Inter (Part-II) 2021

Physics	Group-I	PAPER: II
Time: 20 Minutes	(OBJECTIVE TYPE)	Marks: 17

Note: Four possible answers A, B, C and D to each question are given. The choice which you think is correct, fill that circle in front of that question with Marker or Pen ink in the answer-book. Cutting or filling two or more circles will result in zero mark in that question.

1-1- Albert Einstein was awarded Nobel Prize in Physics in:
(a) 1905
(b) 1911
(c) 1918
(d) 1921 ✓

2- At high frequency, the value of reactance of capacitor will be:
(a) Small ✓
(b) Zero
(c) Large
(d) Infinite

3- The e/m of neutron is:
(a) Less than electron
(b) Zero ✓
(c) Greater than electron
(d) The same as electron

4- The current gain β of the transistor is given by:
(a) $\beta = \dfrac{I_B}{I_C}$
(b) $\beta = I_B + I_C$
(c) $\beta = I_B - I_C$
(d) $\beta = \dfrac{I_C}{I_B}$

5- When 10 V are applied to an A.C. circuit, the current flowing in it 100 mA, its impedance is:
(a) 10 Ohm
(b) 100 Ohm ✓
(c) 1000 Ohm
(d) 1 Ohm

6- If the potential difference across two plates of capacitor is doubled, the energy in it will be:
   (a) Two times   (b) Eight times
   (c) Four times ✓   (d) Remains same

7- The dead time of G.M. counter is:
   (a) 10^{-3} s   (b) 10^{-4} s ✓
   (c) 10^{-6} s   (d) 10^{-8} s

8- The energy stored in inductor is:
   (a) $\frac{1}{2} LI^2$ ✓   (b) $\frac{1}{2} LI$

   (c) $\frac{1}{2} L^2 I$ (d) $\frac{1}{2} L^2 I^2$

9- The value of Plank's constant h is:
   (a) 6.63×10^{-34} Js ✓
   (b) 6.63×10^{-34} J/s
   (c) 6.63×10^{-34} Js^2
   (d) 6.63×10^{-34} J/s^2

10- The quantity $-\frac{\Delta V}{\Delta r}$ is called:
   (a) Electric potential (b) Electric energy
   (c) Potential energy (d) Potential gradient ✓

11- The critical temperature of mercury is:
   (a) 1.18 K   (b) 4.2 K ✓
   (c) 3.72 K   (d) 7.2 K

12- Kirchhoff's second rule is a way of stating conservation of:
   (a) Mass   (b) Charge
   (c) Energy ✓   (d) Momentum

13- Radius of first Bohr orbit of hydrogen atom is:
   (a) 0.053 nm ✓   (b) 0.053 mm
   (c) 0.053 μm   (d) 0.053 m

14- The input resistance of an operational amplifier is:

(a) Zero   (b) Low

(c) High ✓   (d) Equal to output resistance

15- Gamma rays emitted from radioactive element have speed:

(a) 1×10^7 ms^{-1} (b) 1×10^8 ms^{-1}

(c) 3×10^8 ms^{-1} ✓ (d) 4×10^{19} ms^{-1}

16- The unit of self-inductance is:

(a) Weber   (b) Tesla

(c) Henry ✓   (d) Farad

17- The brightness of spot on CRO screen is controlled by:

(a) Plates   (b) Cathode

(c) Anode   (d) Grid ✓