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Question 1. A dog weighing 25 kg, while chasing a cat, jumps over a fence of height 1.6 m. What is the potential energy of dog at the top of fence ? (Take gravity due to earth 'g' = 10 m s^{-2})

- (a) 160 Joules
- (b) 320 Joules
- (c) 380 Joules
- (d) 480 Joules

Answer. (c) 380 Joules

Question 2. In winters, rubbing of hands together for some time, causes a sensation of warmth mainly because of

- (a) heat caused by the force of friction
- (b) heat caused by the momentum
- (c) heat caused by the motion
- (d) heat flows from the blood to skin

Answer. (a) heat caused by the force of friction

Question 3. A soldier makes a swing jump between two points, by holding one end of a rope, other end of which is tied to some higher point. Work done by rope in jumping of soldier from one point to another is an example of :

- (a) Negative work
- (b) Positive work
- (c) Zero work done
- (d) None of the above

Answer. (c) Zero work done

Question 4. Which of the following does not have unit as Joule?

- (a) Work done
- (b) Kinetic energy
- (c) Potential energy
- (d) Force

Answer. (d) Force

Question 5 . The commercial unit of energy consumption in households, industries and commercial establishments is

- (a) Joule
- (b) Watt
- (c) kW
- (d) KW h (kilowatt hour)

Answer. (d) KW h (kilowatt hour)

Question 6. A runner, while moving, is facing a wind from the opposite direction. The work done by the wind on runner will be

- (a) Zero
- (B) Negative
- (C) Positive
- (D) Infinity

Answer. (b) negative

Question 7. The value of 1 Kilo Watt Hour is

- (a) $1.8 \times 10^5 \text{J}$
- (b) $3.6 \times 10^6 \text{J}$
- (c) $5.4 \times 10^8 \text{J}$
- (d) $7.2 \times 10^{10} \text{J}$

Answer. (b) $3.6 \times 10^6 \text{J}$

Question 8. An external force is being applied on an object at some angle and it causes the object either to be pulled or pushed on a rough surface. Which of the following holds true ?

- (a) It is easier to push the object
- (b) It is easier to pull the object
- (c) It requires same efforts to push or pull the object
- (d) None of the above

Answer. (b) Pulling is easier

Question 9. A car with mass 'M' is moving on horizontal road with velocity 'v'. Driver applies accelerator and increases it speed 3 times to '3v'. The final K.E. acquired by the car will be :

- (a) 1.5 Mv^2
- (b) 2.5 Mv^2
- (c) 3.5 Mv^2
- (d) 4.5 Mv^2

Answer. (d) 4.5 Mv^2

Question 10. As per the statement given in Q.9 above, What change it will take place for the potential energy of the car

- (a) It will remain the same
- (b) It will increase
- (c) It will decrease
- (d) It will becomes 3 times the Intial P.E.

Answer. (a) It will remain the same