

NAT I Engineering Physics

Sr	Questions	Answers Choice
1	Two point charge $+3\mu\text{C}$ and $+8\mu\text{C}$ repel each other with a force of 40 N. if a charge of $-5\mu\text{C}$ is added to each of them then the force between will become	A. -10N B. $+10\text{N}$ C. $+20\text{N}$ D. -20N
2	Which of the following particle would experience the largest magnetic force when projected with the same velocity perpendicular to a magnetic field?	A. Proton B. Electron C. He^{+2} D. Li^{+3}
3	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
4	The nuclear model of atom was proposed by	A. J.J Thomson B. E.Rutherford C. Neil Bohr D. Summerfield
5	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
6	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
7	The nucleus ${}^6\text{C}12$ absorbs an energetic neutron and emits a beta particle (β) The resulting nucleus is	A. ${}^7\text{N}^{14}$ B. ${}^5\text{B}^{14}$ C. ${}^7\text{N}^{13}$ D. ${}^6\text{C}^{13}$
8	In which region of electromagnetic spectrum does the Lyman series of hydrogen atom lie	A. Ultraviolet B. Infra red C. Visible D. X-ray
9	The velocity of a particle at an instant is 10 m/s and after 5 s the velocity of the particle is 20 m/s. The velocity 3s before in m/s is:	A. 8 B. 4 C. 6 D. 7
10	To explain his theory Bohr used	A. Conservation of linear momentum B. Conservation of angular momentum C. Conservation of quantum frequency D. Conservation of energy
11	Which of the following is equal to: joule x ohm / volt x second ?	A. Ampere B. Volt C. Watt D. Tesla
12	A motorist travels A to B at a speed at 40 km/h and returns at speed of 60 km/h. His average speed will be:	A. 40 km/h B. 48 km/h C. 50 km/h D. 60 km/h
13	In which of the following states does the incandescent substance give continuous spectrum?	A. Vapours in atomic state B. Vapours in molecular state C. Solid or fluid in bulk state D. Solid or fluid in plasma state
		A. 0.25 m

14	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?	<p>B. 0.5 m C. 1 mm D. 2 mm</p>
15	In a simple harmonic motion (SHM) which of the following does not hold?	<p>A. The force on the particle is maximum at the ends B. The acceleration is minimum at the mean position C. The potential energy is maximum at the mean position D. The kinetic energy is maximum at the mean position.</p>
16	Which of the following four statements is false?	<p>A. A body can have zero velocity and still be accelerated B. A body can have a constant velocity and still have a varying speed C. A body can have a constant speed and still have a varying velocity D. The direction of the velocity of a acceleration is constant</p>
17	A sun rise or sun set, the sun looks reddish because.	<p>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</p>
18	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 B. Gravitation force of attraction between person and trains C. The high speed of train D. Some other effect</p>
19	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. 6 C. 3 D. 2</p>
20	If in a moving coil galvanometer a current i produces a deflection θ then	<p>A. $i \propto \tan \theta$ B. $i \propto \theta^2$ C. $i \propto \theta$ D. $i \propto \sqrt{\theta}$</p>