

Total No. of Questions - 21

Total No. of Printed Pages - 2

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Part - III
PHYSICS, Paper - II
(English Version)

Time : 3 Hours**Max. Marks : 60****SECTION A****10 × 2 = 20**

- Notes :**
- i) Answer all questions.
 - ii) Each question carries two marks.
 - iii) All are Very Short Answer Type Questions.

1. What is hypermetropia? How can it be corrected?
2. How do you convert a moving coil galvanometer into an ammeter?
3. What is the magnetic moment associated with a solenoid?
4. Define magnetic declination.
5. Write the expression for reactance of an inductor and a capacitor.
6. What are the applications of microwaves?
7. Write DeBroglie's relation and explain the terms therein.
8. What is work function?
9. Draw the circuit symbols for $p-n-p$, $n-p-n$ transistors.
10. Mention the basic methods of modulation.

SECTION B

6 × 4 = 24

- Notes :**
- Answer **any six** of the following questions.
 - Each question carries **four** marks.
 - All are **Short Answer Type Questions**.

- Define critical angle. Explain total internal reflection using a neat diagram.
- How do you determine the resolving power of your eye?
- State Gauss's law in electrostatics and explain its importance.
- Derive an expression for the capacitance of a parallel plate capacitor.
- State and explain Ampere's Law.
- Describe the ways in which Eddy currents are used to advantage.
- Describe Rutherford atomic model. What are the drawbacks of this model?
- Distinguish between half and fullwave rectifiers.

SECTION C

2 × 8 = 16

- Notes :**
- Answer **any two** of the following questions.
 - Each question carries **eight** marks.
 - All are **Long Answer Type Questions**.

- 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. Mention its applications.
- State Kirchhoff's laws for an electrical network. Using these laws, deduce the condition for balance in a Wheatstone Bridge.
- Explain the principle and working of a nuclear reactor with the help of a labelled diagram.