No. _____ (To be filled in by the candidate)

(Academic Sessions 2020 – 2022 to 2022 – 2024)

PHYSICS 224-1st Annual-(INTER PART – II) Time Allowed : 20 Minutes

Q.PAPER – II (Objective Type) GROUP – II Maximum Marks : 17

PAPER CODE = 8476

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	What is the critical temperature of Yttrium Barium Copper Oxide ($YBa_2Cu_3.O_7$) :			
	(A) 4.2 K	(B) 110 K	(C) 163 K	(D) 7.2 K
2	One henry (H) is defined as :			
	(A) $1H = 1VS^{-1}A^{-1}$	(B) $1H = 1VSA$	(C) $1H = 1VSA^{-1}$	(D) $1H = 1VS^{-1}A$
3	Choose the photon of highest energy among the following :			
	(A) X-rays	(B) Infrared	(C) Radiowaves	(D) Gamma rays
4	A particle having a charge of 2e falls through a potential difference of 3V. The energy acquired by it will be :			
	(A) 5 eV	(B) 1.5 eV	(C) 6 eV	(D) 0.6 eV
5	SI unit of equivalent dose is :			
	(A) Sievert	(B) Gray	(C) Rad	(D) Curie
6	If peak value of AC voltage is 100 V, then the peak to peak value will be :			
	(A) 200 V	(B) 50 V	(C) 70 V	(D) 1000 V
7	The direction of magnetic lines of force around a straight current carrying conductor is found by :			
	(A) Ampere's law	(B) Coulomb's law	(C) Lenz's law	(D) Right hand rule
8	Which of the following is the correct relation between electric intensity E and potential difference ΔV :			
	(A) $E = -\frac{\Delta V}{\Delta r}$	(B) $\Delta V = -\frac{E}{\Delta r}$	(C) $E = \Delta V + \Delta r$	(D) $E = \frac{\Delta V^2}{\Delta r^2}$
9	Which of the following requires no external bias for its operation :			
	(A) LED	(B) Photo diode	(C) Photo-voltaic cell	(D) Transistor
10	The energy of K_α X-rays is :			
	(A) $hf_{k\alpha} = E_M - E_K$	(B) $hf_{k\alpha} = E_L - E_K$	(C) $hf_{k\alpha} = E_K - E_M$	(D) $hf_{k\alpha} = E_N - E_M$
11	The power factor of a series resonance circuit at resonance frequency is :			
	(A) Zero	(B) Infinite	(C) 2	(D) 1
12	In AVO meter, the part which connects the galvanometer with the relevant measuring circuit is known as :			
	(A) Range switch	(B) Diode	(C) Ground	(D) Function selector
13	How much time is required for the complete decay of a radioactive element :			
	(A) Five half lives	(B) Two half lives	(C) Ten half lives	(D) Infinite
14	Choose the device which converts electrical energy into mechanical energy :			
	(A) Motor	(B) Generator	(C) Transformer	(D) Inductor
15	The current-voltage graph of an ohmic material is :			
	(A) Curve	(B) Straight line	(C) Parabolic	(D) Circular
16	The phase shift between the input and output of a common-emitter transistor amplifier is :			
	(A) 90°	(B) 180°	(C) 60°	(D) 45°
17	Which of the following factor is called Compton Wavelength :			
	(A) $\frac{h}{m_o c}$	(B) $\frac{m_o c}{h}$	(C) $\frac{hc}{m_o}$	(D) $\frac{m_o}{hc}$