

## NAT I Medical Physics

Sr	Questions	Answers Choice
1	Which of the following particle would experience the largest magnetic force when projected with the same velocity perpendicular to a magnetic field?	A. Proton B. Electron C. He <sup>+</sup> D. Li <sup>+</sup>
2	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
3	Mechanical waves on the surface of a liquid are	A. Transverse B. Longitudinal C. Torsional D. Both transverse and longitudinal
4	When a hydrogen atom is bombarded the atom is excited to the $n=4$ state of hydrogen atom. The energy released when the atom falls from $n=4$ state to the ground state is	A. 1.275 eV B. 12.75 eV C. 5 eV D. 8 eV
5	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
6	The percentage errors in the measurements of mass and speed are 2% and 3% respectively. How much estimate of the kinetic energy obtained by measuring mass and speed	A. 11% B. 8% C. 5% D. 1%
7	The magnetic moment of a circular coil carrying current is	A. Directly proportional to the length of the wire in the coil B. Inversely proportional to the length of the wire in the coil C. Directly proportional to the square of the length of the wire in the coil D. Inversely proportional to the square of the length of the wire in the coil
8	The fundamental unit which has same power in the dimensional formula of surface tension and viscosity is:	A. Mass B. Length C. Time D. None
9	If the earth were to rotate faster than its present speed the weight of an object will	A. Increase at the equator but remain unchanged at the poles B. Decrease at the equator but remain unchanged at the poles C. Remain unchanged at the decrease but decrease at the poles D. Remain unchanged at the equator but increase at the poles
10	The motion without consideration of its cause is studied in:	A. Kinematics B. Mechanics C. Statics D. Modern Physics
11	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
12	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
13	Copper and germanium are cooled to 70 K from room temperature then	A. Resistance of copper increases while that of germanium decreases B. Resistance of copper decreases while that of germanium increases

		C. Resistance of both decreases D. Resistance of both increases
14	A particle moving in a magnetic field has increase in its velocity then its radius of the circle	A. Decreases B. Increases C. Remains the same D. Becomes half
15	What remains constant when the earth revolves around the sun?	A. Angular momentum B. Linear momentum C. Angular kinetic energy D. Linear kinetic energy
16	In an L-R circuit time constant is that time in which current grows from zero to the value	A. 0.63   sub>o B. <span style="font-size: 14.44444465637207px;">0.50   span&gt;<sub>o</sub> C. <span style="font-size: 14.44444465637207px;">0.73   span&gt;<sub>o</sub> D. <span style="font-size: 14.44444465637207px;">0.73   span&gt;<sub>o</sub> D. <span style="font-size: 14.44444465637207px;">0.73   span&gt;<sub>o</sub></span></span></span></span>
17	A force of 10N is acting along y-axis its component along x-axis is	A. 10N B. 20N C. 100N D. Zero N
18	The dot product of two vectors is negative when	A. They are parallel vectors B. They are anti-parallel vectors C. They are perpendicular vectors D. None of the above is correct
19	The primary winding of transformer has 500 turns whereas its secondary has 5000 turns. The primary is connected to an a.c supply of 20 V, 50 Hz The secondary will have an output of $\frac{1}{2}$	A. 200 V, 50 Hz B. 2 V, 50 Hz C. 200 V, 500 Hz
20	A body moving in circular motion with constant speed has	A. Constant velocity B. Constant acceleration C. Constant kinetic energy D. Constant displacement