

Time: 20 Minutes

OBJECTIVE **Code: 8477****Marks: 17**

Note: You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question. Attempt as many questions as given in objective type question paper and leave others blank.

- Electrons are
(A) hadrons (B) leptons (C) quarks (D) baryons
- The amount of energy equivalent to 1 amu is
(A) 9.315 Mev (B) 93.15 Mev (C) 931.5 Mev (D) 211.5 Mev
- Normally an electron can reside in metastable state for about
(A) 10^{-8} s (B) 10^{-6} s (C) 10^{-4} s (D) 10^{-3} s
- The energy required for pair production is
(A) 0.51 Mev (B) 1.02 Mev (C) 2.04 Mev (D) 3.06 Mev
- Compton wavelength is
(A) $\frac{h}{m_0 c^2}$ (B) $\frac{hc}{m_0}$ (C) $\frac{h}{m_0 c}$ (D) $\frac{hc^2}{m_0}$
- A photodiode can turn its current ON and OFF in
(A) 10^{-3} s (B) 10^{-6} s (C) 10^{-9} s (D) 10^{-12} s
- The relation for the gain of an inverting amplifier is
(A) $G = \frac{R_1}{R_2}$ (B) $G = \frac{R_2}{R_1}$ (C) $G = \frac{-R_2}{R_1}$ (D) $G = \frac{-R_1}{R_2}$
- Substances which break just after the elastic limit is reached are called _____ substances.
(A) brittle (B) non-magnetic (C) magnetic (D) ductile
- In R-L series circuit, phase angle is given by
(A) $\theta = \tan^{-1}(\omega RL)$ (B) $\theta = \tan^{-1}\left(\frac{R}{\omega L}\right)$
(C) $\theta = \tan^{-1}\left(\frac{\omega L}{R}\right)$ (D) $\theta = \tan^{-1}\left(\frac{1}{\omega RL}\right)$
- The capacitance required to construct a resonance circuit of frequency 1000 KHz with an inductor of 5 mH is
(A) 5.09 PF (B) 5.09 μ F (C) 5.09 mF (D) 5.09 KF
- A device which converts mechanical energy into electrical energy is called
(A) D.C. generator (B) D.C. motor (C) A.C. generator (D) transformer
- The relation for self-inductance of the solenoid is
(A) $L = \mu_0 n A \ell$ (B) $L = \mu_0 N A \ell$ (C) $L = \mu_0 n^2 A \ell$ (D) $L = \mu_0 N^2 A \ell$
- The brightness of spot on the screen of CRO is controlled by
(A) filament (B) cathode (C) anode (D) grid
- The relation $\sum_{i=1}^N (\vec{B} \cdot \Delta \vec{L})_r = \mu_0 I$ is called as
(A) Faraday's law (B) Lenz's law (C) Ampere's law (D) Gauss's law
- In colour code for carbon resistor, if there is no fourth band, then tolerance is
(A) $\pm 20\%$ (B) $\pm 10\%$ (C) $\pm 5\%$ (D) $\pm 4\%$
- The formula for electric field as potential gradient is
(A) $E = \frac{-\Delta v}{\Delta r}$ (B) $E = \frac{-\Delta v}{\Delta t}$ (C) $E = \frac{-\Delta U}{\Delta r}$ (D) $E = \frac{-\Delta U}{\Delta t}$
- The SI unit of electric potential is
(A) $\text{Kg m}^2 \text{s}^{-1} \text{c}$ (B) $\text{Kg m}^2 \text{s}^{-2} \text{c}$ (C) $\text{Kg m}^2 \text{s}^{-2} \text{c}^{-1}$ (D) $\text{Kg m}^{-2} \text{s}^2 \text{c}^{-1}$