

NAT I Engineering Physics

Sr	Questions	Answers Choice
1	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
2	Planck's constant has the dimensions of:	A. Energy B. Momentum C. Frequency D. Angular momentum
3	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
4	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
5	Which of the modulus of elasticity is involved in compressing a rod to decrease its length?	A. Young's modulus B. Bulk modulus C. Modulus of rigidity D. None of the above
6	The distance between node and anti-node is	A. λ B. $\lambda/2$ C. $\lambda/4$ D. 2λ
7	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
8	When the displacement is half of the amplitude the ratio of potential energy to the total energy is	A. 1/2 B. 1/4 C. 1 D. 1/8
9	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
10	Two points charges A and B separated by a distance R attract each other with a force of 12×10^{-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
11	The direction of induced current is such that it opposes the very cause that has produced it This is the law of	A. Lenz B. Faraday C. Kirchoff D. Fleming
12	In a capacitive circuit	A. Current leads voltage by phase of $\pi/2$ B. Voltage leads current by phase of $\pi/2$ C. Current and voltage are in same phase D. Sometime current and sometime voltage leads
13	Which of the following is the only vector quantity	A. Temperature B. Energy C. Power D. Momentum
14	With the increase of temperature viscosity	A. Increase B. Decrease C. Remains same D. ...

D. Doubles

15	The time period of a simple pendulum is 2 seconds if its length is increased by 4 times then its period becomes	A. 16 s B. 12 s C. 8 s D. 4 s
16	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°
17	A (100 W, 200 V) bulb is connected to a 160 V power supply. The power consumption would be	A. 64 W B. 80 W C. 100 W D. 125 W
18	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
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	Relation between pressure (P) and energy (E) of a gas is	A. $P = 2/3 E$ B. $P = 1/3 E$ C. $P = 3/2 E$ D. $P = 3 E$