NAT I Medical Physics

Sr	Questions	Answers Choice
1	A photocell with a constant p.d of V volt across it illuminated by a point source from a distance of 25 cm. When the source is moved to a distance of 1 m, the electrons emitted by the photocell	A. Carry 1/4th their previous energy B. Are 1/6th as numerous as before C. Are 1/4th as numerous as before D. Carry 1/4th their previous momentum
2	Two bodies with masses M_A and M_B are moving with equal kinetic energy.Their linear moments are numerically in a ratio $\|P_A\| : \|P_B\|$ will be:	A. M_B: M_A B. M_A: M_B C. √M_A : √M_B D. M_A²: M_B²
3	With the increase of temperature viscosity	A. Increase B. Decrease C. Remains same D. Doubles
4	The percentage errors in the measurements of mass and speed are 2% and 3% respectively. How much estimate of the kinetic energy obtained by measuring mass and speed	A. 11% B. 8% C. 5% D. 1%
5	If the metal bob is a simple pendulum is replaced by a wooden bob, then its time period will	A. Increase B. Decreases C. Remain the same D. First 'A' then 'B'
6	Which of the following is not thermo dynamical function?	A. Enthalpy B. Work done C. Gibb's energy D. Internal energy
7	The magnetic moment of a circular coil carrying current is	A. Directly proportional to the length of the wire in the coil B. Inversely proportional to the length of the wire in the coil C. Directly proportional to the square of the length of the wire in the coil D. Inversely proportional to the square of the length of the wire in the coil
8	At 0° K which of the following properties of a gas will be zero?	A. Kinetic energy B. Potential energy C. Vibrational enegy D. Density
9	In a simple harmonic motion the kinetic energy (KE) and the potential energy (PE), are such that throughout the motion	A. KE remains constant B. PE remains constant C. KE/PE is constant D. KE + PE remains constant
10	A point charge Q is placed at the mid-point of a line joining two charges 4q and q. if the net force on charge q is zero. then Q must be equal to	A. -q B. +q C. -2q D. +4q

11	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. √2 D. 1
12	The volt/metre is the unit of:	A. Potential B. Work C. Force D. Electric field intensity
13	In which case dose the potential energy decreases?	A. On compressing a spring B. On stretching s spring C. One moving a body against gravitational force D. One the rising of an air bubble in water
14	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
15	The terminal velocity of a small size spherical body of radius R moving in a fluid varies as	A. R B. R² C. 1/R D. (1/R)²
16	Shunt required in an ammeter of resistance R to decrease its deflection from 30 ampere to 10 ampere is	A. R/4 B. R/3 C. R/2 D. R
17	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
18	Blood has a density	A. Equal to water B. Greater then water C. Lesser then water D. None of these
19	Which of the following sources give discrete emission spectrum?	A. Incandescent electric bulb B. Sun C. Mercury vapour lamp D. Candle
20	Two forces are acting together on an object. The magnitude of their resultant is minimum when the angle between the force is.	A. 0° B. 60° C. 120° D. 180°