One Two academy

Std 12 Physics Unit -5

Time: 60 minutes **Maximum marks: 35**

Choose the correct answer:- ***5 x 1 = 5***

1. Electromagnetic waves are

(a) transverse (b) longitudinal

(c) may be longitudinal or transverse (d) neither longitudinal nor transverse

2. In an electromagnetic wave the phase difference between the electric field and the magnetic field is

(a) $\pi/4$ (b) $\pi/2$ (c) π (d) zero

3. Which of the following electromagnetic radiation is used for viewing objects through fog

(a) microwave (b) gamma rays (c) X- rays (d) infrared

4.Which of the following is an electromagnetic wave …….

(a) α – rays (b) β – rays (c) γ – rays (d) all of them

5.Which of the following is NOT true for electromagnetic waves …….

(a) it transport energy (b) it transport momentum

(c) it transport angular momentum

(d) in vacuum, it travels with different speeds which depend on their frequency

Answer any three of the following questions:- ***3 x 2 = 6***

6. Write notes on Gaus's law in magnetism.

7. What is displacement current?

8. Why are e.m. waves are non-mechanical?

9. What are Fraunhofer lines?

Answer any three of the following questions: ***3 x 3 = 9***

10. Give two uses each of (i) IR radiation (ii) Microwaves (iii) UV radiation.

11. Write the properties of electromagnetic waves.

12. Compute the speed of electromagnetic wave in a medium, if the amplitudes of electric and magnetic fields in it are 3×10^{4} NC^{-1} and 2×10^{-4} T respectively.

13. Explain the importance of Maxwell's correction.

Answer the following questions: ***3 x 5 = 15***

14. Write down Maxwell equation in integral form.

OR

Discuss Hertz experiment.

15. Explain the important of Maxwell's correction.

OR

Discuss the source of electromagnetic waves.

16. What are emission spectra? Give their types.

OR

What are Absorption spectra? Give their types.

All the Best