

## NAT II Physical Science Physics

Sr	Questions	Answers Choice
1	Two sources of sound are said to be coherent if	<p>A. They produce sounds of equal intensity</p> <p>B. They produce sounds of equal frequency</p> <p>C. They produce sound waves vibrating with the same phase</p> <p>D. They produce sound waves with zero or constant phase different all instant of time</p>
2	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>
3	Which of the following particles would experience the largest magnetic force when projected with the same velocity perpendicular to a magnetic field?	<p>A. Proton</p> <p>B. Electron</p> <p>C. He<sup>+</sup></p> <p>D. Li<sup>+</sup></p>
4	A train of 150 m length is going towards north direction at a speed of 10 ms <sup>-1</sup> . A parrot flies at a speed of 5 ms <sup>-1</sup> towards south direction parallel to the railway track. The time taken by the parrot to cross the train is equal to	<p>A. 12 s</p> <p>B. 8 s</p> <p>C. 15 s</p> <p>D. 10 s</p>
5	The nuclear model of atom was proposed by	<p>A. J.J Thomson</p> <p>B. E. Rutherford</p> <p>C. Neil Bohr</p> <p>D. Summerfield</p>
6	According to classical theory the proposed circular path of an electron in Rutherford model of atom will be	<p>A. Circular</p> <p>B. Straight line</p> <p>C. Parabolic</p> <p>D. Spiral</p>
7	The primary winding of transformer has 500 turns whereas its secondary has 5000 turns. The primary is connected to an a.c. supply of 20 V, 50 Hz. The secondary will have an output of	<p>A. 200V, 50 Hz</p> <p>B. 2V, 50 Hz</p> <p>C. 200V, 500 Hz</p> <p>D. 2V, 5 Hz</p>
8	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>D. Number of electrons and holes increases equally</p>
9	A cable that can support a load W is cut into two equal parts. The maximum load that can be supported by either part is:	<p>A. W/4</p> <p>B. W/2</p> <p>C. W</p> <p>D. 2W</p>
10	The number of translation degrees of freedom for a diatomic gas is	<p>A. 2</p> <p>B. 3</p> <p>C. 5</p> <p>D. 6</p>
11	The structure of solids is investigated by using	<p>A. Cosmic Rays</p> <p>B. X-rays</p> <p>C. Intra red Radiation</p> <p>D. <math>\gamma</math>-rays</p>
12	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	<p>A. 0.916 mA</p> <p>B. 2.45 mA</p> <p>C. 4.9 mA</p> <p>D. 5.1 mA</p>
13	A particle is moving in a uniform magnetic filed, then	<p>A. its momentum changes but total energy remains the same</p> <p>B. Both momentum and total energy remains the same</p>

		<p>C. Both changes D. Total energy change but momentum remains</p>
14	A photocell with a constant p.d. of V volt across it illuminated by a point source from a distance of 25 cm. When the source is moved to a distance of 1m, the electrons emitted by the photocell	<p>A. Carry 1/4th their previous energy B. Are 1/16th as numerous as before C. Are 1/4th as numerous as before D. Carry 1/4th their previous momentum</p>
15	A fly is sitting on the objective of a telescope pointed towards the moon. What effect is expected on the photography of the moon taken through the telescope?	<p>A. The entire of view blocked B. There is an image of the fly on the photography C. There is no effect at all D. There is a reduction in the intensity of the image</p>
16	The sieman is the SI unit of	<p>A. Resistance B. Specific Resistance C. Conductance D. Inductance</p>
17	When the length of a microscope tube increases, its magnifying power	<p>A. Decreases B. Increases C. May increases or decreases depending on the observer and the place of observation D. Does not change</p>
18	Two point charges A and B separated by a distance R attract each other with a force of $12 \times 10^{-3} \text{N}$ . The force between A and B when the charges on them are doubled and distance is halved	<p>A. 1.92 N B. 19.2 N C. 12 N D. 0.192 N</p>
19	Which of the following sources give discrete emission spectrum?	<p>A. Incandescent electric bulb B. Sun C. Mercury vapour lamp D. Candle</p>
20	Boyle's law is applicable in	<p>A. Isochoric process B. Isothermal process C. Isobaric process D. Isotonic process</p>