

## NAT I Medical Physics

Sr	Questions	Answers Choice
1	The volt/metre is the unit of:	A. Potential B. Work C. Force D. Electric field intensity
2	What remains constant in the field of central force?	A. Potential energy B. Kinetic energy C. Angular momentum D. Linear momentum
3	What is the ratio of r.m.s velocity for O <sub>2</sub> to H <sub>2</sub> ?	A. 1/4 B. 4 C. $\sqrt{4} : 1$ D. $1 : \sqrt{4}$
4	A couple produces	A. Purely linear motion B. Purely rotational motion C. Linear and rotational motion D. No motion
5	What is the average energy of N molecules of monoatomic gas?	A. $1/2 NkT$ B. $NkT$ C. $3/2 NkT$ D. $5/2 NkT$
6	In an ac circuit with voltage V and current I the power dissipated is	A. VI B. $1/2 VI$ C. $1/\sqrt{2} VI$ D. Depends on the phase between V and I
7	In a voltmeter the conduction takes place due to	A. Electrons only B. Holes only C. Electrons and holes D. Electrons and ions
8	The terminal velocity of a small size spherical body of radius R moving in a fluid varies as	A. R B. $R^2$ C. $1/R$ D. $(1/R)^2$
9	Which of the following four statements is false?	A. A body can have zero velocity and still be accelerated B. A body can have a constant velocity and still have a varying speed C. A body can have a constant speed and still have a varying velocity D. The direction of the velocity of a acceleration is constant
10	If the period of oscillation of mass (M) suspended from a spring is 2s, then the period of mass 4M will be	A. 1 s B. 2 s C. 3 s D. 4 s
11	With the propagation of a longitudinal wave through a material medium the quantities transmitted in the propagation direction are	A. Energy momentum and mass B. Energy C. Energy and mass D. Energy and linear momentum
12	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
13	In which region of electromagnetic spectrum does the Lyman series of hydrogen atom lie	A. Ultraviolet B. Infra red C. Visible D. X-ray
		A. Phase of different colors is different B. Amplitude of different colors is

14	A prism splits a beam of white light into its seven constituent colors this is so because	different C. Energy of different colors is different D. Velocity of different colors is different
15	Which one of the following phenomena is not explained by Huygen's construction of wavefront?	A. Refraction B. Reflection C. Diffraction D. Origin of spectra
16	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
17	A person standing on a rotating platform has his hands lowered He suddenly outstretches his arms.The angular momentum	A. Becomes zero B. Increases C. Decreases D. Remains the same
18	The dot product of two vectors is negative when	A. They are parallel vectors B. They are anti-parallel vectors C. They are perpendicular vectors D. None of the above is correct
19	A monochromatic source of light is placed at a large distance $d$ from a metal surface Photoelectrons are ejected at rate $n$ ,kinetic energy being $E$ . If the source is brought nearer to distance $d/2$ , the rate and kinetic energy per photoelectron become nearly	A. $2n$ and $2E$ B. $4n$ and $4e$ C. $4n$ and $E$ D. $N$ and $4E$
20	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