

NAT I Medical Physics

Sr	Questions	Answers Choice
1	Which of the modulus of elasticity is involved in compressing a rod to decrease its length?	A. Young's modulus B. Bulk modulus C. Modulus of rigidity D. None of the above
2	When n-type of semiconductor is heated	A. Number of electrons increases while that of holes decreases B. Number of holes increases while that of electrons decreases C. Number of electrons and holes remains same D. Number of electrons and holes increases equally
3	The time period of a simple pendulum is 2 seconds if its length is increased by 4 times then its period becomes	A. 16 s B. 12 s C. 8 s D. 4 s
4	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 ⁻¹ C. 1 D. 1 ²
5	The nuclear model of atom was proposed by	A. J.J Thomson B. E.Rutherford C. Neil Bohr D. Summerfield
6	A moving charge will gain energy due to the application of	A. Electric field B. Magnetic C. Both of these D. None of these
7	The half life of a radio-isotope is 5 years The fraction of atoms decayed in this substance after 15 years will be	A. 1 B. 3/4 C. 7/8 D. 5/8
8	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
9	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
10	A cable breaks if stretched by more than 2 mm it is cut into two equal parts how much either part can be stretched without breaking?	A. 0.25 m B. 0.5 m C. 1 mm D. 2 mm
11	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. √m ₁ : √m ₂ B. m ₁ : m ₂ C. m ₂ C. m ₂ : m ₁ D. m ₁ Sub>1 Sub>1 ₁ ₁ sub>2 : <span< td=""></span<>

		style= ront-size: 14.44444465637207px;">m ₂ ²
12	A ten-ohm electric heater operates on a 110 V line Calculate the rate at which it develops heat in watts:	A. 1310 W B. 670 W C. 810 W D. 1210 W
13	Which of the following lists of physical quantities consists only of vectors:	A. Time,temperature,velocity B. Force,volume,momentum C. Velocity,acceleration,mass D. Force,acceleration,velocity
14	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
15	The essential distinction between X-rays and y-rays is that	A. y-rays have smaller wavelength than X-rays B. y-rays emanate from nucleus while X-rays emanate from outer part of the atom C. y-rays have greater ionizing power than X-rays D. y-rays are more penetrating than X-rays
16	Band spectrum in produced by	A. H B. He C. H ₂ D. Na
17	What will be the duration of the day and night (in hour) if the diameter of the earth is suddenly reduced to half its original value the mass remaining constant?	A. 12 B. 6 C. 3 D. 2
18	To make the frequency double of na oscillator we have to	A. Double the mass B. Half the mass C. Quadruple the mass D. Reduce the mass to one-fourth
19	If a diamagnetic substance is brought near north or south pole of a bar magnet it is	A. Attracted by the poles B. Repelled by the poles C. Repelled by north pole and attracted by the south pole D. Attracted by the north pole and repelled by the south pole
20	Mechanical waves on the surface of a liquid are	A. Transverse B. Longitudinal C. Torsional D. Both transverse and longitudinal