



PHYSICS

BOOKS - VGS PUBLICATION-BRILLIANT

MODEL PAPER -6

Section A

1. Define Power of a Convex Lens. What is its unit ?



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2. Distinguish between Ammeter and Voltmeter..



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3. Define Magnetic Inclination or angle of Dip...



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4. Classify the following materials with regard to magnetism : Manganese, Cobalt, Nickel, Bismuth, Oxygen, Copper



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5. What type of transformer is used in a 6 V bed lamp?..



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6. What are the applications of microwaves ?



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7. What are the Cathode Rays ?



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8. What is "Photoelectric Effect" ?



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9. What is a p-type semiconductor ? What are the majority and minority charge carriers in it?



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10. Define Modulation. Why is it necessary?



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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. How do you determine the resolving power of your eye?



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3. 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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4. Three capacitors of capacitances 2 PF, 3 PE and 4 PF are connected in parallel.

a) What is the total capacitance of the combination ?

b) Determine the charge on each capacitor if

the combination is connected to a 100 V supply."



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5. State and explain Biot-Savart law



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



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7. What are the limitations of Bohr's theory of hydrogen atom?



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8. Distinguish between Half-wave and Full-wave rectifiers.



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9. Explain the formation of Stationary waves in an air column enclosed in open pipe..Derive the equations for the frequencies of the harmonics produced. "

A closed organ pipe 70 cm long is sounded. If the velocity of sound is 331 m/s, what is the fundamental frequency of vibration of the air column ?



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10. State the working principle of potentiometer. Explain with the help of circuit diagram. How the emf of two primary cells are compared by using the potentiometer ?

A potentiometer wire is 5 m-long and a potential difference of 6 V is maintained between its ends. Find the emf of a cell which balances against a length of 180'cm of the potentiometer wire.



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



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