



# Dnyansagar Coaching Classes, A'nagar

## Unit Test

Std. - IX (Semi)

Sub- Science & Technology

Chap - 10 and 11

Time - 1 hrs

Max Marks - 20

- Q.1 (A) Choose the alternative which is correct from the bracket.** 2
- i) The first kinematical equation gives relation between \_\_\_\_\_ and time.
  - ii) The motion of rocket is based on Newton's \_\_\_\_\_ law of motion.
  - iii) The principle used for the motion of rocket is based on Newton's \_\_\_\_\_ law of motion.
  - iv) Retardation means \_\_\_\_\_ acceleration.
- (B) Match the pair** 2
- | Column 1                           | Column 2                          | Column 3   |
|------------------------------------|-----------------------------------|--|
| i) Newton's first law of motion    | Gives an idea of effects of force | A car initially at rest acquires velocity of 50m/s in 10 seconds.                          |
| ii) Positive acceleration          | Also called law of inertia        | In a high jump athletic event, the athletes are made to fall on a sand bed.                |
| iii) Newton's second law of motion | Velocity of a body decreases      | Only the carrom coin at the bottom of a pile is removed when a fast moving striker hits it |
- (C) Name the following.** 2
- i) A set of three equations of motion.
  - ii) S.I. unit of acceleration.
  - iii) C.G.S. unit of force.
  - iv) The scientist who introduced momentum.
- (D) Find odd man out** 2
- i) Force applied to sponge, force applied to a trolley, Force applied to a balloon, Force applied to spring.
  - ii) Force of interaction between bat and ball, force of interaction between gun and bullet, motion of rocket, a person falls when he jumps from a moving bus.
  - iii) flights of birds, motion of vehicles, motion of train, motion of the earth.
  - iv) Negative acceleration, positive acceleration, retardation, deceleration.
- Q.2 (A) Answer in one sentence.** 4
- 1) What is acceleration?
  - 2) An object may appear to be moving for one person and stationary for other. Explain why?
  - 3) State Newton's First law of motion.
  - 4) State Newton's third law of motion.

5) Explain why some of the leaves may get detached from a tree when we vigorously shake the branches?

6) State Newton's Second law of motion.

**B) Give scientific reasons :**

4

1) An object at rest can be considered to have uniform motion.

2) When a body falls freely on the ground, it falls with uniform acceleration.

3) The stock of the gun is always made heavy.

4) It is advised to tie any luggage kept on the roof of the bus with a rope.

**Q.3**

**Solve (any one)**

2

1) An object moves 18m in first 3 second and 22m in the next 3 sec., while it travels 14m in the last 3 sec. Calculate the average speed.

2) An object of mass 16kg moves with an acceleration of  $3\text{m/s}^2$ . Calculate the force acting on it. If the same force is applied to another object of mass 24kg, what will be the acceleration?

**Q.4**

**Distinguish between. (any two)**

2

1) Balanced force and Unbalanced force

2) Inertia of Motion and Inertia of Direction

3) Distance and Displacement

4) Uniform motion and Nonuniform motion

\*\*\*\*\*  
A'Nagar