

## NAT II Physical Science Physics

Sr	Questions	Answers Choice
1	When n-type of semiconductor is heated	<p>A. Number of electrons increases while that of holes decreases</p> <p>B. Number of holes increases while that of electron decreases</p> <p>C. Number of electrons and holes remains same</p> <p><b>D. Number of electrons and holes increases equally</b></p>
2	Two electric bulbs of 200 W and 100 W have same voltage. If $R_1$ and $R_2$ be their resistance respectively then	<p>A. <math>R_1 = 2R_2</math></p> <p><b>B. <math>R_2 = 2R_1</math></b></p> <p>C. <math>R_2 = 4R_1</math></p> <p>D. <math>R_1 = 4R_2</math></p>
3	The unit of electric current 'ampere' is the amount of current flowing through each of two parallel wires 1 m apart and of infinite length will give rise to a force between them equal to	<p>A. 1 N/m</p> <p><b>B. <math>2 \times 10^{-7}</math> N/m</b></p> <p>C. <math>1 \times 10^{-2}</math> N/m</p> <p>D. <math>4 \times 10^2</math> N/m</p>
4	The volt/metre is the unit of:	<p>A. Potential</p> <p>B. Work</p> <p>C. Force</p> <p><b>D. Electric field intensity</b></p>
5	A prism splits a beam of white light into its seven constituent colors. This is so because	<p>A. Phase of different colors is different</p> <p>B. Amplitude of different colors is different</p> <p>C. Energy of different colors is different</p> <p><b>D. Velocity of different colors is different</b></p>
6	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	<p>A. <math>60 \times 10^{-4}</math> cm</p> <p>B. <math>10 \times 10^{-4}</math> cm</p> <p>C. <math>10 \times 10^{-5}</math> cm</p> <p><b>D. <math>6 \times 10^{-5}</math> cm</b></p>
7	The number of turns in the primary coil of a transformer is 200 and the number of turns in the secondary coil is 10. If 240 volts ac are applied to the primary, the output the secondary will be	<p>A. 48A</p> <p>B. 24V</p> <p><b>C. 12V</b></p> <p>D. 6V</p>
8	Light appears to travel in straight lines since	<p>A. It is not absorbed by the atmosphere</p> <p>B. It is reflected by the atmosphere</p> <p><b>C. Its wavelength is very small</b></p> <p>D. Its velocity is very large</p>
9	Angular momentum is	<p><b>A. Vector (axial)</b></p> <p>B. Vector (polar)</p> <p>C. Scalar</p> <p>D. None of these</p>
10	What remains constant when the earth revolves around the sun?	<p><b>A. Angular momentum</b></p> <p>B. Linear momentum</p> <p>C. Angular kinetic energy</p> <p>D. Linear kinetic energy</p>
11	When the length of a microscope tube increases, its magnifying power	<p>A. Decreases</p> <p><b>B. Increases</b></p> <p>C. May increases or decreases depending on the observer and the place of observation</p> <p>D. Does not change</p>
12	If the amplitude of sound is doubled and the frequency reduced to one-fourth, the intensity of sound at the same point will be	<p>A. Increasing by a factor of 2</p> <p>B. Decreasing by a factor of 2</p> <p><b>C. Decreasing by a factor of 4</b></p> <p>D. Unchanged</p>
13	Which of the following lists of physical quantities consists only of vectors:	<p>A. Time, temperature, velocity</p> <p>B. Force, volume, momentum</p> <p>C. Velocity, acceleration, mass</p> <p><b>D. Force, acceleration, velocity</b></p>

14	If the metal bob of a simple pendulum is replaced by a wooden bob, then its time period will	<p>A. Increases  B. Decreases  <b>C. Remain the same</b>  D. First A then B</p>
15	The mass of a proton is 1847 times that of an electron. An electron and a proton are projected into a uniform electric field in a direction at right angles to the direction of the field with the same initial kinetic energy. The	<p><b>A. Both the trajectories will be equally curved</b>  B. The proton trajectory will be less curved than the electron trajectory  C. The electron trajectory will be less curved than the proton trajectory  D. The relative curving of the trajectories will be dependent on the value of the initial kinetic energy</p>
16	A body moves a distance of 10 m along a straight line under the action of a force of 5 Newton's. If the work done is 25 joules, the angle which the force takes with the direction of motion of the body is:	<p>A. <math>0^\circ</math>  B. <math>30^\circ</math>  <b>C. <math>60^\circ</math></b>  D. <math>90^\circ</math></p>
17	What will be the duration of the day and night (in hour) if the diameter of the earth is suddenly reduced to half its original value, the mass remaining constant?	<p>A. 12  <b>B. 6</b>  C. 3  D. 2</p>
18	The peak voltage in 220 volt A.C. supply is nearly	<p>A. 220 volt  B. 253 volt  <b>C. 311 volt</b>  D. 440 volt</p>
19	The product of the pressure and volume of an ideal gas is	<p>A. A constant  B. Approximately equal to the universal gas constant  <b>C. Directly proportional to its temperature</b>  D. Inversely proportional to its temperature</p>
20	In an A.C. circuit, a resistance of R ohm is connected in series with an inductance L. If phase angle between voltage and current be $45^\circ$ , the value of inductive reactance will be	<p>A. <math>R/4</math>  B. <math>R/2</math>  <b>C. R</b>  D. Cannot be found with the given data</p>