

NAT I Medical Physics

Sr	Questions	Answers Choice
1	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 1 m, the electrons emitted by the photocell	A. Carry 1/4th their previous energy B. Are 1/6th as numerous as before C. Are 1/4th as numerous as before D. Carry 1/4th their previous momentum
2	Two points charges A and B separated by a distance R attract each other with a force of 12×10^{-3} N. The force between A and B when the charges on them are doubled and distance is halved	A. 1.92 N B. 19.2 N C. 12 N D. 0.192 N
3	A person standing on a rotating platform has his hands lowered He suddenly outstretches his arms. The angular momentum	A. Becomes zero B. Increases C. Decreases D. Remains the same
4	What remains constant when the earth revolves around the sun?	A. Angular momentum B. Linear momentum C. Angular kinetic energy D. Linear kinetic energy
5	Which of the modulus of elasticity is involved in compressing a rod to decrease its length?	A. Young's modulus B. Bulk modulus C. Modulus of rigidity D. None of the above
6	A piece of fuse wire melts when a current of 15 ampere flows through it. With this current, if it dissipates 22.5 W. the resistance of fuse wire will be	A. Zero B. 10 Ω C. 1 Ω D. 0.10 Ω
7	If yellow light emitted by sodium lamp in Young's double slit experiment is replaced by monochromatic blue light of the same intensity	A. Fringe width will decrease B. Fringe width will increase C. The fringe width will remain unchanged D. Fringes will become less intense
8	According to Stoke's law drag force depends on	A. Initial velocity B. Final velocity C. Terminal velocity D. Instantaneous velocity
9	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
10	Two electric bulbs of 200 W and 100 W have same voltage. If R1 and R2 be their resistance respectively then	A. R ₁ = 2R ₂ B. R ₂ = 2R ₁ C. R ₂ R ₂ = 4R ₁ D. R ₁ R ₁ = 4R ₂
11	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
12	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?	A. 12 B. 6 C. 3 D. 2

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The sum of the magnitude of two forces acting at a point is 18 and the magnitude of their resultant is 12. If the resultant is at 90° with the force of the smaller magnitude then their magnitude are: A 3, 15	13	Which of the following is not thermo dynamical function?	A. Enthalpy B. Work done C. Gibb's energy D. Internal energy
Which of the following is a scalar quantity B. Displacement C. Torque D. Weight A. Wave moving through a string fixed at both ends. B. Earth spinning about its own axis C. Ball bouncing between two rigid vertical walls D. Particle moving in a circle with uniform speed. The average binding energy of a nucleon inside an atomic nucleus is about A. .8 MeV B. 8 eV C. 8 Joules D. 8 ergs 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: A. 0.196 mA D. 5.1 mA A. 1310 W B. 670 W C. 810 W D. 1210 W D. 1210 W D. 1210 W D. Depends on the phase between V	14	resultant is 12. If the resultant is at 90° with the force of the smaller magnitude then their	B. 4, 14 C. 5, 13
Which one of the following is a simple harmonic motion? B. Earth spinning about its own axis C. Ball bouncing between two rigid vertical walls D. Particle moving in a circle with uniform speed. The average binding energy of a nucleon inside an atomic nucleus is about A. 8 MeV B. 8 eV C. 8 Joules D. 8 ergs 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: A. 0.196 mA B. 2.45 mA C. 4.9 mA D. 5.1 mA A ten-ohm electric heater operates on a 110 V line Calculate the rate at which it develops heat in watts: A. 1310 W B. 670 W C. 810 W D. 1210 W A. VI B. 1/2 VI D. Depends on the phase between V	15	Which of the following is a scalar quantity	B. Displacement C. Torque
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In a common base transistor circuit the current gain is 0.98.On changing the emitter current B. 2.45 mA C. 4.9 mA D. 5.1 mA 19 A ten-ohm electric heater operates on a 110 V line Calculate the rate at which it develops heat in watts: A. 1310 W B. 670 W C. 810 W D. 1210 W 20 In an ac circuit with voltage V and current 1 the power dissipated is A. VI B. 1/2 VI C. 1/\2 VI D. Depends on the phase between V	17	The average binding energy of a nucleon inside an atomic nucleus is about	B. 8 eV C. 8 Joules
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