

GOVERNMENT DEGREE COLLEGE (W)

KARIMNAGAR

DEPARTMENT OF PHYSICS

SUBJECT: PHYSICS

COURSE OUTCOME

BSc Physics course student will be able to understand the depth knowledge of various topics of physics demonstrate skills and competencies to conduct wide range of specific experiments. Identify their area of interest in academic and R&D. Perform job in various fields.

BSC PROGRAMME

FIRST YEAR

SEMESTER – I

Title of Paper	Mechanics
Course code	BS105
Credits	5
Total Hours	56

On successful completion of the course students have

CO1: Grasped the fundamentals of vector analysis, like gradient Divergence and Curl and different types of Frames of Reference and transformation laws, both Galilean and Lorentz.

CO2: Learned conservation laws of energy and linear angular momentum and apply them to solve problem.

SEMESTER – II

SECOND SEMESTER – II

Title of Paper	Waves and Oscillation
Course code	BS205
Credits	5
Total Hours	48

CO1: Learn the fundamentals of harmonic oscillator model, including damped and forced oscillators and grasp the significance of terms like quality factor and damping coefficient.

CO2: Study the general solution wave motion in general and TM Waves in stretched strings and longitudinal waves.

SECOND YEAR

SEMESTER – III

Title of Paper	Thermodynamics
Course code	BS305
Credits	4+1=5
Total Hours	48

CO1: Become familiar with various thermodynamic process and work done in each process.

CO2: Have a clear understanding about Reversible and Irreversible process and knowing the concept of Entropy.

CO3: Familiarizing in depth weins, Raleigh Jeans and Planck's Theory and statistical distribution of Maxwell boltzmann, Bose Einstien and Fermi Dirac statistics.

SEMESTER – IV

Title of Paper	Optics
Course code	BS405
Credits	4+1
Total Hours	48

CO1: Use the Principles of wave motion and superposition to explain physics of interference, diffraction and polarization.

CO2: Understanding the basics of aberrations like spherical and chromatic and how to rectify them .

III YEAR

SEMESTER –V

PAPER – V

Title of Paper	Electromagnetism
Course code	BS505
Credits	3+1
Total Hours	42

CO1: Have gained elaborated knowledge about electrostatics and laws governing charges, electric potential etc.

PAPER – VI

Title of Paper	Solid State Physics
Course code	BS506
Credits	3 + 1 = 4
Total Hours	42

CO1: In depth knowledge about 14 Bravais lattice, different crystal structure and their applications in various field

CO2: Bragg`s Equation derivation and its importance in deriving the crystal structure and details study of crystal defects.

SEMESTER –VI

PAPER –VII

Title of Paper	Modern Physics
Course code	BS605
Credits	3+1
Total Hours	42

CO1: To Become familiar with Black body radiation ultra violet catastrophe photo electric effect, Compton effect have gained a clear knowledge about wave nature of particles De Broglie waves and implication of uncertainty principle.

CO2: Have gained ideas of Quantum Mechanics and schrodinger equation. Nuclear composition and various nuclear models.
Have a deep knowledge about Radio activity, Nuclear fusion, Fission and Nuclear Reactors.

PAPER – VIII

Title of Paper	Basic electronics
Course code	BS606
Credits	3+1
Total Hours	42

CO1: Have a basic knowledge of Network Theorems and Semi conductor physics.

CO2: Understanding the basics of diode and working of Rectifier circuits Analyze the characteristics of transistor.

CO3: Understanding the fundamentals of Digital Electronics like number systems Boolean Algebra and logic gates.