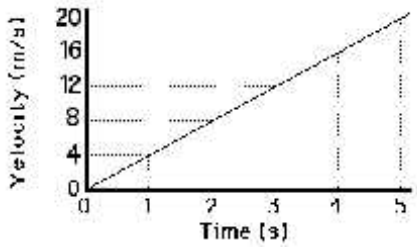
INDIAN SCHOOL DARSAIT
DEPARTMENT OF SCIENCE

Subject : PHYSICS Topic: Force and laws motion.

Resource Person: Mrs. Sonia Antony Date : 07/08/17
Worksheet no#02
Name of the Student:…… Class & Division :…….. Roll Number:……

Q.NO	QUESTIONS	MARKS
1	Name the physical quantity which is the combined effect of mass and velocity. Is it scalar or vector?	1
2	An athlete always runs some distance before taking a jump. Why?	1
3	What do you mean by friction?	1
4	Name the principle on which rocket works.	1
5	Why it is advised to tie the luggage with a rope on the roof of buses?	1
6	Write a definition for the SI unit of force.	1
7	Is it necessary that two bodies must be in contact to exert force on each other? If not, give an example.	1
8	Which of the following has more inertia and why? 1. Rubber ball or stone ball of same size, 2. A five rupees coin or one rupee coin, 3. A bicycle or a train, 4. A body of mass 10kg and volume 100 cm^3 or a body of mass 50 kg and volume 50 cm^3? 5.	2
9	Why Newton's first law of motion is also known as law of inertia?	2
10	What are the various effects produced by a force?	2
11	A child sets a five rupees coin on a stiff card covering an empty glass tumbler. He gives the card a sharp horizontal flick with his finger. The card shoots away. a) What happens to the coin? b) State the law which helps to understand this observation. c)	2
12	State Newton's third law of motion. Give any two examples to illustrate Newton's third law of motion.	2

13	Two blocks made of different metals identical in size and shape are acted upon by equal forces which cause them to slide on a horizontal surface. The acceleration of second block is found to be five times that of first. What is the ratio of mass of the second block to the first?	2
14	Explain why a) When a moving bus comes to halt, a person in the bus tends to fall forward. b) When a carpet is beaten with a stick, dust particles get separated. c) Water get separated when the wet cloth is shaken. d) The person seated inside the bus tends to fall backward, when the bus starts suddenly.	2
15	State and prove the law of conservation of momentum.	3
16	An object of mass 1.5 kg is moving with a velocity30cm/s. Find its momentum.	2
17	A force of 0.6 N acting on a body increases it's velocity from5m/s to 6m/s in 2s, calculate the mass of body.	2
18	Calculate the force required impacting a velocity of 20m/s to a car in 10s.Given the mass of car is 1500kg.	2
19	A force of 5N gives a mass m_1 an acceleration of$8m/s^2$ and another mass m_2 an acceleration of$24\ m/s^2$. What acceleration would it give, if both the masses are tied together?	2
20	The motion of a body of mass 5 kg is shown in V-t graph. Find a)It's acceleration. b)force acting on the body. c)The change in momentum 2s after start.  	3