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COMMON QUARTERLY EXAMINATION - 2022

Std - XII

Time : 3.00 Hours

PHYSICS

Marks: 70

Part - I

Note: i) Answer all the questions. Choose the most appropriate answer from the given four alternatives and write the option code and the corresponding answer.

15 x 1 = 15

- If the amplitude of the magnetic field is 3×10^{-6} T, then amplitude of the electric field for a electromagnetic waves is
 a) 100 V m^{-1} b) 300 V m^{-1} c) 900 V m^{-1} d) 600 V m^{-1} *dm-5 (2)*
- Fraunhofer lines are an exaple of spectrum.
 a) line emission b) line absorption c) band emission d) band absorption *dm-5 (10)*
- If voltage applied on a capacitor is increased from V to 2V, choose the correct conclusion.
 a) Q remains the same, C is doubled b) Q is doubled, C doubled *dm-1 (12)*
 c) C remains same, Q doubled d) Both Q and C remain same
- A parallel plate capacitor stores a charge Q at a voltage V. suppose the area of the parallel plate capacitor and the distance between the plates are each doubled then which is the quantity that will change?
 a) capacitance b) charge c) voltage d) energy density *dm-1 (13)*
- A toaster operating at 240V has a resistance of 120Ω . Its power is
 a) 400W b) 2W c) 480W d) 240W *dm-2 (3)*
- In Jule's heating law, when R and t are constant, if the H is taken along the y axis and I^2 along the x-axis, the graph is
 a) straight line b) parabola c) circle d) ellipse *dm-2 (15)*
- In a transformer, the number of turns in the primary and the secondary are 410 and 1230 respectively. If the current in primary is 6A, then that in the secondary coil is
 a) 2A b) 18A c) 12A d) 1A *dm-4 (7)*
- An inductor 20mH, a capacitor $50\mu\text{F}$ and a resistor 40Ω are connected in series across a source of $\text{emf } V = 10 \sin 340 t$. The power loss in AC circuit is
 a) 0.76W b) 0.89W c) 0.46W d) 0.67W *dm-4 (12)*
- A circular coil of radius 5cm and 50 turns carries a current of 3 ampere. The magnetic dipole moment of the coil is nearly
 a) 1.0 Am^2 b) 1.2 Am^2 c) 0.5 Am^2 d) 0.8 Am^2 *dm-3 (4)*
- The vertical component of Earth's magnetic field at a place is equal to the horizontal component. What is the value of angle of dip at this place?
 a) 30° b) 45° c) 60° d) 90° *dm-3 (13)*
- Stars twinke due to
 a) reflection b) total internal reflection c) refraction d) polarisation *dm-6 (6)*
- When a biconvex lens of glass having refractive index 1.47 is dipped in a liquid, it acts as a plane sheet of glass. This implies that the liquid must have refractive index
 a) less than one b) less than that of glass c) greater than that of glass d) equal to that of glass *dm-6 (7)*
- Unit of electric flux is
 a) NC^{-1} b) Nm c) Nm^2C^{-1} d) $\text{C}^2\text{N}^{-1}\text{m}^{-2}$ *pg: 36 dm-1*
- Find RMS value of AC current which has maximum current 10A *pg: 236 99.4.35*
 a) 0.707A b) 7.07A c) 70.7A d) 0.0707A
- Which of the following represents Curie-Weiss law
 a) $X_m = C/T - T_C$ b) $X_m = C/T + T_C$ c) $X_m = C/T$ d) $X_m = T - T_C/C$

*Pg: 147 dm-3**= 0.707 x 10 = 7.07A*