIAN HISTORY AND CULTURE
(FROM EARLIEST TIMES TO 600 A.D.)

1. The student understands the relations between Geography and History
2. Student can remember the life of early man through stone age culture.
3. Will be aware about the Indus Valley Civilization and Development.
4. Understands condition of 6th Century B.C and formation of Jainism and Buddhism.
5. Will know about the 16 Mahajapadhas and rise of Magadha it's importance.
6. Is aware of the administrative structures and Mouryan and Dhamma Policy of Ashoka.
7. Can analyze this Socio, Economic and Cultural conditions of Satavahanas and Kushanas.
8. Will understand the Socio, Economic, cultural, Science and Technological developments in Gupta period.
9. Importance of Geography and Chronicle to the history.

PAPER-II
EARLY MEDIEVAL INDIAN HISTORY AND CULTURE (600-1526 A.D.)

1. The student is able to identify the different style of architecture from Pallavas and Chalukyas overall outlook on South India.
2. Will be aware of the administrative structure of Cholas particular reference to the Village Administration.
3. Will know about the composition and function of Sultanate administrative structure of Delhi Sultanas period 1206 to 1526.
4. Comparative study for Indo Islamic Culture, heritage of religion.

PAPER-III
LATE MEDIVAL AND COLONIAL HISTORY OF INDIA
(1526-1857 A.D.)

1. The student understands Sharsha Administration & it's impact on Indian Administration to the coming generations.
2. Gains knowledge about the Marathas and their administration.
3. Understands the Administration, Economy, Society and Cultural Development under the Mughal Period Merits and Demerits.
4. Remember the policy of East India Company, their administration, How they exploit Indian economy and surprised Indian.

PAPER-IV
SOCIAL REFORM MEOVEMENT OF FREEDOM STRUGGLE
(1820-1947 A.D.)

1. Understand the cause of the revolts and peseants, tribes and sipoys in 19th century.
2. Learn about Socio, Religious movement in India. With special reference to Brahma Samaj, Arya Samaj, Ramakrishna Mission.
3. Can acquire the knowledge of different stage of Freedom Movement i.e.
 1. 1885 – 1905
 2. 1905 – 1919
 3. 1919 – 1947
4. Can identify the nature of Gandhi Movements. How far essential to the coming generation.
5. Observe the unification of India under the Leadership of SardharVallabhai Patel after Independence.

PAPER-V
HISTORY OF MODERN WORLD (1453-1821 A.D.)

- C01: Understand about the nature of Feudalism.
- C02: Compare the Medieval Europe and Modern Europe with special reference to Renaissance, Reformation and Counter Reformation.
- C03: Student gain knowledge about the cause and results of Americans, Revolution, Reformation & Counter Reformation.
- C04: Student should know about the French revolution and teaching of Philosophers, Diderot, Voltaire, Rousseau.

PAPER-VI
HISTORY AND CULTURE OF ANDHRA DESHA
(12TH – 19TH CENTURY A.D.)

- C01: The students understand the Social, Economic, Cultural conditions of 12th & 18th centuries special reference to Kakatiya & Reddy Kingdom.
- C02: Understand the unification movement of Italy & Germany in Europe.
- C03: The student analysis the unification movement in Europe.
- C04: Student is aware of causes & results of World Wars 1914-1919.

PAPER-VII
HISTORY OF MODERN WORLD (19TH CENTURY TO 1945 A.D.)

- C01: The student compare the condition of Industrial Revolution before & after in Europe as well as in India.
- C02: To understand the Unification Movement of Germany & Italy in Europe.
- C03: Student can analyze the Unification Movement in Europe.
- C04: Will be aware of the causes and results of World Wars.
- C05: Acquire knowledge and its functions, origin and establishment.

PAPER-VIII

POPULAR MOVEMENTS IN ANDHRA DESHA (1848-1956 A.D.)

- C01: The student understands the Socio, Religious movement in Andhra with special reference to Kandukuri Veeresalingam.
- C02: The student observes the Vandematharam movement with special reference to Kakinada conflicts.
- C03: Can compare the three phases of Freedom Struggle in Andhra
1) 1885 – 1905 2) 1905 – 1919 3) 1919 – 1947.
- C04: Student will be aware about the Gandhian period 1919 – 1947.
- C05: Can analyze the separation of Andhra State and Formation of Andhra Pradesh.

PAPER-IX

CONTEMPORARY HISTORY OF ANDHRA PRADESH (1956-2014 A.D.)

- C01: Can understand the development of Andhra in various sectors after formation of Andhra Pradesh.
- C02: Will observe the cause and impact of Communist Nallabary.
- C03: Aware on the early trends towards Bifurcation of Andhra Pradesh.
- C04: The student can acquire the knowledge of the Bifurcation of Andhra Pradesh again and again.

PAPER-X

PROJECT WORK ON HISTORICAL ISSUES AND RELATED TOPICS

- C01: The student understands the basic concepts of research work.
- C02: The student identifies the various historical places in India and abroad.
- C03: Practical knowledge will be implied through the project work.
- C04: They learn how to collect primary and secondary data collection for project work.
- C05: Could pave the future of the student as a research scholar.



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DEPARTMENT OF ECONOMICS

PROGRAMME: THREE YEAR B.A ECONOMICS

PROGRAMME STRUCTURE:

Semester I - Micro Economics - Consumer Behaviour.

Semester II - Micro Economics - Production and Price Theory.

Semester III - Macro Economics - National Income, Employment and Money.

Semester IV - Banking and International Trade.

Semester V - Economic Development and Indian Economy.

Semester V - Paper VI - Indian and Andhra Pradesh Economy.

Semester VI - Paper - VII(A) (Elective Paper) - Agricultural Economics.

Paper -VIII-A1 Cluster Elective - Agribusiness Environment in AP.

Paper - VIII-A2 Cluster Elective - Agricultural Output Marketing.

Paper - VIII-A3 Cluster Elective - Agricultural Input Marketing.

COURSE OUTCOMES OF ECONOMICS:

- To induce critical thinking skills within the context of subject matter of economics.
- To demonstrate quantitative reasoning skills of collecting processing and interpreting data using statistical and mathematical methods and computer packages.
- To provide understanding of core economic terms, concepts, and theories.
- Students will be able to explain concepts, terminologies and theories in core branches of economics.
- Having critiquing in relation to subject matter of economics.
- Having attitude to observe marginal changes in economic magnitudes.
- Having skills to use quantitative data collections, analysis and interpretation using statistical and mathematical methods and computer packages.

PROGRAMME SPECIFIC OUTCOMES OF ECONOMICS:

- To understand the basic concept of economics.
- An ability to understand the economics theories and functioning of basic microeconomic and macroeconomic systems.
- To understand the economic way of thinking.
- The ability to write clearly expressing an economic point of view.
- To analyze economic behaviour in practice.
- To create students' ability to suggest various economic problems.

Semester I: - Micro Economics - Consumer Behaviour:

CO1: To ascertain the nature, definition and scope of Economics.

CO2: Understand and differentiate, the concepts of Micro & Macro, Static and Dynamic analysis, Normative and positive science, Inductive & Deductive methods, Partial and general Equilibrium.

CO3: To define the concept of utility and satisfaction, differentiate between marginal utility and total utility and to calculate the concept of marginal utility.

CO4: Explains the determinants of demand and supply, Measurement of Elasticity of Demand.

CO5: The students should be able to explain the idea of consumer behaviour using the ordinal approach.

Semester II - Micro Economics - Production and Price Theory:

CO1: To analyse the relationship between inputs used in production and the resulting outputs and costs.

CO2: To analyse different types of Market structures.

CO3: To analyse a firm's profit maximizing strategies under conditions of monopolistic competition.

CO4: To understand the concept of wage determination, collective bargaining, minimum wage.

CO5: To illustrate the meaning of interest and analyse the various theories of interest and rent.

Semester III - Macro Economics - National Income, Employment and Money:

CO1: To understand meaning, definition of Macro Economics - Importance of Macro Economics and its limitations.

CO2: To explain about the national income, calculation methods of national income, and concepts related to national income.

CO3: To interpret Classical theory of Employment, in terms of determining interaction between demand and supply of labour.

CO4: Understand the relationship between investment and savings, demonstrate investment multiplier.

CO5: To illustrate various version of quantity theory of money.

Semester IV - Banking and International Trade:

CO1: Students will be able to understand inflation, types of inflation and causes and effects of inflation measures to control inflation.

CO2: To give in-depth knowledge of Banking & Finance to the students of economics with practical inputs and prepares them as a responsible customer.

CO3: To envisage on NBFCs and defects of Indian money market.

CO4: This provides the information and functions of various financial institutions such as RBI, SEBI, LIC etc.

CO5: This explains about various economic policies like - Fiscal, Monetary and Exchange rate policies and importance of International Trade.

Semester V - Economic Development and Indian Economy:

CO1: Explains determining factors of growth approaches before classical growth theories and analysis of Classical growth theories.

CO2: To learn hardcore economic prescriptions to sustainable development related to the background like education, health, sanitation and infrastructural development, have found a place of pride in explaining the preference of various economies.

CO3: To understand the basic features of the Indian Economy in terms of Demographic features such as Concept of Population Dividend and Population Policy.

CO4: To expose students to national income accounting.

CO5: To acknowledge about the Economic reforms in terms of liberalization, privatization and globalization and also the concept of inclusive growth.

Semester V – Paper VI - Indian and Andhra Pradesh Economy:

CO1: The course will discuss changes in the trajectory of agricultural development in India since Independence. Students will be exposed to impacts of policies on the growth processes in Indian agriculture, Rural credit, Micro Finance, Self Help Groups (SHGs), Agricultural Price policy, concept of Crop Insurance, Food Security.

CO2: Equips the students to analyse the basic features of Indian economy and to have a clear understanding of the problems related to the Agriculture, Industry and other sectors of Indian Economy.

CO3: Students acquire the knowledge in Disinvestment in India, FEMA, Foreign direct investment, Services Sector in India.

CO4: Provides the students to know the role of Planning in India Economy and Objectives of Five-year plans.

CO5: Students can comprehend the basics of Andhra Pradesh Economy.

Semester VI - Paper - VII(A) (Elective Paper) Agricultural Economics:

CO1: Enables the students to understand the Nature and Scope of Agricultural Economics and also the Factors affecting agricultural development.

CO2: Students can exhibit the conceptual framework of production and product relationship in farm production.

CO3: To enable students on Growth and productivity trends in Indian agriculture with special reference to Andhra Pradesh

CO4: Provides the students to know the Systems of farming, farm size and productivity relationship in Indian agriculture with special reference to Andhra Pradesh

CO5: Students acquire the knowledge in Emerging trends in production, processing, marketing and exports; policy controls and regulations relating to industrial sector with specific reference to Agro-industries.

Semester VI - Paper - VIII-A1 Cluster Elective - Agribusiness Environment in AP:

CO1: Students gain the knowledge agriculture in development process in Andhra Pradesh vis-à-vis other developed states.

CO2: Facilitates the students to understand inter linkages of agricultural credit and other input markets and product markets.

CO3: Students learn the factors which are responsible for the emergence of Agribusiness sector in Andhra Pradesh.

CO4: Makes the student to have awareness on production and processing trends in exports and imports of major agricultural commodities in Andhra Pradesh.

CO5: To gain knowledge on the perception of Marketing policy, need and structure of APMC, Role of Farmer Groups in the marketing of Agricultural Produce.

Semester VI - Paper - VIII-A2 Cluster Elective - Agricultural Output Marketing

CO1: Students are able to understand Risks in Agriculture.

CO2: To impart knowledge on Weather Based Crop Insurance Model.

CO3: Students gain an understanding on Crop Insurance - Yield Index based Underwriting and Claims.

CO4: The students can acquire knowledge of different schemes on agriculture insurance.

Semester VI - Paper - VIII-A3 Cluster Elective - Agricultural Input Marketing:

CO1: To understand different marketing concepts and marketing systems in context of agricultural inputs.

CO2: To understand the Overview of Input Marketing.

CO3: To understand the concept of Seed Marketing.

CO4: To understand the concepts of Fertilizer Marketing and Plant Protection Chemicals.

CO5: Students able to understand the Farm Machinery and Implement.



GOVERNMENT DEGREE COLLEGE, CHEBROLE

Accredited by NAAC with 'B' Grade

Affiliated to Acharya Nagarjuna University

Guntur District, Andhra Pradesh, PIN 522 212

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DEPARTMENT OF POLITICAL SCIENCE

UNDER CBCS FRAMEWORK WITH EFFECT FROM 2015-16

PROGRAMME: THREE YEAR B.A POLITICAL SCIENCE

PROGRAMME STRUCTURE

First Semester -BASIC CONCEPTS OF POLITICAL SCIENCE	Second Semester -POLITICAL INSTITUTIONS
Third Semester -INDIAN CONSTITUTION	Fourth Semester -INDIAN POLITICAL PROCESS
Fifth Semester -INDIAN POLITICAL THOUGHT	Sixth Semester - WESTERN POLITICAL THOUGHT
Seventh Semester - PRINCIPLES OF PUBLIC ADMINISTRATION	

PROGRAMME OUTCOMES :

P01: Students can understand the world in which they are living.

P02: Students will have comprehensive knowledge and understanding on world wide issues.

P03: Students will be able to choose the best among the available opportunities in the political System

P04: Students will develop knowledge of theories , concepts and research methods in all social sciences.

P05: Political knowledge and consequences will be developed in students.

P06: Students will possess basic subject knowledge to compete the competitive examinations successfully .

PROGRAMME SPECIFIC OUTCOMES :

- Ps01:** Students should be able to thoroughly understand the study of political science.
- Ps02:** Students should be in a position to understand and follow changes in patterns of political structures.
- Ps03:** Students should have to concentrate on political knowledge to observe the field level circumstances.
- Ps04:** Students should be able to understand the cultural, social, political, economic and constitutional environment from the historical perspective of Indian administration .
- Ps05:** Students should understand the activity and dynamics of Indian government and politics .
- Ps06:** Students should be able to introduce their skills to work effectively in multi-disciplinary teams.
- Ps07:** Enabling students to develop a positive attitude towards political science as an interesting subject of study.

COURSE OUTCOMES :

COURSE : SEMESTER I – BASIC CONCEPTS OF POLITICAL SCIENCE

- C01 :** To explain the definition, nature, scope and importance of political science .
- C02 :** To analyze the approaches to the study of political science and elements of the state.
- C03 :** To highlight the concepts of nation, nationality and nationalism.
- C04 :** To specify the Importance of rights and citizenship .
- C05 :** To enlighten the concepts of Freedom, Equality and Justice.

COURSE: SEMESTER II- POLITICAL INSTITUTIONS

- C01 :** To understand the purpose of constitutional law, theory of separation of powers and basic features of parliamentary and presidential forms of government.
- C02 :** To analyze the comprehensive understanding and the basic features of federal form of government and unitary form of government .
- C03 :** To explain the features of democracy and models of democracy.

C04 : To study the nature ,role and functions of the judiciary and judicial review .

Course: SEMESTER III- INDIAN CONSTITUTION

C01 : To explain the Indian national movement on the constituent assembly and the nature and composition of the constituent assembly .

C02 : To understand the preamble and the salient features of the Indian constitution .

C03 : To acquaint with the fundamental rights and directive principles of state policy.

C04 : To deal with unitary and federal features of the Indian constitution and tension areas between the union and state governments.

C05 : To observe the working of the Indian constitution.

COURSE : SEMESTER IV- INDIAN POLITICAL PROCESS

C01 : To familiarize with the approaches to study the political process in India.

C02 : To deal with social structure and democratic process

C03 : To spotlight religion and politics

C04 : To understand party and electoral process in india

COURSE : SEMESTER V - INDIAN POLITICAL THOUGHT

C01 : To understand the contribution of ancient indian political thinkers to indian political thought

C02 : To familiarize the importance Renaissance thought

C03 : To deal with the early nationalism

C04 : To understand the religious nationalism

C05 : To explain the democratic egalitarianism

COURSE : SEMESTER VI - WESTERN POLITICAL THOUGHT

- C01** : To delineate the contribution of classical political thinkers to western political thinkers
- C02** : To cover the early medieval period to the beginning of the modern thought
- C03** : To highlight the importance liberal thought
- C04** : To understand the basic concept of liberal democratic thought
- C05** : To enlighten the philosophical idealism and its critique

COURSE : SEMESTER VII - PRINCIPLES OF PUBLIC ADMINISTRATION

- C01** : To familiarize with the meaning, nature and scope of public administration
- C02** : To discuss various Administrative Theories
- C03** : To deal with various Principles of Organization
- C04** : To cover the Structure of various Organizations
- C05** : To understand different Theories of Motivation.



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Department of English

Under CBCS Frame Work with effect from 2015-16

Three Year B.A., B.Com., & B.Sc.

General English

Programme Structure

Semester	Title of the Course	No. of Credits
I	Course-I - English Portal	4
II	Course-II - A Spectrum of Language Skills	4
	Skill Pro-I - Foundation Course-4 Communication & Soft Skills-I	2
III	Course-III - English for Cognitive Skills	4
	Skill Pro-II - Foundation Course-6 Communication & Soft Skills-II	2
IV	Skill Pro-III - Foundation Course-7 Communication & Soft Skills-III	2

PROGRAMME OUTCOMES:

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

PROGRAMME SPECIFIC OUTCOMES:

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

I Semester B.A., B.Com., & B.Sc.,

Title of the Course: English Portal- A Textbook for Effective Communication Skills

Course Outcomes: On successful completion of the Course

- Learners will be able to read and comprehend literary pieces
- Improve vocabulary and grammatical ability
- Use appropriate words and structures required for a situation
- Write meaningfully on topics of interest or relevance

II Semester B.A., B.Com., & B.Sc.,

Title of the Course: A Spectrum of Language skills

Course outcomes: After the completion of the course, students will be able to

- Read and comprehend a text on their own
- Use simple and correct English
- Use different forms and formats of written correspondence
- Be able to speak meaningfully

II Semester B.A., B.Com., & B.Sc.,

Title of the Course: Foundation Course-4

Communication & Soft Skills-I

Course Outcomes:

- Better equipped with the life skills and language skills to face the outside world.

III Semester B.A., B.Com., & B.Sc.,

Title of the Course: English for Cognitive Skills

Course Outcomes: After the successful completion of the course learners will

- Gain competence in using appropriate words
- Construct error-free sentences
- Present their ideas coherently in a logical and convincing manner
- value-added reading

III Semester B.A., B.Com., & B.Sc.,

Title of the Course: Skill Pro-II

Foundation Course-6

Communication & Soft Skills-II

After the successful completion of the Course, learners will be able to

- Develop a positive personality
- demonstrate good verbal and non-verbal expressions

IV Semester B.A., B.Com., & B.Sc.,

Title of the Course: Skill Pro-III

Foundation Course-7

Communication & Soft Skills-III

After the successful completion of the course

- Exhibit improvement in their overall performance relating to employability.



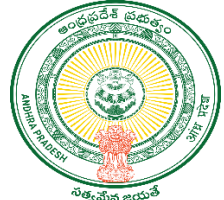
GOVERNMENT DEGREE COLLEGE, CHEBROLE

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DEPARTMENT OF TELUGU

UNDER CBCS FRAMEWORK WITH EFFECT FROM 2015 – 2016

PROGRAMME: THREE-YEAR B.A. /B.Sc./B. Com. TELUGU

Program Outcomes

Program Outcome of Telugu Course in Under Graduation

Student seeking admission for UG Program is expected to imbue with following quality which helps them in their future life to achieve the expected Goals.

- ✓ Realization of Human values.
- ✓ Sense of Social service.
- ✓ Responsible and dutiful citizen.
- ✓ Critical Temper
- ✓ Creative Ability.

Program Specific Outcomes of UG (Telugu)

- ❖ Importance of ethics which needs noble life
- ❖ Importance of subject Telugu & its Branches.
- ❖ Various aspects of Telugu literature with a process to reach methods & giving new mode and direction.
- ❖ To make an attempt in different area and theory such as vocabulary and vice versa
- ❖ Literature more in a border areas then confined to subject.
- ❖ To know about Telugu literature its roots cause perspectives and methods.
- ❖ Elaborating and understanding its philosophical methods.
- ❖ Evaluating the concept of Telugu from past to present and making the society more closely through literature.

Course Outcomes

First Year – Semester I Optional Telugu (Paper I)

Prachina Telugu Kavitwam

Learning Telugu in B.A., B.Com., and B.Sc., will make the students to learn about the archaic uses in ancient literature.

ప్రాచీన తెలుగు కవిత్వం, ప్రాచీన తెలుగు సాహిత్యం, వ్యాకరణం, నేర్చుకోవటం వలన, సాహిత్య ప్రయోజనం, ప్రాముఖ్యత గురించి విద్యార్థులకు మంచి అవగాహన కలుగుతుంది.

First Year – Semester II

Optional Telugu (Paper II)

Adhunika Telugu Kavitwam

Learning Telugu poetry, novels and stories in B.A., B.Com., and B.Sc., will make the students to improve their writing skills.

ఆధునిక తెలుగు కవిత్వం, కవిత, కథానిక, నవల వంటి ఆధునిక సాహిత్యం అధ్యయనం చేయటం ద్వారా విద్యార్థులకు రచనా నైపుణ్యం అభివృద్ధి చెందుతుంది.

Second Year – Semester III

Optional Telugu (Paper III)

Srujanatmaka rachana

Learning media and broadcasting and journalism will make students to develop creativity in literature and social responsibility.

సృజనాత్మక రచన

ప్రసార మాధ్యమాలు, జర్నలిజం వంటివి అభ్యసించడం వలన విద్యార్థులలో సృజనాత్మక శక్తి పెరిగి వారిలో ఆసక్తిని రేకెత్తించవచ్చును.