

Section-3

Q1

Ans-1

Kinematics :- The branch of mechanics that deals with pure motion, without reference to the masses or forces involved in it.

Kinetics :- It is that branch of engineering mechanics which deals with the force system which produces acceleration and resulting motion of bodies.

② Centroid :- The centroid is the centre point of the object.

- The point in which the three medians of the triangle intersect is known as centroid of a triangle.

- It is also defined as the point of intersection of all the three medians.

The median is a line that joins the midpoint of a side to the opposite vertex of the triangle.

- Centre of gravity :- The centre of gravity is the average location of the weight of an object.

⇒ The term centre of gravity applies to bodies with weight while centroid applies to lines, planes, area and volume.

(3) Concept of Dynamic Equilibrium:-

- If the sum of all force acting on the body is zero, then body will be in equilibrium. Such is called "Dynamics".

(4) Virtual Work:- The virtual work arises in the application of the principle of least action to the study of forces and movement of a mechanical system.

- Among all the possible displacements that a particle may follow, called virtual displacements.