A.S.D.Government Degree College for Women
An Autonomous Institution
Jagannaickpur, Kakinada, Andhra Pradesh-533002
Affiliated to Adikavi Nannaya University, Rajamahendravaram

INTERNAL QUALITY ASSURANCE CELL

2.6.1. The institution has stated learning outcomes (programme and course outcome)/graduate attributes which are integrated into the assessment process and widely publicized through the website and other documents and the attainment of the same are evaluated by the institution.

PHYSICS

COURSE OUTCOMES

(2018-23)

ASD GOVERNMENT DEGREE COLLEGE FOR WOMEN(A), KAKINADA

DEPARTMENT OF PHYSICS

COURSE OUTCOMES (2018-2019)

I MPC, MPCS, SEM-1, MECHANICS AND PROPERTIES OF MATTER

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.

2 Apply the rotational kinematic relations, the principle and working of gyroscope and its applications and the processional motion of a freely rotating symmetric top.

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.

4 Understand postulates of Special theory of relativity and its consequences such as length contraction, time dilation, relativistic mass and mass-energy equivalence.

I MPC, MPCS, SEM-2, WAVES AND OSCILLATIONS

1 Examine the 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.

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.

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.

II MPC, MPCS, SEM-3, WAVE OPTICS

1 Understand the nature of light and principles of Laser and holography.

2 Analyze the intensity variation of light due to interference, diffraction and polarization.

3 Solve problems in Optics by selecting the appropriate equations and performing numerical or analytical calculations.

4 Student can able to operation of optical devices including Polarizers, interferometers and Lasers.

II MPC, MPCS, SEM-4, THERMODYNAMICS AND RADIATION PHYSICS

1 Students will be able to Perform experiments and interpret the results of observation, including making an assessment of experimental uncertainties.

2 They develop the ability to apply the knowledge acquired in the classroom and laboratories to specific problems in theoretical and experimental Physics.

3 To apply the theories learnt and the skills acquired to solve real time problems.

4 To understand the concepts and significance of the various physical Phenomena.

IIII MPC, MPCS, SEM-5, PAPER-IV, ELECTRICITY, MAGNETISM AND ELECTRONICS

1 To learn about Gauss law and solve the electric field and magnetic field for various geometric objects and to learn basic electronic concepts in analog and digital theory.

2 To be Explain all the topics of Experiments, Concepts and Derivations to the student.

3 Apply the principles of Electronics in day to day life.

4 Encourage all the students to study higher educational courses in reputed institutes and to enrich the students with creative, logical and analytical skills and to motivate the students towards the research side.

III MPC, MPCS, SEM-4, PAPER-V, MODERN PHYSICS

1. To Create awareness on the topics of Atomic and Molecular Physics, Quantum mechanics, Nuclear Physics and Solid state Physics.
2. To be Explain all the topics of Experiments, Concepts and Derivations to the student.
3. Explain the basic principles of quantum mechanics and apply to Atomic Molecular structure of energy levels etc.
4. Motivate all the students to pursue PG courses in reputed institutes and to endow the students with creative and analytical skills, this will equip them to become entrepreneurs.

III MPC, MPCS, SEM-6, PAPER-ELECTIVE,

RENEWABLE ENERGY

1.Create awareness about the energy and its forms, power, utilization and its environmental effects.

2.Understand the Indian energy scene and analyse it with global energy scenario.

3.Understand the principles of solar and wind energy and their applications.

4.Knowledge about the principles of ocean energy and power generation, utilize hydrogen as fuel and its production.

5.Understand the biomass energy and its conversion into fuels.

III MPC, MPCS, SEM-6, CL-1, SOLAR THERMAL AND PHOTO VOLTAIC ASPECTS

1 Create awareness about the basics of solar radiation and radiative properties and characterization of materials.

2 Understand the concepts related to flat plate collectors and calculate efficiency.

3 Gain knowledge about the concepts of solar photovoltaic cell.

4 Understand the solar PV systems.

5 Gain knowledge and analyze solar thermal applications.

III MPC, MPCS, SEM-6, CL-2, WIND, HYDRO AND OCEAN ENERGIES

1 Gain knowledge about the concepts of wind energy, WECS and the characteristics of power, torque and speed.

2 Understand the wind energy conversion systems along with design theories and principles.

3 Understand the principles of wind energy generation, applications and environmental impact.

4 Understand the concepts of micro, mini and small hydro systems include hydrology, equipment used to generate power

5 Create awareness about ocean thermal, wave and tidal energy systems along with working principles and generation of electricity.

III MPC, MPCS, SEM-6, CL-3, ENERGY STORAGE DEVICES

1 Create awareness about the need of energy storage, different modes of energy storage include chemical energy storage.

2 Gain knowledge about the electro chemical energy storage systems include batteries and advanced batteries.

3 Understand the magnetic and electric energy storage systems.

4 Analyse the fuel cell in comparison with battery, components of fue cell and characteristics.

5 Classify various types of fuel cells.

M. Suvarchala

PRINCIPAL

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A.S.D.GOVT.DEGREE COLLEGE (W)
AUTONOMOUS
KAKINADA

A.S.D.GOVT.DEGREE COLLEGE (W) AUTONOMOUS KAKINADA

ASD GOVERNMENT DEGREE COLLEGE FOR WOMEN(A), KAKINADA

DEPARTMENT OF PHYSICS

COURSE OUTCOMES (2019-2020)

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2 Apply the rotational kinematic relations, the principle and working of gyroscope and its applications and the processional motion of a freely rotating symmetric top.

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.

4 Understand postulates of Special theory of relativity and its consequences such as length contraction, time dilation, relativistic mass and mass-energy equivalence.

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1 Examine the 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.

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.

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.

II MPC, MPCS, SEM-3, WAVE OPTICS

1 Understand the nature of light and principles of Laser and holography.

2 Analyze the intensity variation of light due to interference, diffraction and polarization.

3 Solve problems in Optics by selecting the appropriate equations and performing numerical or analytical calculations.

4 Student can able to operation of optical devices including Polarizers, interferometers and Lasers.

II MPC, MPCS, SEM-4, THERMODYNAMICS AND RADIATION PHYSICS

1 Students will be able to Perform experiments and interpret the results of observation, including making an assessment of experimental uncertainties.

2 They develop the ability to apply the knowledge acquired in the classroom and laboratories to specific problems in theoretical and experimental Physics.

3 To apply the theories learnt and the skills acquired to solve real time problems.

4 To understand the concepts and significance of the various physical Phenomena.

IIII MPC, MPCS, SEM-5, PAPER-IV, ELECTRICITY, MAGNETISM AND ELECTRONICS

1 To learn about Gauss law and solve the electric field and magnetic field for various geometric objects and to learn basic electronic concepts in analog and digital theory.

2 To be Explain all the topics of Experiments, Concepts and Derivations to the student.

3 Apply the principles of Electronics in day to day life.

4 Encourage all the students to study higher educational courses in reputed institutes and to enrich the students with creative, logical and analytical skills and to motivate the students towards the research side.

III MPC, MPCS, SEM-4, PAPER-V, MODERN PHYSICS

1 To Create awareness on the topics of Atomic and Molecular Physics, Quantum mechanics, Nuclear Physics and Solid state Physics.

2 To be Explain all the topics of Experiments, Concepts and Derivations to the student.

3 Explain the basic principles of quantum mechanics and apply to Atomic Molecular structure of energy levels etc.

4 Motivate all the students to pursue PG courses in reputed institutes and to endow the students with creative and analytical skills, this will equip them to become entrepreneurs.

III MPC, MPCS, SEM-6, PAPER-ELECTIVE,

RENEWABLE ENERGY

1.Create awareness about the energy and its forms, power, utilization and its environmental effects.

2.Understand the Indian energy scene and analyse it with global energy scenario.

3.Understand the principles of solar and wind energy and their applications.

4.Knowledge about the principles of ocean energy and power generation, utilize hydrogen as fuel and its production.

5.Understand the biomass energy and its conversion into fuels.

III MPC, MPCS, SEM-6, CL-1, SOLAR THERMAL AND PHOTO VOLTAIC ASPECTS

1 Create awareness about the basics of solar radiation and radiative properties and characterization of materials.

2 Understand the concepts related to flat plate collectors and calculate efficiency.

3 Gain knowledge about the concepts of solar photovoltaic cell.

4 Understand the solar PV systems.

5 Gain knowledge and analyze solar thermal applications.

III MPC, MPCS, SEM-6, CL-2, WIND, HYDRO AND OCEAN ENERGIES

1 Gain knowledge about the concepts of wind energy, WECS and the characteristics of power, torque and speed.

2 Understand the wind energy conversion systems along with design theories and principles.

3 Understand the principles of wind energy generation, applications and environmental impact.

4 Understand the concepts of micro, mini and small hydro systems include hydrology, equipment used to generate power

5 Create awareness about ocean thermal, wave and tidal energy systems along with working principles and generation of electricity.

III MPC, MPCS, SEM-6, CL-3, ENERGY STORAGE DEVICES

1 Create awareness about the need of energy storage, different modes of energy storage include chemical energy storage.

2 Gain knowledge about the electro chemical energy storage systems include batteries and advanced batteries.

3 Understand the magnetic and electric energy storage systems.

4 Analyse the fuel cell in comparison with battery, components of fue cell and characteristics.

5 Classify various types of fuel cells.

H. Suvarchala

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DEPARTMENT OF PHYSICS

COURSE OUTCOMES (2020-2021)

I MPC, MPCS, SEM-1, MECHANICS, WAVES AND OSCILLATIONS

1 To understand basic theories related with properties of matter and its applications and to determine values of various physical quantities associated with matter.

2 Be able to apply knowledge of the properties of matter to explain natural physical Processes and related technological advances.

3 To learn about fundamentals of verbal and mathematical concepts of waves and oscillations.

4 Create awareness among students to know their skills required to get the information from the syllabus and use them in a proper way.

I MPC, MPCS, SEM-2, WAVE OPTICS

1 Understand the nature of light and principles of Laser and holography.

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3 Solve problems in Optics by selecting the appropriate equations and performing numerical or analytical calculations.

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1 To learn about Gauss law and solve the electric field and magnetic field for various geometric objects and to learn basic electronic concepts in analog and digital theory.

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1 To Create awareness on the topics of Atomic and Molecular Physics, Quantum mechanics, Nuclear Physics and Solid state Physics.

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3 Explain the basic principles of quantum mechanics and apply to Atomic Molecular structure of energy levels etc.

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III MPC, MPCS, SEM-5, PAPER-V, ELECTRICITY, MAGNETISM AND ELECTRONICS

1 To learn about Gauss law and solve the electric field and magnetic field for various geometric objects and to learn basic electronic concepts in analog and digital theory.

2 To be Explain all the topics of Experiments, Concepts and Derivations to the student.

3 Apply the principles of Electronics in day to day life.

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III MPC, MPCS, SEM-5, PAPER-VI, MODERN PHYSICS

1.To Create awareness on the topics of Atomic and Molecular Physics, Quantum mechanics, Nuclear Physics and
Solid state Physics.

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III MPC, MPCS, SEM-5, PAPER-VI, LOW TEMPARATURE PHYSICS

1. Identify various methods and techniques used to produce low temperatures in the Laboratory.
2. Acquire a critical knowledge on refrigeration and air conditioning.
3. Demonstrate skills of Refrigerators through hands on experience and learns about refrigeration components and their accessories.
4. Understand the classification, properties of refrigerants and their effects on environment.
5. Comprehend the applications of Low Temperature Physics and refrigeration.

III MPC, MPCS, SEM-5, PAPER-VII, SOLAR ENERGY AND APPLICATIONS

1 Understand Sun structure, forms of energy coming from the Sun and its measurement.

2 Acquire a critical knowledge on the working of thermal and Photovoltaic collectors.

3 Demonstrate skills related to PV cells through hands on experience.

4 Understand testing procedures and fault analysis of thermal collectors and PV modules.

5 Comprehend applications of thermal collectors and PV modules.

A.S.D.GOVT.DEGREE COLLEGE (W.) AUTONOMOUS KAKINADA

Principal

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