NAT I Computer Science Physics

Sr	Questions	Answers Choice
1	Shunt required in an ammeter of resistance R to decrease its deflection from 30 ampere to 10 ampere is	A. R/4 B. R/3 C. R/2 D. R
2	Which of the following lists of physical quantities consists only of vectors:	A. Time,temperature,velocity B. Force,volume,momentum C. Velocity,acceleration,mass D. Force,acceleration,velocity
3	Angular momentum is	A. Vector (axial) B. Vector (polar) C. Scalar D. None of these
4	A charge Q is divided into two parts q and Q - q and separated by a distance R. the force of repulsion between them will be maximum when:	A. q = Q/4 B. q = Q/2 C. q = Q D. None of these
5	The peak voltage in a 200 volt A.C supply is nearly	A. 220 B. 253 C. 311
6	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 difference all instant of time
7	A 2 kg body and a 3 kg body have equal momentum if the kinetic energy of 3 kg body is 10 j, the KE of 2 kg body will be	A. 6.66 j B. 15 j C. 22.5 j D. 45 j
8	Who explained the origin of the Fraunhofer lines?	A. Fraunhoffer B. Kirchhoff C. Fresnel D. Snell
9	The velocity v of a particle at time t is given by: v = at + b / t + c The dimensional formula of a,b and c care respectively:	A. L² ; T and LT² B. LT² ; LT and L C. LT⁻²; L and T D. L;LT and T⁻²
10	Quantity that remains unchanged in a transformer is	A. Voltage B. Current C. Frequency D. None of these
11	Center of mass is a point	A. Which is geometric center of a body B. From which distance of particles are same C. Where the whole mass of the body is supposed to be centered D. Which is the origin of reference frame
12	If in a moving coil galvanometer a current 1 produces a deflection θ then	A. i ∞ tan θ B. i ∞ θ² C. i ∞ θ D. i ∞ √θ

13	A body moving in circular motion with constant speed has	A. Constant velocity B. Constant acceleration C. Constant kinetic energy D. Constant displacement
14	Which of the following is a scalar quantity	A. Density B. Displacement C. Torque D. Weight
15	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
16	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
17	According to Stoke's law drag force depends on	A. Initial velocity B. Final velocity C. Terminal velocity D. Instantaneous velocity
18	Planck's constant has the dimensions of:	A. Energy B. Momentum C. Frequency D. Angular momentum
19	Which quantity is increased in step-down transformer?	A. Current B. Voltage C. Power D. Frequency
20	When a Na ion and a Cl ion are placed in air a force F acts between them when they are separated by a distance of 1 cm from each other the permittivity of air and the dielectric constant of water are ε_0 and K respectively When a piece of salt is placed in water then the force between Na^+ and Cl^- ions separated by a distance of 1 cm will be	A. F B. FK/ε₀ C. F/Kε₀ D. F/K