CLASS VII : SCIENCE
Chapter 13 : MOTION AND TIME

1   Three types of motion are
(a)   Circular, Rotational, Vibratory
(b)   Rectilinear, Circular, Periodic
(c)   Uniform, Periodic, Circular
(d)   Non uniform, Periodic, Temporary

1 (b) Three types of motion are: Rectilinear, Circular, Periodic

2   A faster moving object covers
(a)   Less distance in more time
(b)   More distance in more time
(c)   Less distance in shorter time
(d)   More distance in shorter time

2 (d) A faster moving object covers more distance in shorter time

3   Slower moving vehicle will have
(a)   Higher Speed
(b)   Lower Speed
(c)   Equal Speed
(d)   More Distance

3 (b) Slower moving vehicle will have lower speed.

4   Speed can be defined as the
(a)   Distance traveled in unit time
(b)   Distance traveled
(c)   Distance traveled by light
(d)   None of these

4 (a) Speed can be defined as the distance traveled in unit time

5   Average Speed is the total distance covered
(a)   Divided by distance traveled in one hour
(b)   Multiplied by the total time taken
(c)   Divided by the total time taken
(d)   All of these

5 (c) Average Speed is the total distance covered divided by the total time taken

6   In a uniform motion
(a)   Average speed is the same as the actual speed

(b)   The object is moving along a straight line
(c)   The object is moving a constant speed
(d)   All the three statements are true

6 (d) In a uniform motion the average speed is the same as the actual speed. The object is moving along a straight line with a constant speed

7   If a car is moving with a speed of 45 kilometers per hour, it implies that
(a)   It will cover a distance of 45 metres in one minute
(b)   It will cover a distance of 45 kilometers in one hour
(c)   It will cover a distance of 45 miles in one hour
(d)   It is moving with a constant speed of 45 kilometers per hour

7 (b) If a car is moving with a speed of 45 kilometers per hour, it implies that it will cover a distance of 45 kilometers in one hour

8   If the speed of an object moving along a straight line keeps changing,
(a)   The motion is said to be a uniform motion
(b)   The motion is said to be a non uniform motion
(c)   The object is said to be stationary
(d)   The motion is said to be a fast motion

8 (b) If the speed of an object moving along a straight line keeps changing, the motion is said to be a non uniform motion

9   The time between one sunrise and the next is known as a
(a)   Month
(b)   Year
(c)   Day
(d)   Interval

9 (c) The time between one sunrise and the next is known as a day

10   The time between one new moon to the next can be called a
(a)   Month
(b)   Year
(c)   Day

(d)   Interval

10 (a)   The time between one new moon to the next can be called a month

11   A year was fixed as the time taken by
    (a)   The earth to complete one revolution around its axis
    (b)   The earth around the sun
    (c)   The moon around the earth
    (d)   The satellite around the earth

11 (b)   A year was fixed as the time taken by the earth to complete one revolution around the sun.

12   Time intervals shorter than a day can be measured by using
    (a)   Clock
    (b)   Watch
    (c)   Stop Watch
    (d)   Clock, watch or stop watch

12 (d)   Time intervals shorter than a day can be measured by using a clock, watch or stop watch.

13   Periodic motion is the motion which
    (a)   Repeats itself after a regular interval of time
    (b)   Repeats itself after indefinite time
    (c)   Does not repeat itself
    (d)   Takes same time

13 (a)   Periodic motion is the motion which repeats itself after a regular interval of time

14   The most common example of periodic motion is
    (a)   Digital clock
    (b)   Simple Pendulum
    (c)   Moving car
    (d)   Movement of a pedestrian

14 (b)   The most common example of periodic motion is a simple pendulum

15   A simple pendulum consists of
    (a)   Small metallic ball - bob only
    (b)   A string only

(c) Small metallic ball suspended from a rigid stand by a string

(d) None of these

15 (c) A simple pendulum consists of small metallic ball suspended from a rigid stand by a string

16 Periodic motion is also known as
(a) Rectilinear motion
(b) Circular motion
(c) Non uniform motion
(d) Oscillatory motion

16 (d) Periodic motion is also known as: Oscillatory motion

17 An oscillation is said to be complete when
(a) The bob of pendulum starts from its mean position
(b) Moves to extreme on one side and goes to the extreme on the other side
(c) Returns to its original mean position
(d) The bob of the pendulum starts from its mean position, goes to extreme on one side and then to extreme on the other side and finally comes to the mean position

17 (d) An oscillation is said to be complete when the bob of the pendulum starts from its mean position, goes to extreme on one side and then to extreme on the other side and finally comes to the mean position

18 Time period is defined as
(a) The time taken to complete one revolution
(b) The time taken to go from one extreme to the other
(c) The time taken to return to mean position from the extreme on one side only
(d) All of these

18 (a) Time period is defined as the time taken to complete one revolution

19 Time period is measured by
(a) Releasing the bob from its extreme position and not pushing it
(b) Counting the oscillations when the bob is on the extreme

(c) Noting time taken to complete about 20 oscillations and dividing it by the number of oscillations

(d) All of these

19 (d) Time period is measured by releasing the bob from its extreme position and not pushing it; counting the oscillations when the bob is on the extreme and noting time taken to complete about 20 oscillations and dividing it by the number of oscillations

20 The time period of a simple pendulum does not change if the displacement of bob is slightly changed.

(a) The statement is not always true

(b) The statement is always true

(c) The statement is some times true

(d) The statement is absolutely wrong

20 (b) The time period of a simple pendulum does not change if the displacement of bob is slightly changed.

21 Quartz clocks

(a) Have an electric circuit with one or more cells

(b) Shows more accurate time than the clocks available earlier

(c) Have a pendulum

(d) Are more accurate because they have an electric circuit with one or more cells

21 (d) Quartz clocks are more accurate because they have an electric circuit with one or more cells

22 Basic standard unit of time is a

(a) Second

(b) Hour

(c) Minute

(d) All of these

22 (a) Basic standard unit of time is a second.

23 Speed is directly measured by using device called

(a) Odometer

(b) Speedometer

(c) Both (a) and (b)

(d) None of these

23 (c)   Speed is directly measured by using device called Odometer or Speedometer

24   If the distance-time graph is a straight line, it indicates
    (a)   The speed of the object keeps changing
    (b)   The object is moving with a constant speed
    (c)   The object is not moving
    (d)   None of these
24 (b)   If the distance-time graph is a straight line, it indicates the object is moving with a constant speed

25   The distance-time graph can be used to find
    (a)   Distance moved by an object at any instant of time
    (b)   Speed of the object
    (c)   Distance moved by an object during definite time intervals
    (d)   All of these

25 (d)   The distance-time graph can be used to find the distance moved by an object at any instant of time; speed of the object; the distance moved by an object during definite time intervals

Class 7
L-13 MOTION AND TIME

Difficult questions

1. The total time taken by a vehicle to cover the total distance is given by-

(a) Total time taken = $\dfrac{\text{total distance covered}}{\text{average speed}}$

(b) Total time taken = $\dfrac{\text{average speed}}{\text{total distance covered}}$

(c) Total time taken = $\dfrac{\text{total distance covered}}{\text{speed}}$

$\dfrac{\quad\text{speed}\quad}{}$

(d) Total time taken = total distance covered

Ans: (a)

Explanation: Average speed = $\dfrac{\text{total distance covered}}{\text{total time taken}}$

$\therefore$ Total time taken = average speed x total distance covered

or, Total time taken = $\dfrac{\text{total distance covered}}{\text{average speed}}$

2. The to and fro motion is an example of–
   (a)   Circulatory motion.
   (b)   Oscillatory motion.
   (c)   Periodic motion.
   (d)   Both (b) and (c).

Ans: (d)

Explanation: The to and fro motion is characteristic of simple pendulum. It is also called periodic or oscillatory motion as the oscillations repeat after a fixed time interval.

3. Unit of speed is-
   (a)   m/s
   (b)   m/min
   (c)   km/h
   (d)   All of them.

Ans: (d)

Explanation: Since, speed = $\dfrac{\text{distance}}{\text{time}}$

$\therefore$ Units of speed are m/s, m/min and km/h.

4. Pendulum is used in-
   (a)   Water clocks.
   (b)   Pendulum clocks.

(c)   Sundials.
(d)   All of them.

Ans: (d)

Explanation: Pendulum is found in pendulum clocks. Other devices like water clocks, sundials and sand clocks are time measuring devices lacking a pendulum that were used before the pendulum clocks came into being.

5. A dog is running at a speed of 36 km/h. Its speed in m/s will be-
(a)   10
(b)   3.6
(c)   100
(d)   360

Ans: (a)

Explanation: Speed $= \dfrac{\text{distance}}{\text{time}}$

$$= \dfrac{36 \text{ km}}{1 \text{ h}}$$

$$= \dfrac{36 \times 1000 \text{ m}}{60 \times 60 \text{ s}}$$

$$= \dfrac{36 \times 10 \text{ m}}{6 \times 6 \text{ s}}$$

$$= 10 \text{ m/s}$$

6. The distance time graph is a straight line when-
(a)   An object changes its speed frequently.
(b)   An object changes its direction frequently.
(c)   An object changes is in rest position.
(d)   An object moves with a constant speed.

Ans: (d)

Explanation: When an object moves with a constant speed, the distance time graph is always a straight line.