3. MOTION IN A STRAIGHT LINE

IMP DEFINITIONS & FORMULAS

1.1 Rectilinear motion: The motion of objects along a straight line is called rectilinear motion.

1.2 Uniform motion: If an object moving along a straight line covers equal distances in equal intervals of time then it is said to be in uniform motion.

1.3. Non-uniform motion: If an object moving along a straight line covers unequal distances in equal intervals of time then it is said to be in non-uniform motion.

2.1 Uniform velocity: A body is said to have uniform velocity, if it covers equal displacements in equal intervals of time , however small the time intervals may be.
Ex: Tiny rain drops reach on to Earth's surface with uniform velocity.

2.2 Non-uniform velocity: A body is said to have non -uniform velocity, if it covers unequal displacements in equal intervals of time (or) the direction of motion of the body changes instantaneously.
Ex : Motion of a freely falling body a Satellite moving around Earth.

2.3 Instantaneous velocity: It is the velocity of a body at a particular instant of its motion .
Ex : The reading in the speedometer of a Bike reflects the magnitude of instantaneous velocity.

3.1 Uniform Acceleration: A body is said to have **uniform Acceleration** if it has equal changes in velocity in equal intervals of time, however small the time intervals may be.
Ex : Motion of a freely falling body.

3.2 Non-uniform Acceleration: A body is said to have **non-uniform Acceleration**, if the magnitude or direction of the acceleration changes with time. **Ex :** Planets around sun

3.3 Instantaneous acceleration: The acceleration of a body at any instant of its motion or at any point along its path is called **Instantaneous acceleration.**

BULLET MASTER'S PHYSI BEATS!

MOTION IN A STRAIGHT LINE [1 SAQ]

• మీ Physics Sir, general గా Junior Inter starting classes లో చెప్పే మొట్టమొదటి chapter ఇదే! ఇందులోని Basic Concepts చాలామందికి lower classes లోనే తెలుసు!!
So, First Chapter is the Best Chapter for All !!

• **ఈ Chapter లో మీరు బాగా గుర్తు పెట్టుకోవలసిన Basic concepts:**
Distance, Displacement, Speed, Velocity, Acceleration,
Equations of Motion, Freely falling Body, Motion under Gravity.

IPE Point of View

ఈ Chapter నుండి ఒక SAQ వస్తుంది.
General గా ఇందులో నుండి Problems అడుగుతారు
కాబట్టి ఈ Chapter లో ఇచ్చిన 6 Imp Problems ను బాగా practice చేయండి.

Most Important Formulas మీ కోసం మరోసారి...

• v=u+at (or) $\upsilon = \upsilon_0 + at$ • $s = ut + \frac{1}{2}at^2$ (or) $x = \upsilon_0 t + \frac{1}{2}at^2$

• $v^2 - u^2 = 2ax$ (or) $\upsilon^2 = \upsilon_0^2 + 2ax$