

NAT II Physical Science Physics

Sr	Questions	Answers Choice
1	Two point 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
2	Energy is stored in the choke coil in the form of	A. Heat B. Magnetic energy C. Electric energy D. Electro-magnetic energy
3	In Which case does the potential energy decreases?	A. On compressing a spring B. On stretching a spring C. One moving a body against gravitational force D. One the rising of an air bubble in water
4	A train of 150 m length is going towards north direction at a speed of 10 ms ⁻¹ . A parrot flies at a speed of 5 ms ⁻¹ towards south direction parallel to the railway track. The time taken by the parrot to cross the train is equal to	A. 12 s B. 8 s C. 15 s D. 10 s
5	In Young's experiment, two coherent sources are placed 0.90 mm apart and the fringes are observed one metre away. If its produces the second dark fringe at a distance of 1 mm from the central fringe, the wavelength of monochromatic light used would be	A. 60 x 10 ⁻⁴ cm B. 10 x 10 ⁻⁴ cm C. 10 x 10 ⁻⁵ cm D. 6 x 10 ⁻⁵ cm
6	Quantity that remains unchanged in a transformer is	A. Voltage B. Current C. Frequency D. None of these
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	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
9	The volt/metre is the unit of:	A. Potential B. Work C. Force D. Electric field intensity
10	The dimensional formula of torque is:	A. [ML ² T ⁻²] B. {MLT ⁻²] C. [ML ⁻¹ T ⁻²] D. [ML ⁻² T ⁻²]
11	A particle moving in a magnetic field has increase in its velocity, then its radius of the circle	A. Decreases B. Increases C. Remains the same D. Becomes half
12	A 2 kg body and a 3 kg body have equal momentum. If the kinetic energy of 3 kg body is 10 J, the KE of 2 kg body will be	A. 6.66 J B. 15 J C. 22.5 J D. 45 J
13	For production of beats the two sources must have	A. Different frequencies and same amplitude B. Different frequencies C. Different frequencies, same amplitude and same phase D. Different frequencies and same phase

14	A conducting wire is drawn to double its length. Final resistivity of the material will be	A. Double of the original one B. Half of the original one C. One-fourth of the original one D. Same as original one
15	Planck's constant has the dimensions of:	A. Energy B. Momentum C. Frequency D. Angular momentum
16	In a common base transistor circuit, the current gain is 0.98. On changing the emitter current by 5.00 mA, the change in collector current is	A. 0.916 mA B. 2.45 mA C. 4.9 mA D. 5.1 mA
17	To increase the magnification of a telescope	A. The objective lens should be of large focal length and eyepiece should be of short focal length B. The objective and eyepiece both should be of large focal lengths C. Both the objective and eyepiece should be of smaller lengths D. The objective should be small foc length and eyepiece should be of large focal length
18	To make the frequency double of an 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 nucleus 6C12 absorbs an energetic neutron and emits a beta particle (β). The resulting nucleus is	A. ₇ N ¹⁴ B. ₅ B ¹³ C. ₇ N ¹³ D. ₆ C ¹³
20	Absolute temperature can be calculated by	A. Mean square velocity B. Motion of the molecule C. Both A and B D. None of these