Resource person: Sujisha Sumith   **Name of the student :**

Date :   **Class : IX**

	One mark questions
1.	Which of the two has more inertia – a cotton ball or an iron ball of the same size? Give reason.
2.	Velocity of a body of mass **m** moving with velocity **v** is increased to **2v**.What is its new momentum?
4.	If the first law of motion hold true, Why does a ball rolling on a straight road stop on its own?
5.	What is the negative effect of friction on your shoes?
6.	How can the effect mentioned in the above question be reduced in machine parts?
	Two mark questions
7.	A swimmer is able to swim in a forward direction in a swimming pool only when he is pushing the water in the backward direction.Justify the statement.
8.	A constant retarding foce of 50 N is applied to a body of mass 30kg moving initially with a speed of 18 m/s. How long does the body take to come to halt?
9.	State Newton's First law of motion. Give an example to illustrate this law.

10.	Give reason:
	  a) All the cars are provided with seat belts
	
	  b) Road accidents at high speeds are worse than accidents at low speed.
	
	  c) Its difficult for a fireman to hold hose which ejects large amount of water with high velocity.

11.	State law of conservation of momentum.
12.	A cricket ball of mass 0.16kg moving with a speed of 20 m/s is brought to rest by a player in 0.1 second.What is the average force applied by the player.
13.	Calculate the change in momentum of a car of mass 1500 kg when its speed increases from 18 km/h to 90 km/h.
14	Define momentum and give its SI unit.

	Three mark questions
15.	An auto driver moving with a speed of 36 km/h sees a child standing in the middile of the road.He applies brake and brings his vehicle to rest in 5 seconds ,just in time to save the child.If the total mass of the auto and the driver is 450 kg calculate the force of brake .
16.	State Newton's Second law of motion. Obtain its mathematical expression.
17.	Prove that initial momentum of a system of two colliding masses is equal to their final momentum.
18.	A body of mass 2 kg , initially moving with a veolocity of 10 m/s collides with another body of mass 5 kg at rest. After collision the velocity of the first body becomes 1 m/s. Find the velocity of the second body.
19.	State Newton's third law of motion .Explain why a gun recoils after firing with much less velocity than bullet?
20	A truck starts from rest and rolls down the hill with constatnt acceleration . It travels a distance of 4m in 20 seconds . Find its acceleration and also calculate the force on it , if its mass is 7 metric tonnes. (hint : 1 metric tonn = 1000 kg)