

NAT I Medical Physics

Sr	Questions	Answers Choice
1	Boyle's law is applicable in	A. Isochoric process B. Isothermal process C. Isobaric process D. Isotonic process
2	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 $\pi/2$
3	A person standing near the track of a fast moving train has tendency to fall towards it because of	A. Vibration due to motion of train B. Gravitation force of attraction between person and trains C. The high speed of train D. Some other effect
4	The conductivity of a superconductor is	A. Infinite B. Very large C. Very small D. Zero
5	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.
6	In which region of electromagnetic spectrum does the Lyman series of hydrogen atom lie	A. Ultraviolet B. Infra red C. Visible D. X-ray
7	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
8	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
9	The dimensional formula of torque is:	A. $[ML^2T^{-2}]$ B. $[ML^2T^{-1}]$ C. $[ML^2T^{-2}]$ D. $[ML^2T^{-1}]$
10	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 C. 1 D. 1^2
11	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 ⁺ D. Li ⁺

12	The smooth or steady stream-line flow is know as	A. Laminar flow B. Turbulent flow C. Both a and b D. None of the above
13	The excess (equal in number) of electrons that must be placed on each of two small spheres spaced 3 cm apart. with force of repulsion between the spheres to be 10^{-19} N is	A. 25 B. 225 C. 625 D. 1250
14	The nuclear model of atom was proposed by	A. J.J Thomson B. E.Rutherford C. Neil Bohr D. Summerfield
15	A prism splits a beam of white light into its seven constituent colors this is so because	A. Phase of different colors is different B. Amplitude of different colors is different C. Energy of different colors is different D. Velocity of different colors is different
16	Which of the following is the only vector quantity	A. Temperature B. Energy C. Power D. Momentum
17	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
18	The structure of solids is investigated by using	A. Cosmic Rays B. X-rays C. Intra red Radiation D. y-rays
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	A. 200 V, 50 Hz B. 2 V, 50 Hz C. 200 V, 500 Hz
20	In which case application of angular velocity is useful?	A. When a body is rotating B. When velocity of body is in a straight line C. When velocity is in a straight line D. None of these