MS JUNIOR COLLEGE
Hyderabad
GUESS PAPER - 2
INTERMEDIATE II YEAR

Time: 3hours   **PHYSICS - II**   Max.Marks:60

INSTRUCTIONS:
1.   Q.Nos: 1 - 10 are Very Short Answer Type. Answer them in about 30 words each. Each question carries 2 marks.
2.   Q. Nos: 11 - 18 are Short Answer Type. Answer them in 75 - 100 words each. Each question carries 4 marks.
3.   Q.Nos: 19 - 21 are Long Answer Type. Answer them in about 300 words each. Each question carries 8 marks.

I.   Answer All Questions: (Very Short Answer Type).   **[10 x 2 = 20]**

1.   What is 'dispersion'? which colour gets relatively more dispersed?
2.   How do you convert a moving coil galvanometer into an ammeter?
3.   Magnetic lines form continious closed loops. why?
4.   Define magnetic declination.
5.   Write the color code of a carbon resistor of resistances 23 kilo ohms.
6.   A transformer converts 200 V ac into 2000 V ac. Calculate the number of turns in the secondary if the primary has 10 turns.
7.   What are applications of microwaves?
8.   Write down the De - Broglie's relation and explain the terms there in it.
9.   Draw the circuit symbols for p-n-p and n-p-n transistor?
10.   Define modulation. Why is it necessary?

II.   Answer any Six : (Short Answer Type)   **[6 x 4 = 24]**

11.   Define critical angle. Explain total internal reflection using a neat diagram?
12.   Derive the expression for the intensity at a point where interference of light occurs. Arrive at the conditions for maximum and zero intensity.
13.   Derive the equation for the couple acting on a electric dipole in a uniform electric field.
14.   Derive an expression for the capacitance of a parallel plate capacitor.
15.   What are the basic components of a cyclotron? mention its uses.
16.   Compare the properties of para, Dia and Ferromagnetic substances.
17.   Expalin the elements of Earth's magnetic field and draw a sketch showing the relationship between the vertical component, horizontal componenet and angle of dip.
18.   What is rectification? Explain the working of a full wave rectifier?

III.   Answer any Two : (Long Answer Type)   **[2 x 8 = 16]**

19.   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.
20.   State the working principle of potentiometer explain with the help of a circuit diagram how the potentiometer is used to determine the internal resistance of the given primary cell.
21.   Explain the principle and working of a nuclear reactor with the help of a labeled diagram.

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