

8 aipmt A beam of light of $\lambda = nm$ from a distant source falls on a single slit 1 mm wide and the resulting diffraction pattern is observed on a screen 2 m away.

A Carnot engine, having an efficiency of η as a heat engine, is used as a refrigerator. One mole of an ideal diatomic gas undergoes a transition from A to B along a path AB as shown in the figure. Figure below shows two paths that may be taken by a gas to go from a state A to a state C. A monoatomic gas at a pressure P, having a. The work done by the system in the cycle is W . The mean free path of molecules of a gas, radius r is inversely proportional to λ . In the given $V \propto T$ diagram, what is the relation between pressures P_1 and P_2 ? What is the net work done by the gas? A system is taken from state a to state c by two paths adc and abc as shown in the figure. The amount of work along the path abc is W . Which of the following relations does not give the equation of an adiabatic process, where terms have their usual meaning? Two Carnot engines A and B are operated in series. The second engine B receives the heat at temperature T_1 and rejects to its sink at temperature T_2 . For what value of T_1 the efficiencies of the two engines are equal? In a vessel, the gas is at pressure P. If the mass of all the molecules is halved and their speed is doubled, then the resultant pressure will be P' . A thermodynamic system is taken through the cycle ABCD as shown in figure. One mole of an ideal gas goes from an initial state A to final state B via two processes: It first undergoes isothermal expansion from volume V to $3V$ and then its volume is reduced from $3V$ to V at constant pressure. The correct P-V diagram representing the two processes is $P-V$. An ideal gas goes from state A to state B via three different processes as indicated in the P-V diagram. During an isothermal expansion, a confined ideal gas does W J of work against its surroundings. This implies that a J of heat has been removed from the gas b J of heat has been added to the gas c no heat is transferred because the process is isothermal d J of heat has been added to the gas Prelims The pressure of the gas in the -final state is a 8 atm c If c_p and c_v denote the specific heats per unit mass of an ideal gas of molecular weight M, then What is the final pressure of the gas? The internal energy change in a system that has absorbed 2 kcal of heat and done J of work is a J.

Chapter 2 : NEET (AIPMT) Solutions “askITians”

CODE-P. AIPMT - TEST PAPER WITH SOLUTIONS (HELD ON SUNDAY 04th MAY,) 1. If force (F), velocity (V) and time (T) are taken as fundamental units, then the dimensions of mass.

ABC is an equilateral triangle with O as its centre. If the total torque about O is zero then the magnitude of A car of mass m is moving on a level circular track of radius R . A circular platform is mounted on a frictionless vertical axle. It is initially at rest. Time taken by the man to complete one revolution is The moment of inertia of a uniform circular disc is maximum about an axis perpendicular to the disc and passing through a B c D d A Mains Three masses are placed on the x -axis: The distance of the centre of mass from the origin is a 40 cm c 50 cm d 30 cm Mains The moment of inertia of a thin uniform rod of mass M and length L about an axis passing through its midpoint and perpendicular to its length is I_0 . Its moment of inertia about an axis passing through one of its ends and perpendicular to its length is A small mass attached to a string rotates on a frictionless table top as shown. If the tension in the string is increased by pulling the string causing the radius of the circular motion to decrease by a factor of 2, the kinetic energy of the mass will a decrease by a factor of 2 b remain constant c increase by a factor of 2 d increase by a factor of 4 Mains Initially the second disk has zero angular speed. Two particles which are initially at rest, move towards each other under the action of their internal attraction. If their speeds are v and $2v$ at any instant, then the speed of centre of mass of the system will be a $2v$ c 1. A gramophone record is revolving with an angular velocity a . A coin is placed at a distance r from the centre of the record. The coin will revolve with the record if From a circular disc of radius R and mass $9M$, small disc of mass M and radius is removed concentrically. The moment of inertia of the remaining disc about an axis perpendicular to the plane of the disc and passing through its centre is A solid cylinder and a hollow cylinder, both of the same mass and same external diameter are released from the same height at the same time on an inclined plane. Both roll down without slipping. Which one will reach the bottom first? A thin circular ring of mass M and radius r is rotating about its axis with constant angular velocity ω . Two objects each of mass m are attached gently to the opposite ends of a diameter of the ring. The ring now rotates with angular velocity given by A thin circular ring of mass M and radius R is rotating in a horizontal plane about an axis vertical to its plane with a constant angular velocity ω . If two objects each of mass m be attached gently to the opposite ends of a diameter of the ring, the ring will then rotate with an angular velocity vector ω and τ be the torque of this force about the origin, then If is the force acting on a particle having position vector and be the torque of this force about the origin, then Four identical thin rods each of mass M and length l , form a square frame. Moment of inertia of this frame about an axis through the centre of the square and perpendicular to its plane is

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AIPMT - TEST PAPER WITH SOLUTIONS (HELD ON SUNDAY 04th MAY,) 4. A system consists of three masses m_1 , m_2 and m_3 connected by a string passing over a.

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AIPMT “, PHYSICS, CHEMISTRY AND BIOLOGY Paper - Answer Key and Solution (Code P) 5. The force ' F ' acting on a particle of mass ' m ' is indicated by the force-time graph.

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Key and Solutions for AIPMT As on expected lines, in the AIPMT conducted today, there were 45 questions each from Physics & Chemistry and 90 questions from Biology. In Physics, numerical based questions were higher than the previous years and therefore, majority of the medical entrance students would have found the test a little.

Chapter 9 : NEET Sample Papers | NEET (AIPMT) Previous Questions

AIPMT 2014, PHYSICS, CHEMISTRY AND BIOLOGY Paper - (Code P) 2. A projectile is fired from the surface of the earth with a velocity of 5ms^{-1} and angle \hat{i} , with the horizontal.