

NAT I Medical Physics

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Sr	Questions	Answers Choice
1	A body is dropped from a tower with zero velocity reaches ground in 4s. The height of the tower is about	A. 80 m B. 20 m C. 160 m D. 40 m
2	A bullet is short from a rifle. As a result the rifle recoils, The kinetic energy of rifle as compared to that of bullet is	A. Less B. Greater C. Equal D. Cannot be concluded
3	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	Aq B. +q C2q D. +4q
4	With the propagation of a longitudinal wave through a material medium the quantities transmitted in the propagation direction are	A. Energy momentum and mass B. Energy C. Energy and mass D. Energy and linear momentum
5	A moving charge will gain energy due to the application of	A. Electric field B. Magnetic C. Both of these D. None of these
6	If two non-zero vector A and B are parallel to each other, then A, B is equal to	A. Zero B. AB C. A + B D. A - B
7	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 $\pi/2$
8	What remains constant when the earth revolves around the sun?	A. Angular momentum B. Linear momentum C. Angular kinetic energy D. Linear kinetic energy
9	A (100 W, 200 V) bulb is connected to a 160 V power supply. The power consumption would be	A. 64 W B. 80 W C. 100 W D. 125 W
10	A 2 kg body and a 3 kg body have equal momentum if the kinetic energy of 3 kg body is 10 j, the KE of 2 kg body will be	A. 6.66 j B. 15 j C. 22.5 j D. 45 j
11	The motion without consideration of its cause is studied in:	A. Kinematics B. Mechanics C. Statics D. Modern Physics
12	The de broglie wave corresponding to a particle of mass m and velocity v has a wavelength associated with it	A. h/mv B. hm v C. mh/v D. m/hv
13	The mass defect for the nucleus of helium is 0.0303 a.m.u What is the binding energy per nucleon for helium in MeV?	A. 28 B. 7 C. 4 D. 1
14	Center of mass is a point	A. Which is geometric center of a body B. From which distance of particles are same C. Where the whole mass of the body is supposed to be centered D. Which is the origin of reference frame

15	In which of the following states does the incandescent substance give continuous spectrum?	A. Vapours in atomic state B. Vapours in molecular state C. Solid or fluid in bulk state D. Solid or fluid in plasma state
16	Two masses of 1 g and 4 g are moving with equal kinetic energies The ratio of the magnitudes of their linear moments is:	A. 4:1 B. √2:1 C. 1:2 D. 1:16
17	Relation between pressure (P) and energy (E) of a gas is	A. P = 2/3 E B. P = 1/3 E C. P = 3/2 E D. P = 3 E
18	A photocell with a constant p.d of V volt across it illuminated by a point source from a distance of 25 cm. When the source is moved to a distance of 1 m, the electrons emitted by the photocell	A. Carry 1/4th their previous energ B. Are 1/6th as numerous as befor C. Are 1/4th as numerous as befor D. Carry 1/4th their previous momentum
19	When sound waves travel from air to water which of these remains constant?	A. Velocity B. Frequency C. Wavelength D. All the above
20	The velocity of falling raindrops attains limited value because of	A. Up thrust of air B. Vlscous force exerted by air C. Surface tension effect D. Air currents atmosphere