PHYSICS

BOOKS - VIKRAM PUBLICATION (ANDHRA PUBLICATION)

ANDHRA PRADESH MARCH-2019

Section A

1. A small angled prism of 4° deviates a ray through 2.48° . Find the refractive index of

the prism.

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2. How do you convert a moving coil galvanometer into an ammeter ?

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3. Magnetic lines form continuous closed loop. Why ?

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4. Classify the following materials with regard to magnetism :

Bismuth, Cobalt, Oxygen, Copper

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5. A transformer coverts 200 V ac into 2000 V ac. Calculate the number of turns in the secondary . If the primary has 10 turns.

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6. Give two uses of infrared rays.

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7. State Heisenberg's uncertainly principle.

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8. What is 'Work function' ?

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9. Draw the circuit symbols for p-n-p and n-p-n transistors

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10. Mention the basic methods of modulation .

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Section B

1. Define focal length of a concave mirror. Prove that the radius of curvature of a concave mirror is double its focal length.

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2. Derive an expression for the intensity of the electric field at a point on the axial line of an electric dipole.

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3. Explain the behaviour of dielectrics in an external field.

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4. A 100 turn closely wound circular coil of radius 10 cm carries a current a 3.2 A.

What is the field at the centre of the coil ?

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5. A 100 turn closely wound circular coil of radius 10 cm carries a current a 3.2 A.

What is the magnetic moment of this coil ?

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6. Describe the ways in which Eddy currents are used to advantage.

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7. Distinguish between half-wave and full-wave rectifiers.

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Section C

1. A steel wire 0.72 m long has a mass of $5.0 \times 10^{-3} kg$.If the wire is under a tension of 60N , what is the speed of transverse waves on the wire?

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2. A wire of resistance 4R is bent in the form of a circle. What is the effective resistance between the ends of the diameter ?

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3. Explain the principle and working of a nuclear reactor with the help of a labelled diagram.

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