

NAT I Medical Physics

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Sr	Questions	Answers Choice
1	Which quantity is increased in step-down transformer?	A. Current B. Voltage C. Power D. Frequency
2	A body of mass 2 kg is thrown up vertically with K.E of 490 joules If the acceleration due to gravity is 9.8 m/s^2 the height at which the K.E of the body becomes half its original value is give by:	A. 50 m B. 12.5 m C. 25 m D. 10 m
3	In which region of electromagnetic spectrum does the Lyman series of hydrogen atom lie	A. Ultraviolet B. Infra red C. Visible D. X-ray
4	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
5	If two non-zero vector \overline{A} and \overline{B} are parallel to each other, then \overline{A} , \overline{B} is equal to	A. Zero B. AB C. A + B D. A - B
6	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
7	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
8	A ten-ohm electric heater operates on a 110 V line Calculate the rate at which it develops heat in watts:	A. 1310 W B. 670 W C. 810 W D. 1210 W
9	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
10	The modulus of rigidity of a liquid is	A. Zero B. 1 C. Infinity D. A value not one of those mentioned above
11	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/B. Sinusoidal shape with amplitude A/C. Sinusoidal shape with amplitude A/D. Straight line
12	In a Millikan's oil drop experiment the charge on an oil drop is calculated to be 6.35×10 -19 C. The number of excess electrons on the drop is	A. 3.9 B. 4 C. 4.2 D. 6
13	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
14	The structure of solids is investigated by using	A. Cosmic Rays B. X-rays C. Intra red Radiation D. y-rays
15	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 ⁻¹ C. 1

		D. 1 ²
16	What remains constant when the earth revolves around the sun?	A. Angular momentum B. Linear momentum C. Angular kinetic energy D. Linear kinetic energy
17	In an L-R circuit time constant is that time in which current grows from zero to the value	A. 0.63 sub>o B. 0.50 sypan syle="font-size: 14.4444465637207px;">0.73 sypan syle="font-size: 14.4444465637207px;">0.73 sypan syle="font-size: 14.44444465637207px;"> sypan syle="font-size: 14.44444465637207px;"> sypan syle="font-size: 14.44444465637207px;"> sypan syle="font-size: 14.44444465637207px;"> syle="font-size: 14.4444465637207px;"> syle="font-size: 14.4444465637207px;"> syle="font-size: 14.4444465637207px;"> syle="font-size: 14.4444465637207px;"> syle="font-size: 14.4444465637207px;"> syle="font-size: 14.4444465637207px;"> syle="font-size: 14.444465637207px;"> syle="font-size: 14.444465637207px;"> syle="font-size: 14.444465637207px;"> syle="font-size: 14.4444465637207px;"> syle="font-size: 14.444465637207px;"> syle="font-size: 14.444465637207px;"> syle="font-size: 14.444465637207px;"> syle="font-size: 14.444465637207px;"> syle="font-size: 14.444465637207px;"> syle="font-size:
18	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
19	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%
20	A cable breaks if stretched by more than 2 mm it is cut into two equal parts how much either part can be stretched without breaking?	A. 0.25 m B. 0.5 m C. 1 mm D. 2 mm