PHYSICS

BOOKS - VGS PUBLICATION-BRILLIANT

MODEL PAPER 8

Section A

1. What is Hypermetropia ? How can it be corrected ?

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

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3. Magnetic lines form continuous closed loops. Why?

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4. Define Magnetisation of a sample. What is its SI unit?

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5. What is the phenomenon involved in the working of a trans former ?

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6. Give two uses of Infrared Rays.

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7. Write down de Broglie's relation and explain the terms therein.

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8. The work function of cesiúm is 2.14 eV. Find the threshold frequency for cesium. (Take $h = 6.6 \times 10^{-34} Js$)

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9. In which bias can a zener diode be used as voltage regulator ?

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10. Define Modulation. Mention the basic methods of modulation.

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Section B

1. Explain the formation of a mirage.

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2. Derive the expression for the intensity at a point where inter ference of light occurs. Arrive at the conditions for maximum and zero intensity.

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3. Define intensity of electric field at a point. Derive an expression for the intensity due to a point charge.

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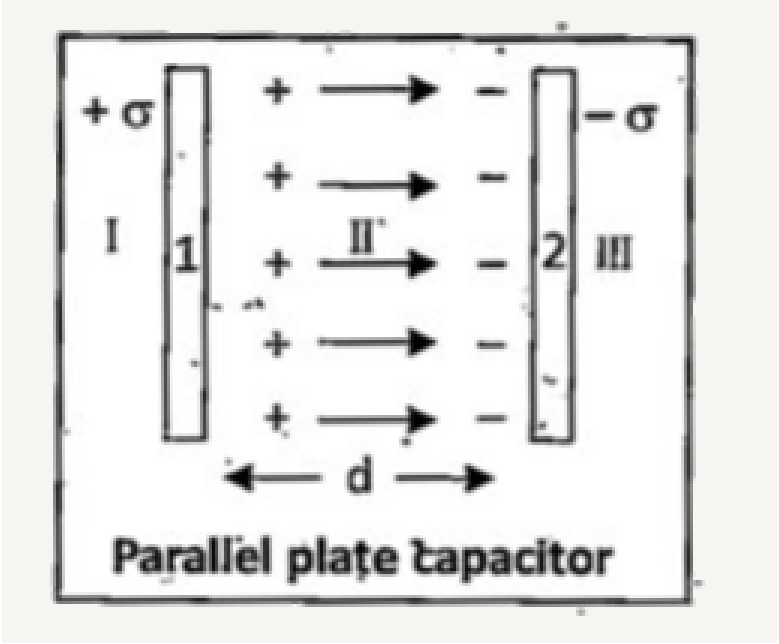
4. Derive an expression for the capacitance of a parallel plate capacitor.



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5. Derive an expression for the magnetic dipole moment of a revolving electron.

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

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7. State the basic postulates of Bohr's theory of atomic spectra.

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8. Describe how a semiconductor diode is used as a half - wave no rectifier.

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Section C

1. What is Doppler effect? Obtain an expression for the apparent frequency of sound heard when the source is in motion with respect to an observer at rest.

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2. A rocket is moving at a speed of 200 ms^{-1} towards a station ary target. While moving, it emits a wave of frequency 1000 Hz. Calculate the frequency of the sound as detected by the target. (Velocity of sound in air is $330ms^{-1}$)

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3. 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.

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

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

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