

Chapter: 1

Q.1 A) Choose the correct alternative and rewrite the sentence (1)

The velocity of a body changes when

- a. Speed changes but direction is constant
- b. direction changes but speed is constant
- c. Speed and direction changes
- d. All of the three

B) Answer the following questions. (2)

1) Find co-related terms

$1 \text{ m/s}^2 : 10^2 \text{ cm/s}^2 :: 1 \text{ N} : \underline{\hspace{2cm}}$

2) Find the odd man out:

2) Force, Momentum, Acceleration, Mass.

Q.2 A) Give scientific reasons (Any one) (2)

- 1) An electric fan keeps on rotating for some time even after it is switched off.
- 2) When an object falls freely to the ground, its acceleration is uniform.

B) Answer the following questions. (Any two) (4)

1) Write short notes

1) Newton's third law of motion (Action and Reaction forces)

2) Distinguish between

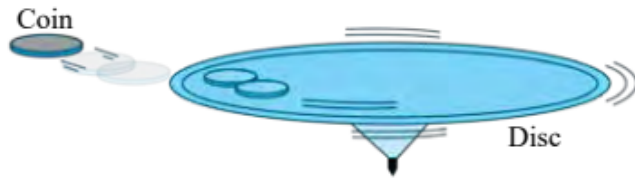
Uniform and Non-uniform motion

3) A person swims 100m in the first 40s, 80m in the next 40s and 45 m in the last 20s. What is the average speed?

Q.3 Answer the following questions. (Any two) (6)

- 1) What happens to speed, velocity and acceleration when an object moves in a circle with uniform speed?
- 2) A train is moving with a uniform velocity of 60km/hr for 5hours. The velocity-time graph for this uniform motion is shown in figure.
 - i. With the help of the graph, how will you determine the distance covered by the train between 2 and 4 hours?
Is there a relation between the distance covered by the train between 2 and 4 hours
 - ii. and the area of a particular quadrangle in the graph? What is the acceleration of the train?

3) Observe the figure and answer the questions.

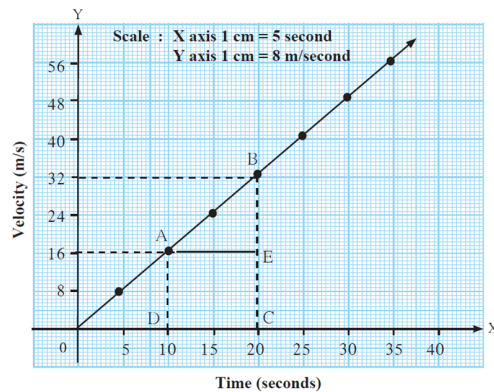


- What does the above figure depict?
- How will you explain the position of the coin seen in the figure?
- What do you infer from the observation?

Q.4 Answer the following questions. (Any one)

(5)

- In the velocity time graph for uniform acceleration. The changes in the velocity of a car in specific time are given in the following table.



- In the above graph represents which type of motion?
 - How much the velocity change in every 5 minutes?
 - For all uniformly accelerated motions, what is the shape for velocity-time graph?
 - For all non-uniformly accelerated motions, what is the shape for velocity-time graph?
 - Calculate the distance covered by the car between the 10th and the 20th seconds.
- Take 5 examples from your surroundings and give explanation based on Newtons laws of motion.