MDCAT Physics Chapter 2 Work and energy Online Test

Sr	Questions	Answers Choice
1	The same retarding force is applied to stop a train. The train stops after 80 m. If the speed is doubled, then the Stopping distance will be:	A. The same B. Doubled C. Halved D. Four times
2	Initially, four identical uniform blocks, each of mass m and thickness h, are spread on a table How much work is done on the blocks in stacking them on top of one another?	A. 2 mgh B. 3 mgh C. 4mgh D. 6mgh
3	A body is dropped from a height of 20 m and rebounds to a height of 10 m. the loss of energy is:	A. 10% B. 45% C. 50% D. 75%
4	If the velocity of a body becomes half, the kinetic energy of body will become	A. One fourth B. Double C. Four times D. Half
5	When a person lifts a body from ground work done by lifting force is?	A. Positive B. Negative C. Zero D. Half of positive maximum
6	In an explosion a body breaks up into two pieces of unequal masses. In this:	A. Both parts will have numerically equal momentum B. Lighter part will have more momentum C. Heavier part will have more momentum D. Both parts will have equal kinetic energy
7	A body of mass m kg is lifted by a man to a height of one meter in 30 sec. Another man lifts the same mass to the same height in 60 sec. The work done by them are in the ratio	A. 1: 2 B. 1: 1 C. 2: 1 D. 4: 1
8	A man M_1 of mass 80 kg runs up a staircase in 15s. Another man M_2 also of mass 80 kg runs up the same staircase in 20s. The ratio of the power developed by them will be	A. 1 B. 4/3 C. 16/9 D. none of these
9	A 50 kg man with 20 kg load on his head climbs up 20 steps of 0.25 m height each. The work done in climbing is	A. 5 J B. 350 J C. 100 J D. 3430 J
10	If the K.E. of a body is increased by 300%, its momentum will increase by:	A. 100 % B. 150 % C. √300% D. 175 %
11	The energy which an -e acquires when accelerated through a potential difference of 1 volt is called?	A. 1 Joule B. 1 Electron volt C. 1 Erg D. 1 Watt
12	A ball is thrown vertically upwards. Neglecting air resistance, which statement is correct?	A. The kinetic energy of the ball is greatest at the greatest height attained B. The potential energy of the ball increase uniformly with time during the ascent C. By the principle of conservation of momentum. The momentum of the ball is constant throughout its motion D. By the principle of conservation of energy, the total energy of the ball is constant throughout its motion
13	A motor boat is travelling with a speed of 3.0 m/sec. If the force on it due to water flow is 500 N, the power of the boat is	A. 150 KW B. 1.5 KW C. heat energy

		D. chemical energy
14	In a gravitational field when work done by gravity is negative then	A. P.E increases B. P.E decrease C. None D. P.E remains same
15	Which of the following work is greater?	A. + 100J B. 0 J C. - 100J D. Both A and B are equal
16	An elevator's motor produces 3000 W power. The speed With Which it can lift a 1000 kg load is:	A. 30.6ms⁻¹ B. 0.306ms⁻¹ C. 3.06ms⁻¹ D. 300.3ms⁻¹
17	An electric motor exerts a force of 40 N on a cable and pulls it by a distance of 30 m in one minute. The power supplied by the motor in watts is	A. 20 B. 200 C. 2 D. 10
18	A person weighing 20 mg walks on a level platform with a speed of 2 ms-1 . The work by the person against the force of gravity is:	A. Zero B. 2J C. 60J D. 600J
19	An engine pumps out 40 kg of water in one second. The water comes out vertically upwards with a velocity of 3ms-1 . What is the power of engine in kilowatt?	A. 1.2kW B. 120kW C. 12kW D. 1200kW
20	If the stone is thrown up vertically and return to ground, its potential energy is maximum	A. during the upward journey B. during the upward journey C. at the maximum height D. at the bottom
21	Ratio of dimension of K.E and power is:	A. 1:1 B. T:1 C. 1:T D. M:J
22	A light and a heavy body have equal momenta. Which one has greater K.E?	A. The light body B. The heavy body C. The K.E are equa D. Data is incomplete
23	A bomb of mass 30 kg at rest explodes into two pieces of masses 18 kg and 12 kg. The velocity of 18 kg mass is 6 ms^1 The KE of other mass is	A. 324 J B. 256 J C. 245 J D. 524 J
24	Kinetic energy of a body moving with speed of 10 ms-1 is 30 J. If its speed becomes30 ms-1 then its K.E becomes	A. 10J B. 270 J C. 90J D. 180 J
25	Which of the following is a unit of energy?	A. unit B. whatt C. Horse Power D. None of the above
26	Which of the following types of force can do no work on the particle on which it acts?	A. Frictional force B. Gravitational force C. Elastic force D. Centripetal force
27	An engine pumps up 100 kg of water through a height of 10m in 5s. Given that the efficiency of the engine is 60%, what is the power of the engine? (Take g = 10ms^{-2})	A. 33 kW B. 3.3kW C. 0.33kW D. 0.033kW
28	You lift a suit case from the floor and keep it on a table. The work done by you on the suitcase does not depend on	A. the path taken by the suitcase B. weight of the suitcase C. initial and final position D. None
29	3 joules of work is done in 3 seconds, then power is:	A. 6 watt B. 3 watt C. 18 watt D. 1 watt
30	When the velocity of a body is doubled:	A. Its K.E is doubled B. Its P.E is doubled C. Its momentum is doubled D. Its acceleration is doubled
	A force of 6 N act horizontally on a stationary mass of 2kg for 4s. The kineticenergy in joule	A. 12 B. 72

31	A force of 6 N act horizontally on a stationary mass of 2kg for 4s. The kineticenergy in joule is	B. 72 C. 56 D. 888
32	The power needed to lift amass of 5000g to height of 1min 2 second is	A. 2.45 watt B. 24.5 watt C. 245 watt D. 2.45 k watt
33	Work done in raising a box depends on:	A. How fast it is raised B. The strength of the man C. The height by which it is raised D. None of the above
34	Two bodies moving towards each other collide and move away in opposite directions. There is some rise in temperature of bodies because a part of the kinetic energy is converted into	A. heat energy B. electrical energy C. nuclear energy D. mechanical energy
35	A body moves a distance of 10 m along a straight line under the action of a force of 5 N. If the work done is 25 joules, the angle which the force makes with the direction of motion of the body is?	A. 0 Degree B. 30 Degree C. 60 Degree D. 90 Degree
36	. A force "F1" acts on a body through distance "S1" in the direction of motion and does work "W1". Similarly another force "F2" act on same body through distance "S2" but in opposite to the direction of motion and does work "W2". Now if F1 = F2 and S1 = S2 then which statement is correct.	A. W1 = W2 B. W2< W2 C. W1 > W2 D. W1 = W2= 0
37	If the momentum of a body is increased n times, its kinetic energy increases:	A. n times B. 2 n times C. √□ times D. n 2 time
38	Car X is traveling at half the speed of car Y. Car X has twice mass of car Y. Which statement is correct?	A. Car X has half the kinetic energy of car Y B. Car X has one quarter of the kinetic energy of car Y C. Car X has twice the kinetic energy of car Y D. The tow cars have the same kinetic energy
39	The body at rest may have:	A. Energy B. Momentum C. Speed D. Velocity
40	A person holds a bucket of weight 60N. He walks 7 m along the horizontal path and then climbs up a vertical distance of 5 m. The work done by the man is:	A. 300 N-m B. 420 N-m C. 720 N-m D. none of these
41	The momentum of a particle is numerically equal to its K.E. What is the velocity of a particle?	A. 9 ms⁻¹ B. 3 ms⁻¹ C. 2 ms-1 D. 1 ms⁻¹
42	A man pushes a wall and fails to displace it. He does:	A. Negative work B. Positive but not maximum work C. No work at all D. Maximum work
43	A force □ = (□□̂+ □□̂) newton is applied over a particle which displaces it from its origin to the point □ = (□□̂− □□̂) meters. The work done on the particle is:	A. – 7 joules B. +13 joules C. + 7 joules D. +11 joules
44	The time taken by an engine of power 10 kW to lift a mass of 200 kg to a heightof 40 m is (g + 10ms2)	A. 2 sec B. 4 sec C. 8 sec D. 16sec
45	A stone is thrown up from the surface of earth when it reaches at maximum height. its total energy is equal to	A. mgh B. 1/2 □□² C. zero D. 2mgh
46	A body of mass 3 Kg lies on the surface on the table 2m high. It is moved on the surface by 4m. The change of P.E will be:	A. Zero B. 9.8 J C. 19.6 J D. 329 J
47	You lift a heavy book from the floor of the room and keep it in the book-shelf having a height 2 m. In this process you take 5 seconds. The work done by you will depend upon:	A. Mass of the book and time taken B. Weight of the book and height of the book-shelf C. Height of the book-shelf and time taken D. Mass of the book, height of the

		book-shelf and time taken
48	The energy stored in wound watch spring is	A. K.E. B. P.E. C. heat energy D. chemical energy
49	The gravity does no work, when the body moves:	A. Horizontally B. Vertically upwards C. Vertically downward D. At an angle of 45o with horizontal
50	A man weighing 500 N carries a load of 10 kg to the top of a building in 4 minutes. The work done by the man is 6 × □□^{4} J. If he carries the same load in 8 minutes, the work done by the man will be:	A. 3 × 10⁴ J B. 6 × 10⁴J C. 9 × 10⁴J D. 12× 10⁴ J