

NAT II Physical Science Physics

Sr	Questions	Answers Choice
1	The velocity of falling raindrops attains limited value because of	<p>A. Up thrust of air</p> <p>B. Viscous force exerted by air</p> <p>C. Surface tension effect</p> <p>D. Air currents atmosphere</p>
2	A person standing near the track of a fast moving train has tendency to fall towards it because of	<p>A. Vibration due to motion of train</p> <p>B. Gravitation force of attraction between person and trains</p> <p>C. The high speed of train</p> <p>D. Some other effect</p>
3	The product of the pressure and volume of an ideal gas is	<p>A. A constant</p> <p>B. Approximately equal to the universal gas constant</p> <p>C. Directly proportional to its temperature</p> <p>D. Inversely proportional to its temperature</p>
4	Two forces are acting together on an object. The magnitude of their resultant is minimum when the angle between the force is	<p>A. 0°</p> <p>B. 60°</p> <p>C. 120°</p> <p>D. 180°</p>
5	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. $R_1 = 2R_2$</p> <p>B. $R_2 = 2R_1$</p> <p>C. $R_2 = 4R_1$</p> <p>D. $R_1 = 4R_2$</p>
6	Radio waves of constant amplitude can be generated with	<p>A. Rectifier</p> <p>B. Filter</p> <p>C. FET</p> <p>D. oscillator</p>
7	The part of a transistor which is heavily doped to produce large number of majority carriers is	<p>A. Emitter</p> <p>B. Base</p> <p>C. Collector</p> <p>D. Any of the above depending on nature of transistor</p>
8	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>C. 12V</p> <p>D. 6V</p>
9	The essential distinction between X-rays and γ -rays is that	<p>A. γ-rays have smaller wavelength than X-rays</p> <p>B. γ-rays emanate from nucleus while X-rays emanate from outer part of the atom</p> <p>C. γ-rays have greater ionizing power than X-rays</p> <p>D. γ-rays are more penetrating than X-rays</p>
10	If the dot product of two non-zero vectors vanishes, the vectors will be	<p>A. In the same direction</p> <p>B. Opposite to each other</p> <p>C. Perpendicular to each other</p> <p>D. Zero</p>

11	A lens behaves as a converging lens in air and a diverging lens in water. The refractive index of the material is	A. Equal to unity B. Equal to 1.33 C. Between unity and 1.33 D. Greater than 1.33
12	A voltmeter has resistance of 2000 ohms and it can measure up to 2V. If we want to increase its range to 10V then required resistance in series will be	A. 2000 ohm B. 4000 ohm C. 6000 ohm D. 8000 ohm
13	Which one of the following is a simple harmonic motion?	A. Wave moving through a string fixed at both ends B. Earth spinning about its own axis C. Ball bouncing between two rigid vertical walls D. Particle moving in a circle with uniform speed
14	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
15	According to Hooke's law the force required to change the length of a wire by 'l' is proportional to	A. l^2 B. l C. l D. l^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	A monochromatic source of light is placed at a large distance d from a metal surface. Photoelectrons are ejected at rate n, kinetic energy being E. If the source is brought nearer to distance d/2, the rate and kinetic energy per photoelectron become nearly	A. 2n and 2E B. 4n and 4E C. 4n and E D. n and 4E
18	A 220 V, 50 Hz A.C. source is connected to an inductance of 0.2 H and a resistance of 20 ohm in series. What is the current in the circuit?	A. 10 A B. 5 A C. 33.3 A D. 3.33 A
19	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 ohm C. 1 ohm D. 0.10 ohm
20	In which case does the potential energy decrease?	A. On compressing a spring B. On stretching a spring C. On moving a body against gravitational force D. On the rising of an air bubble in water