

NAT I Computer Science Physics

Sr	Questions	Answers Choice
1	As the electron in Bohr orbit of hydrogen atom passes from stat $n = 2$ to $n = 1$ the kinetic energy K and potential energy U change as	A. K two-fold, U also two-fold B. K four-fold, U also four-fold C. K four-fold, U two-fold
2	Two bodies of masses m_1 and m_2 have equal momentum their kinetic energies E_1 and E_2 are in the ratio	A. $\sqrt{m_1}$: $\sqrt{m_2}$ B. $\frac{m_1}{m_2}$ C. $\frac{m_2}{m_1}$ D. $\frac{m_1^2}{m_2^2}$
3	Radio waves of constant amplitude can be generated with	A. Rectifier B. Filter C. FET D. Oscillator
4	The frequency of the incident light falling on a photosensitive metal plate is doubled the kinetic energy of the emitted photoelectrons is	A. Double the earlier value B. Unchanged C. More than doubled D. Less than doubled
5	According to the Hooke's law the force required to change the length of a wire by '1' is proportional to	A. 1^2 B. 1 C. 1 D. 1^2
6	Huygen's wave theory of light cannot explain	A. Diffraction B. Interference C. Polarization D. Photoelectric effect
7	Two forces are acting together on an object. The magnitude of their resultant is minimum when the angle between the force is.	A. 0° B. 60° C. 120° D. 180°
8	Shunt required in an ammeter of resistance R to decrease its deflection from 30 ampere to 10 ampere is	A. $R/4$ B. $R/3$ C. $R/2$ D. R
9	In LCR series AC circuit the phase angle between current and voltage is	A. Any angle between 0 and $\pm\pi/2$ B. $\pi/2$ C. π D. Any angle between 0 and $\pi/2$
10	The distance between node and anti-node is	A. λ B. $\lambda/2$ C. $\lambda/4$ D. 2λ
11	The conductivity of a superconductor is	A. Infinite B. Very large C. Very small D. Zero
12	A point charge Q is placed at the mid-point of a line joining two charges $4q$ and q . if the net force on charge q is zero. then Q must be equal to	A. $-q$ B. $+q$ C. $-2q$ D. $-4q$

13	At constant volume temperature is increased then	A. Collision on walls will be less B. Number of collisions per unit time will increase C. Collisions will be in straight lines D. Collisions will not change
14	When the displacement is half of the amplitude the ratio of potential energy to the total energy is	A. 1/2 B. 1/4 C. 1 D. 1/8
15	Two point charge $+3\mu\text{C}$ and $+8\mu\text{C}$ repel each other with a force of 40 N. If a charge of $-5\mu\text{C}$ is added to each of them then the force between will become	A. -10N B. +10N C. +20N D. -20N
16	A motorist travels A to B at a speed of 40 km/h and returns at speed of 60 km/h. His average speed will be:	A. 40 km/h B. 48 km/h C. 50 km/h D. 60 km/h
17	Two forces of 10N and 15N are acting simultaneously on an object in the same direction. Their resultant is	A. Zero B. 5N C. 25N D. 150N
18	Ultra-violet radiation of 6.2 eV falls on an aluminium surface K.E of fastest electrons emitted is (work function = 4.2 eV)	A. 3.2×10^{-21} J B. 3.2×10^{-19} J C. 7×10^{-25} J D. 9×10^{-32} J
19	A particle is moving in a uniform magnetic field then	A. Its momentum changes but total energy remains the same B. Both momentum and total energy remains the same C. Both changes D. Total energy change but momentum remains
20	Two electric bulbs of 200 W and 100 W have same voltage. If R_1 and R_2 be their resistance respectively then	A. $R_1 = 2R_2$ B. $R_1 = 4R_2$ C. $R_1 = 2R_2$ D. $R_1 = 4R_2$