NAT I Medical Physics

Sr	Questions	Answers Choice
1	A piece of fuse wire melts when a current of 15 ampere flows through it.With this current, if it dissipates 22.5 W. the resistance of fuse wire will be	A. Zero B. 10 Ω C. 1 Ω D. 0.10 Ω
2	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
3	Two points charges A and B separated by a distance R attract each other with a force of 12 x 10^{-3} N. The force between A and B when the charges on them are doubled and distance is halved	A. 1.92 N B. 19.2 N C. 12 N D. 0.192 N
4	At a certain instant a stationary transverse wave is found to have maximum kinetic energy the appearance of string of that instant is:	A. Sinusoidal shape with amplitude A/3 B. Sinusoidal shape with amplitude A/2 C. Sinusoidal shape with amplitude A D. Straight line
5	The number of translation degrees of freedom for a diatomic gas is	A. 2 B. 3 C. 5 D. 6
6	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
7	A body moves a distance of 10 m along a straight line under the action of a force of 5 Newtons, if the work done is 25 joules the angle which the force takes with the direction of motion of the body is:	A. 0° B. 30° C. 60° D. 90°
8	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
9	If the dot product of two non-zero vectors vanishes the vectors will be	A. In the same direction B. Opposite to each other C. Perpendicular to each other D. Zero
10	The twinkling of stars is due to	A. The fact that stars do not emit light continuously B. The refractive index of the earth's atmosphere fluctuate C. Intermittent absorption of star light by its own atmosphere D. None of them
11	The distance between node and anti-node is	A. λ B. λ/2 C. λ/4 D. 2λ
12	Copper and germanium are cooled to 70 K from room temperature then	A. Resistance of copper increases while that of germanium decreases B. Resistance of copper decreases while that of germanium increases C. Resistance of both decreases D. Resistance of both increases
13	Two point charge +3μC and +8μC repel each other with a force of 40 N. if a charge of -5μC is added to each of them then the force between will become	A. -10N B. +10N C. +20N

		D. -20N
14	Which of the following is the only vector quantity	A. Temperature B. Energy C. Power D. Momentum
15	The part of a transistor which is heavily doped to produce large number of majority carriers is	A. Emitter B. Base C. Collector D. Any of the above depending on nature of transistor.
16	What remains constant in the field of central force?	A. Potential energy B. Kinetic energy C. Angular momentum D. Linear momentum
17	Two forces of 10N and 15N are acting simultaneously on an object in the same direction. Their resultant is	A. Zero B. 5N C. 25N D. 150N
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 motorist travels A to B at a speed at 40 km/h and returns at speed of 60 km/h. His average speed will be:	A. 40 km/h B. 48 km/h C. 50 km/h D. 60 km/h
20	To make the frequency double of na oscillator we have to	A. Double the mass B. Half the mass C. Quadruple the mass D. Reduce the mass to one-fourth