

NAT I Medical Physics

Sr	Questions	Answers Choice
1	Which quantity is increased in step-down transformer?	A. Current B. Voltage C. Power D. Frequency
2	Which one of the following is a simple harmonic motion?	A. Wave moving through a string fixed at both ends. B. Earth spinning about its own axis C. Ball bouncing between two rigid vertical walls D. Particle moving in a circle with uniform speed.
3	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
4	What will be the ratio of the distance moved by a freely falling body from rest in 4 th and 5 th seconds of journey?	A. 4 : 5 B. 7 : 9 C. 16 : 25 D. 1 : 1
5	Boyle's law is applicable in	A. Isochoric process B. Isothermal process C. Isobaric process D. Isotonic process
6	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
7	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
8	There are discrete energy levels in atoms. It was first experimentally demonstrated by	A. Rutherford's experiment B. Frank Hertz experiment C. Marsden's experiment D. Sommerfield experiment
9	A particle moves along a circular path under the action of a force. The work done by the force is	A. Zero B. Positive and non-zero C. Negative and non zero D. None of above
10	Electrons in the atom are held in the atom due to	A. Coulomb forces B. Nuclear forces C. Gravitational forces D. Van der Waal's forces
11	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
12	A p-n junction has a thickness of the order of	A. 1 cm B. 1 mm C. 10^{-6} cm D. 10^{-12} cm
		A. Zero

13	Two forces of 10N and 15N are acting simultaneously on an object in the same direction. Their resultant is	B. 5N C. 25N D. 150N
14	For production of beats the two sources must have	A. Different frequencies and same amplitude B. Different frequencies C. Different frequencies same amplitude and same phase D. Different frequencies and same phase.
15	The dimensional formula of torque is:	A. $[ML^2T^{-2}]$ B. $[ML^2T^{-1}]$ C. $[ML^2T^{-1}]$ D. $[ML^2T^{-2}]$
16	A 220 V, 50 Hz, AC source is connected to an inductance of 0.2.H and a resistance of 20 ohm in series What is the current in the circuit?	A. 10 A B. 5 A C. 33.3 A D. 3.33 A
17	A body moving in circular motion with constant speed has	A. Constant velocity B. Constant acceleration C. Constant kinetic energy D. Constant displacement
18	Two point charges placed at distance of 20 cm in air repel each other with a certain force. When a dielectric slab of thickness 8 cm and dielectric constant K is introduced between these point charges force of interaction becomes half of its previous value Then K is approximately.	A. 2 B. 4 C. $\sqrt{2}$ D. 1
19	In a voltmeter the conduction takes place due to	A. Electrons only B. Holes only C. Electrons and holes D. Electrons and ions
20	Which of the following is not thermo dynamical function?	A. Enthalpy B. Work done C. Gibb's energy D. Internal energy