

NAT I Medical Physics

Sr	Questions	Answers Choice
1	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
2	In an L-R circuit time constant is that time in which current grows from zero to the value	A. 0.63 B. 0.50 C. 0.73 D. 0.73
3	The product of the pressure and volume of an ideal gas is	A. A constant B. Approximately equal to the universal gas constant C. Directly Proportional to its temperature D. Inversely proportional to its temperature
4	With the increase of temperature viscosity	A. Increase B. Decrease C. Remains same D. Doubles
5	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
6	An ideal choke (used along with fluorescent tube) would be	A. A pure resistor B. A pure capacitor C. A pure inductor D. A combination of an inductor and a capacitor
7	If in a moving coil galvanometer a current 1 produces a deflection θ then	A. $i \propto \tan \theta$ B. $i \propto \theta^2$ C. $i \propto \theta$ D. $i \propto \sqrt{\theta}$
8	The motion without consideration of its cause is studied in:	A. Kinematics B. Mechanics C. Statics D. Modern Physics
9	A piece of fuse wire melts when a current of 15 ampere flows through it. With this current, if it dissipates 22.5 W. the resistance of fuse wire will be	A. Zero B. 10Ω C. 1Ω D. 0.10Ω
10	The sieman is the SI unit of	A. Resistance B. Specific Resistance C. Conductance D. Inductance
11	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
12	Which of the following sources give discrete emission spectrum?	A. Incandescent electric bulb B. Sun C. Mercury vapour lamp D. Candle
13	A charge Q is divided into two parts q and Q - q and separated by a distance R. the force of	A. $q = Q/4$ B. $q = Q/2$

	repulsion between them will be maximum when:	C. $q = Q$ D. None of these
14	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
15	Which quantity is increased in step-down transformer?	A. Current B. Voltage C. Power D. Frequency
16	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
17	A body moves a distance of 10 m along a straight line under the action of a force of 5 Newtons, if the work done is 25 joules the angle which the force takes with the direction of motion of the body is:	A. 0° B. 30° C. 60° D. 90°
18	The velocity of a particle at an instant is 10 m/s and after 5 s the velocity of the particle is 20 m/s.The velocity 3s before in m/s is:	A. 8 B. 4 C. 6 D. 7
19	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
20	A photoelectric cell converts	A. Electrical energy to light energy B. Light energy to light energy C. Light energy to electrical energy D. Light energy to elastic energy