INDIAN SCHOOL DARSAIT
DEPARTMENT OF SCIENCE

Subject : PHYSICS Topic: Gravitation-1

Resource Person: Mrs. Sonia Antony Worksheet no#03 Date : 27/08/17
Name of the Student:…… Class & Division :…….. Roll Number:…….

Q.NO	QUESTIONS	MARKS
1	Why acceleration due to gravity at poles is greater than that at equator?	1
2	If the distance between two bodies is doubled, by what factor force of gravitation changes?	1
3	What is acceleration due to gravity at the center of earth?	1
4	Name the device used to measure the mass f an object.	1
5	Is it possible that a body has zero weight and non-zero mass? Explain.	1
6	What do you mean by free fall?	1
7	Give reason: A sheet of paper falls slower than when it is crumpled in to a ball.	1
8	List the properties of gravitational force.	2
9	Write the differences between mass and weight.	2
10	Define the universal gravitational constant and write its value.	2
11	Write any two applications of universal gravitational force.	2
12	Show that weight of an object on the moon is$1/6^{th}$ of mass on earth.	2
13	Force of gravity on a mass of 15 kg on the surface of a planet is 25N.Find acceleration due to gravity due to this planet.	2
14	A stone is released from the top of a tower of height 980m.Calculate its velocity after 3 seconds.	2
15	For two planets, ratio of their radii is 1:2; ratio of their mass is 2:3.Find the ratio of weights of a body on the planet.	2
16	An object weighs 10N when measured on the surface of earth. What would be its	2

	weight on the surface of moon?	
17	What is the magnitude of gravitational force between the earth and 1kg object on its surface?(mass of earth is 6.4×10^{24}kg and radius of earth is 6.4×10^{6}m)	2
18	A Toy car falls to the ground in 0.4s.Calculate its speed just before striking the ground.	2
19	A particle is dropped from a tower of height 2000m.Find its velocity before it hits the ground and time to reach the ground.($g=10 m/s^2$)	2
20	Find the height of a point from the surface of earth where acceleration due to gravity due to earth is $1/4^{th}$ that on the surface.	3