Work and Energy

Multiple Choice Questions

Question 1. When a body falls freely towards the earth, then its total energy: (a) increases (b) decreases

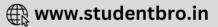
(c) remains constant

(d) first increases and then decreases

▼ Answer

Answer: (c) remains constant





Question 2. In case of negative work, the angle between the force and displacement is: (a) 0° (b) 45° (c) 90° (d) 180°

▼ Answer

Answer: (d) 180°

Question 3. Water stored in a dam possesses: (a) no energy (b) electrical energy (c) kinetic energy (d) potential energy

▼ Answer

Answer: (d) potential energy

Question 4. Which one of the following is not the unit of energy? (a) Joule (b) Newton meter (c) Kilowatt (d) Kilowatt hour

▼ Answer

Answer: (c) Kilowatt

Question 5.

A body is falling from a height h, After it has fallen a height $\frac{h}{2}$, it will possess:

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- (a) only potential energy
- (b) only kinetic energy
- (c) half potential and half kinetic energy
- (d) more kinetic and less potential energy

▼ Answer

Answer: (c) half potential and half kinetic energy

Question 6.

The capacity of a body to perform work is called:

(a) Energy(b) Work

- (c) Power
- (d) Heat

▼ Answer

Answer: (a) Energy

Question 7. The rate of work done is called: (a) Energy (b) Power (c) Capacity (d) All of these

▼ Answer

Answer: (b) Power

Question 8. The capacity to perform work is obtained from : (a) Food (b) Energy (c) Power (d) All of these

▼ Answer

Answer: (b) Energy

Question 9.

An object of mass, m moving with velocity v has a kinetic energy of: (a) $\frac{1}{2}mv^2$ (b) mgh (c) $\frac{2m}{v^2}$ (d) $2mv^2$

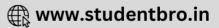
▼ Answer

Answer: (a) $\frac{1}{2}mv^2$

Question 10.

The gravitational potential energy of an object of mass, m raised through a height, h from the earth's surface is given by:





(a) $\frac{1}{2}$ mv² (b) mgh (c) $\frac{1}{2}$ mgh (d) 2mgh

▼ Answer

Answer: (b) mgh

Question 11. If the displacement of the object is zero then the work done on an object by a force would be: (a) 1 Joule (b) 0.1 Joule (c) 3.6×10^6 Joule (d) zero

▼ Answer

Answer: (d) zero

Question 12.What is the energy possessed by an object due to its motion?(a) Potential energy(b) Electrical energy(c) Kinetic energy(d) None of them

▼ Answer

Answer: (c) Kinetic energy

Fill in the Blanks.

Question 13. 1 kJ equals _____

▼ Answer

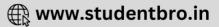
Answer: 1000 J

Question 14.

____ formulated a law for the heating effect of electric current.

▼ Answer





Answer:	James	Prescott	Joule
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Question 15.	
The kinetic energy of an object	with its speed.

▼ Answer

Answer: increases

Question 16. An object in motion possesses what is known as the _____ of the object.

▼ Answer

Answer: kinetic energy

Question 17. The S.I. unit of power is _____

▼ Answer

Answer: Watt

Question 18. The energy total of every system always remains _____

▼ Answer

Answer: constant

Question 19. The energy stored in the water-filled in the dam is ______

▼ Answer

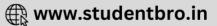
Answer: potential energy

Question 20. The S.I. unit of kinetic energy is _____

▼ Answer

Answer: Joule





Question 21. The S.I. unit of work is _____

▼ Answer

Answer: Joule

Question 22. The rate of work done is called

Answer

True/False.

Question 23. The energy used in one hour at the rate of 1 kW is called 1 kWh.

▼ Answer

Answer: True

Question 24. James Prescott Joule is best known for his research in electricity and thermodynamics.

▼ Answer

Answer: True

Question 25. Any object that does not possess energy can do work.

▼ Answer

Answer: False

Question 26. The unit of energy is, the same as that of work.

▼ Answer

Answer: True

Question 27.

Work = Force \times Displacement along the direction of the force.

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▼ Answer

Answer: True

Question 28. The formula of kinetic energy is $E_{K} = mgh$.

▼ Answer

Answer: False

Question 29. Work is a vector quantity.

▼ Answer

Answer: False

Question 30. The unit of energy in the C.G.S. system is erg.

▼ Answer

Answer: True

Question 31. The palm gets warmed while rubbing due to performing work.

▼ Answer

Answer: True

Question 32. Work has only magnitude and no direction.

▼ Answer

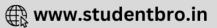
Answer: True

Match the Column.

Question 33.

A B





 1 Joule (i) Scalar quantity
2. Work (ii) 746 Watt
3. Power (iii) Force × Displacement
4. 1 horsepower (iv) 1 Newton × 1 meter
5. Energy (v) Work/Time

▼ Answer

Answer:

А	В
1.1 Joule	(iv) 1 Newton × 1 meter
2. Work	(iii) Force × Displacement
3. Power	(v) Work/Time
4. 1 horsepower	(ii) 746 Watt
5. Energy	(i) Scalar quantity

Answer in one Word/Sentence.

Question 34. Is work done or energy a scalar or a vector quantity?

▼ Answer

Answer: Scalar

Question 35. Is power is a scalar or a vector quantity?

▼ Answer

Answer: Scalar

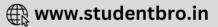
Question 36.

Who verified experimentally the law of conservation of energy and discovered the value of the mechanical equivalent of heat?

▼ Answer

Answer: James Prescott Joule





Question 37. Write an expression for the kinetic energy of an object.

▼ Answer

Answer: Kinetic energy, $E_K = \frac{1}{2} mv^2$

Question 38. What is called the sum of the kinetic and potential energies of an object?

▼ Answer

Answer: Mechanical energy

Question 39. Write the S.I. unit of power.

▼ Answer

Answer: Watt

Question 40. What is defined as the capacity of doing work?

▼ Answer

Answer: Energy



