

NAT I Medical Physics

Sr	Questions	Answers Choice
1	The conductivity of a superconductor is	A. Infinite B. Very large C. Very small D. Zero
2	Surface tension of water is due to	A. Inter molecular attraction B. Intermolecular spaces C. Inter molecular repulsion D. None of above
3	Angular momentum is	A. Vector (axial) B. Vector (polar) C. Scalar D. None of these
4	Two point charges placed at distance of 20 cm in air repel each other with a certain force. When a dielectric slab of thickness 8 cm and dielectric constant K is introduced between these point charges force of interaction becomes half of its previous value Then K is approximately.	A. 2 B. 4 C. √2 D. 1
5	A couple produces	A. Purely linear motion B. Purely rotational motion C. Linear and rotational motion D. No motion
6	Quantity that remains unchanged in a transformer is	A. Voltage B. Current C. Frequency D. None of these
7	The smooth or steady stream-line flow is know as	A. Laminar flow B. Turbulent flow C. Both a and b D. None of the above
8	The time period of a simple pendulum is 2 seconds if its length is increased by 4 times then its period becomes	A. 16 s B. 12 s C. 8 s D. 4 s
9	If the amplitude of sound is doubled and the frequency reduced to one-fourth the intensity of sound at the same point will be	A. Increasing by a factor of 2 B. Decreasing by a factor of 2 C. Decreasing by a factor of 4 D. Unchanged
10	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
11	The average power dissipation in a pure capacitor in AC circuit is	A. 1/2 CV ² B. CV ² C. 2CV ² D. Zero
12	How does the Young's modulus vary with the increase of temperature?	A. Decrease B. Increase C. Remains constant D. First increases and then decreases
13	The terminal velocity of a small size spherical body of radius R moving in a fluid varies as	A. R B. R ² C. 1/R D. (1/R) ²
14	Which quantity is increased in step-down transformer?	A. Current B. Voltage C. Power D. Frequency
		A. Directly proportional to the length of the wire in the coil B. Inversely proportional to the length

15	The magnetic moment of a circular coil carrying current is	of the wire in the coil C. Directly proportional to the square of the length of the wire in the coil D. Inversely proportional to the square of the length of the wire in the coil
16	For obtaining appreciable extension the wire should be	A. Short and thin B. Long and thin C. Short and tick D. Long and thick
17	The acceleration 'a' in m/s^2 of a particle is given by $a = 3 t^2 + 2 t + 2$,where 't' is the time if the particle starts out with a velocity $v = 2 m/s$ at $t = 0$, then the velocity at the end of 2 second is	A. 12 m/s B. 24 m/s C. 18 m/s D. 36 m/s
18	To make the frequency double of na oscillator we have to	A. Double the mass B. Half the mass C. Quadruple the mass D. Reduce the mass to one-fourth
19	A body moving in circular motion with constant speed has	A. Constant velocity B. Constant acceleration C. Constant kinetic energy D. Constant displacement
20	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 Ω B. 4000 Ω C. 6000 Ω D. 8000 Ω