

## NAT I Medical Physics

Sr	Questions	Answers Choice
1	The distance between node and anti-node is	A. $\lambda$ B. $\lambda/2$ C. $\lambda/4$ D. $2\lambda$
2	As the electron in Bohr orbit of hydrogen atom passes from stat $n = 2$ to $n = 1$ the kinetic energy K and potential energy U change as	A. K two-fold,U also two-fold B. K four-fold,U also four-fold C. K four-fold,U two-fold
3	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
4	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
5	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
6	If yellow light emitted by sodium lamp in Young's double slit experiment is replaced by monochromatic blue light of the same intensity	A. Fringe width will decrease B. Fringe width will increase C. The fringe width will remain unchanged D. Fringes will become less intense
7	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
8	At $0^\circ$ K which of the following properties of a gas will be zero?	A. Kinetic energy B. Potential energy C. Vibrational enegy D. Density
9	What is the average energy of N molecules of monoatomic gas?	A. $1/2 NkT$ B. $NkT$ C. $3/2 NkT$ D. $5/2 NkT$
10	Huygen's wave theory of light cannot explain	A. Diffraction B. Interference C. Polarization D. Photoelectric effect
11	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
12	A sun rise or sun set, the sun looks reddish because.	A. The sun is coldest at these times B. Of the effects of reflection and refraction C. The sun is hottest at these times D. Of the scattering of light
13	A charge Q is divided into two parts q and Q - q and separated by a distance R. the force of repulsion between them will be maximum when:	A. $q = Q/4$ B. $q = Q/2$ C. $q = Q$ D. None of these
		A. In the same direction

14	If the dot product of two non-zero vectors vanishes the vectors will be	B. Opposite to each other C. Perpendicular to each other D. Zero
15	To explain his theory Bohr used	A. Conservation of linear momentum B. Conservation of angular momentum C. Conservation of quantum frequency D. Conservation of energy
16	A force of 10N is acting along y-axis its component along x-axis is	A. 10N B. 20N C. 100N D. Zero N
17	Two electric bulbs of 200 W and 100 W have same voltage. If R1 and R2 be their resistance respectively then	A. $R_1 = 2R_2$ B. $R_1 = 4R_2$ C. $R_1 = 2R_2$ D. $R_1 = 4R_2$
18	To get a resultant displacement of 10 m, two displacement vectors of magnitude 6 m and 8 m should be combined	A. Parallel B. Antiparallel C. At angle 60° D. Perpendicular to each other
19	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
20	The structure of solids is investigated by using	A. Cosmic Rays B. X-rays C. Intra red Radiation D. y-rays