

5. Speed and Velocity

Q. ID: ITISKILL5192IL

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Answer Key

Duration: 30 Mins

Total Marks: 34

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1. What is called if a body posses only magnitude or size alone?

- A) Scalar quantity B) Velocity
C) Vector quantity D) Speed

Answer: A) Scalar quantity

2. How many newtons for 1 kilogram?

- A) 9.81 Newtons B) 0.981 Newtons
C) 98.1 Newtons D) 981 Newtons

Answer: A) 9.81 Newtons

3. What is the acceleration of an aeroplane taking off from landing field has to run 700 metres if it leaves the ground in 10 seconds from the start?

- A) 8 metre/sec² B) 12 metre/sec²
C) 10 metre/sec² D) 14 metre/sec²

Answer: B) 12 metre/sec²

4. What is the unit of speed?

- A) Metre/second² B) Metre/second
C) Metre/hour D) Metre/minute

Answer: B) Metre/second

5. What is the potential energy in a body of mass 10 kg kept on the top of a pole 20 metres height?

- A) 1942 Joules B) 1952 Joules
C) 1962 Joules D) 1972 Joules

Answer: C) 1962 Joules

6. What maximum height a stone will reach if it is thrown upwords with a velocity of 20m/sec?(g = 10m/sec²)

- A) 40 m B) 20 m
C) 30 m D) 10 m

Answer: B) 20 m

7. What is the work done in unit time?

- A) Acceleration B) Energy
C) Power D) Force

Answer: C) Power

8. What is the formula for speed?

- A) Change in momentum/Time B) Distance covered/Time
C) Change in velocity/Time D) Distance in definite direction /Time

Answer: B) Distance covered/Time

9. What is velocity of a body travels a distance of 168 metres in a line in 21 seconds?

- A) 8 m/sec B) 6 m/sec
C) 10 m/sec D) 12 m/sec

Answer: A) 8 m/sec

10. What is the unit for velocity?

- A) Metre/second² B) Metre/hour
C) Metre/second D) Metre/minute

Answer: C) Metre/second

11. What is the work done in joules if a load of 15.5 kg is lifted through a height of 4.4 metres?

- A) 649 Joules B) 639 Joules
C) 659 Joules D) 669 Joules

Answer: D) 669 Joules

12. How many watts for 1 horse power in metric system?

- A) 735.5 watts B) 755.5 watts
C) 745.5 watts D) 725.5 watts

Answer: A) 735.5 watts

13. What is the capacity of a body to do work is called?

- A) Energy B) Power
C) Force D) Acceleration

Answer: A) Energy

14. What is the formula for kinetic energy?

- A) $(1/2) mv$ joule B) $(2/3) mv$ joule
C) $(2/3) mv^2$ joule D) $(1/2) mv^2$ joule

Answer: D) $(1/2) mv^2$ joule

15. How much work done in one hour, if a pump can raise 100 liters of water through a height of 200 meters in one minutes?

- A) 12 x 104 kg meter B) 12 x 105 kg meter
C) 12 x 106 kg meter D) 12 x 107 kg meter

Answer: B) 12 x 105 kg meter

16. What is the formula for acceleration?

- A) Metre/second² B) Metre/second
C) Metre/minute D) Metre/hour

Answer: A) Metre/second²

17. What is called if a body posses both magnitude and direction of velocity?

- A) Speed B) Scalar quantity
C) Vector quantity D) Velocity

Answer: C) Vector quantity

18. What is the acceleration of a car if the speed of the car has increased from 25 km per hour to 40 km per hour in one minute?

- A) 0.069 m/sec² B) 0.59 m/sec²
C) 0.059 m/sec² D) 0.69 m/sec²

Answer: A) 0.069 m/sec²

19. What is the unit of acceleration of an object?

- A) Metre/second B) Metre/minutes
C) Metre/second² D) Metre/minutes²

Answer: C) Metre/second²

20. What is called if a body does not change its position with respect to its surroundings?

- A) Speed B) Body at rest
C) Body at motion D) Velocity

Answer: B) Body at rest

21. What is the work done, if a force of 250 newtons acted upon a body and the body has been moved through a distance of 15 metres?

- A) 3740 Joules B) 3720 Joules
C) 3750 Joules D) 3730 Joules

Answer: C) 3750 Joules

22. What is the potential energy, if a body of mass 250 kg is at a height of 30 metre?

- A) 73.57 KJ B) 75.57 KJ
C) 72.57 KJ D) 74.57 KJ

Answer: A) 73.57 KJ

23. What is the speed of a train of 80 metre long train passes a railway station platform of 120 metres length in 20 seconds?

- A) 30 km/hour B) 32 km/hour
C) 34 km/hour D) 36 km/hour

Answer: D) 36 km/hour

24. What is the rate of change of displacement of a body?

- A) Body at rest B) Body at motion
C) Velocity D) Speed

Answer: C) Velocity

25. What is called if a force of 1Newton acts on a body and moves it through a distance of 1 metre?

- A) 10 dynes B) 1 dyne
C) 1 Joule D) 10 Joules

Answer: C) 1 Joule

26. How many ergs for 1 Joule?

- A) 10³ ergs B) 10⁹ ergs
C) 10⁵ ergs D) 10⁷ ergs

Answer: D) 10⁷ ergs

27. What is the kinetic energy of a bullet of mass 5gm travels with a speed of 500 m/sec?

- A) 635 Joules B) 625 Joules
C) 620 Joules D) 630 Joules

Answer: B) 625 Joules

28. What is called if a body changes its position with respect to its surroundings?

- A) Body at motion B) Body at rest
C) Velocity D) Speed

Answer: A) Body at motion

29. What is the formula for potential energy?

- A) mgh joule B) $\frac{2}{3} mgh$ joule
C) mgh joule D) $\frac{1}{2} mgh$ joule

Answer: C) mgh joule

30. How many watts for 1 horse power in British system?

- A) 726 watts B) 746 watts
C) 756 watts D) 736 watts

Answer: B) 746 watts

31. What is the formula for velocity?

- A) Change of momentum/Time B) Change in velocity/Time
C) Displacement/Time D) Distance covered/Time

Answer: C) Displacement/Time

32. What is the retardation of a car moving with a velocity of 50 km/hr is brought to rest in 45 seconds?

- A) 0.40 m/sec² B) 0.30 m/sec²
C) 0.20 m/sec² D) 0.10 m/sec²

Answer: B) 0.30 m/sec²

33. What is the ratio of power output to power input?

- A) Energy
- C) Efficiency

- B) Acceleration
- D) Work

Answer: C) Efficiency

34. What is the equivalent unit for 1 horse power in metric

system?

- A) 77 kg.m/sec
- C) 78 kg.m/sec

- B) 75 kg.m/sec
- D) 76 kg.m/sec

Answer: B) 75 kg.m/sec
