GUESS PAPER - 3
SR. PHYSICS
AIMSTUTORIAL.IN

SECTION - A

I. Answer ALL questions : [10 x 2 = 20]

1. What is dispersion? Which colour gets relatively more dispersed?
2. Define magnetic declination.
3. What is the principle of a moving coil galvanometer?
4. How do you convert a moving coil galvanometer into an ammeter?
5. What is transformer ratio?
6. Give two uses of infrared rays.
7. What are cathode rays.
8. What is Photoelectric effects.
9. Draw the circuit symbols for p-n-p and n-p-n transistors.
10. Define modulaton ? Why is it necessary?

SECTION - B

II. Answer any SIX of the following Questions : [6 x 4 = 24]

11. Define critical angle. Explain total internal reflection using a neat diagram.
12. How do you determine the resolving power of your eye?
13. State and explain Coulomb's law in electricity.
14. Derive the formula for equivalent capacitance when the capacitors are connected in series.
15. State and explain Biot-Savart Law.
16. Describe the ways in which Eddy currents are used to advantage.
17. What are the limitations of Bohr's thoery of hydrogen atom?
18. What is rectification? Explain the working of a full wave rectifier.

SECTION - C

III. Answer any Two of the following Questions : [2 x 8 = 16]

19. Explain the formation of stationary waves in an air column enclosed in open pipe. Derive the equatons for the frequencies of the harmonics produced. A open oragn pipe 85 cm long is sounded. If the velcoity of sound is 340 m/s, what is the fundamental frequency of vibration of the air column?
20. State Kirchhoff's law for an electrical network. using these laws deduce the condition for balance in a Wheatstone bridge. A wire of resistance 4R is bent in the form of a circle. What is the effective resistance between the ends of the diameter?
21. Explain the principle and working of a nuclear reactor with the help of a labelled diagram.

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