NAT II Physical Science Physics

Sr	Questions	Answers Choice
1	A wire of radius r has resistance R, It it is stretched to a wire of r/2 radius, then the resistance becomes	A. 2R B. 4R C. 16R D. Zero
2	When we apply reverse bias to a junction diode, it	A. Lowers the potential barrier B. Raise the potential barrier C. Increase the majority carrier current D. Increase the minority carrier current
3	The motion without consideration of its cause is studied in	A. Kinematics B. Mechanics C. Statics D. Modern Physics
4	According to Stoke's law, drag force depends on	A. Initial velocity B. Final velocity C. Terminal velocity D. Instantaneous velocity
5	The velocity of a particle at an instant is 10 m/s and after 5s 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
6	A point charge Q is placed at the mid-point of a line joining two charges, 4q and q. If the net force on charge q is zero, then Q must be equal to	A. -q B. +q C. -2q D. +4q
7	The dot product of two vectors is negative when	A. They are parallel vectors B. They are anti-parallel vectors C. They are perpendicular vectors D. None of the above is correct
8	Quantity that remains unchanged in a transformer is	A. Voltage B. Current C. Frequency D. None of these
9	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
10	Radio waves of constant amplitude can be generated with	A. Rectifier B. Filter C. FET D. oscillator
11	A 50-volt battery is connected across 10-ohm resistor. The current is 4.5 A. The internal resistance of the battery is	A. Zero B. 0.5 ohm C. 1.1 ohm D. 5.0 ohm
12	Band spectrum is produced by	A. H B. He C. H₂ D. Na
13	The dimensional formula of torque is:	A. [ML²T⁻²] B. {MLT⁻²] C. [ML⁻¹T⁻²] D. [ML⁻²T⁻²]
14	As the electron in Bohr orbit of hydrogen atom passes from stat n = 2 to n = 1, the kinetic	A. K two fold, U also two fold B. K four fold, U also four fold

	energy K and potential energy U change as	C. K four fold, U two fold D. K two fold, U four fold
15	Huygen's wave theory of light cannot explain	A. Diffraction B. Interference C. Polarization D. Photoelectric effect
16	The incorrect statement regarding the lines of force of the magnetic field B is	A. Magnetic intensity is a measure of lines of force passing through unit area held normal to it B. Magnetic lines of force form a close curve C. Inside a magnet, its magnetic lines of force move from north pole of a magnet towards its south pole D. Due to a magnet magnetic lines of force never cut each other
17	Which quantity is increased in step-down transformer?	A. Current B. Voltage C. Power D. Frequency
18	Light appears to travel in straight lines since	A. It is not absorbed by the atmosphere B. It is reflected by the atmosphere C. Its wavelength is very small D. Its velocity is very large
19	When a hydrogen atom is bombarded, the atom is excited to the n = 4 state of hydrogen atom. The energy released when the atom falls from n = 4 state to the ground state is	A. 1.275 eV B. 12.75 eV C. 5 eV D. 8 eV
20	Two sources of sound are said to be coherent if	A. They produce sounds of equal intensity B. They produce sounds of equal frequency C. They produce sound waves vibrating with the same phase D. They produce sound waves with zero or constant phase different all instant of time