INDIAN SCHOOL DARSAIT
Class IX -Physics
Topic: Force and laws of motion

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

Date : **Class : IX**

	One mark questions
1.	How do safety belts of cars help in preventing accidents?
2.	Velocity of a body of mass **m** moving with velocity **v** is reduced to half of its previous value. 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) A jet plane releases a lot of hot gases before taking off. 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.	A car of mass 1500kg travelling at 25 m/s collides with another car 3 of mass 1000kg travelling with a speed 15 m/s in the same direction. After the collision the velocity of car A becomes 20 m/s.Calculate the velocity of car B after the collision.
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 constant retarding force of 200 N is acting on a body of mass50 kg moving initially with the speed of 20 m/s. How long the body does takes to stop?