Question Bank
Grade 9
Ch 10-Gravitation

Q.No	Questions	Answers
1	Two objects of different masses falling freely near the surface of the moon would (a) have same velocities at any instant (b) have different acceleration (c) experience forces of same magnitude (d) undergo a change in their inertia	(a) have same velocities at any instant
2	A boy is whirling a stone tied to a string in a horizontal circular path. If the string breaks, the stone (a) will continue to move in the circular path (b) will move along a straight line towards the centreof the circular path (c) will move along a straight line tangential to the circular path (d) will move along a straight line perpendicular to the circular path away from the boy	(c) will move along a straight line tangential to the circular path
3	Law of gravitation gives the gravitational force between (a) the Earth and a point mass only (b) the Earth and Sun only (c) any two bodies having some mass (d) two charged bodies only	(c) any two bodies having some mass
4	The value of quantity G in the law of gravitation (a) depends on mass of Earth only (b) depends on radius of Earth only (c) depends on both mass and radius of Earth (d) is independent of mass and radius of the Earth	(d) is independent of mass and radius of the Earth
5	The atmosphere is held to the Earth by (a) gravity (b) wind (c) clouds	(a) gravity

	(d) Earth's magnetic field	
6	The force of attraction between two unit point masses separated by a unit distance is called (a) gravitational potential (b) acceleration due to gravity (c) gravitational field (d) universal gravitational constant	(d) universal gravitational constant
7	An object weighs 10 N in air. When immersed fully in water, it weighs only 8 N. The weight of the liquid displaced by the object will be (a) 2 N (b) 8 N (c) 10 N (d) 12 N	(a) 2 N
8	A girl stands on a box having 60 cm length, 40 cm breadth and 20 cm width in three ways. In which of the following cases, pressure exerted by the box will be (a) maximum when length and breadth form the base (b) maximum when breadth and width form the base (c) maximum when width and length form the base (d) the same in all the above three cases	(b) maximum when breadth and width form the base
9	The acceleration due to gravity on the Earth depends upon the (a) mass of the body (b) mass of the Earth (c) shape and size of the body (d) volume of the body	(b) mass of the Earth
10	When a ship floats in sea water (a) The weight of water displaced is greater than the weight of ship (b) The weight of water displaced is less than the weight of the ship (c) The weight of water displaced is equal to the weight of the ship (d) It displaces no water.	(c) The weight of water displaced is equal to the weight of the ship

11	If the gravitational attraction of the Earth suddenly disappears, which of the following statements will be true? (a) The weight of body will become zero but the mass will remain same. (b) The weight of a body will remain same but the mass will become zero. (c) Both mass and weight become zero. (d) Neither mass nor weight becomes zero.	(a) The weight of body will become zero but the mass will remain same.
12	When a mango falls from a mango tree then (a) only the Earth attracts the mango. (b) only the mango attracts the Earth. (c) both the mango and the Earth attract each other. (d) both the mango and the Earth repel each other.	(c) both the mango and the Earth attract each other.
13	Which of the following statements is true of the value of acceleration due to gravity? a. The value is the same on the equator and poles b. The value is least on poles c. The value is almost negligible on the equator d. The value increases from pole to equator	(c) The value is almost negligible on the equator
14	The gravitational force between two bodies does not depend on a. their masses b. their separation c. the product of their masses d. the medium between two bodies	d. the medium between two bodies
15	**The SI unit of mass is_____.** (a) milligram (b) gram (c) kilogram (d) All of these	(c) kilogram

16	What will happen to the gravitational force between two bodies if the masses of one body is doubled?	If the mass of one body is doubled, force is also doubled.
17	Why is ‘G’ called the universal gravitational constant?	The constant ‘G’ is universal because it is independent of the nature and sizes of bodies, the space where they are kept and at the time at which the force is considered.
18	How is gravitation different from gravity?	Gravitation is the force of attraction between any two bodies while gravity refers to attraction between any body and the earth.
19	What keeps the moon in uniform circular motion around the earth?	Gravitational force between moon and the earth keeps moon in uniform circular motion around the earth.
20	When a body is thrown vertically upwards, what is its final velocity?	zero
21	What is the source of centripetal force that a planet requires to revolve around the Sun? On what factors does that force depend?	Gravitational force is the source of centripetal force that a planet requires to revolve around the Sun. This force depends on the mass of the planet and the Sun and their separation.
22	Why does wooden block not sink into water?	We know the condition of sink objects into water. If the density of object is less than density of water then that objects does not sink into water. The density of wooden block is less than water.

		Thus wooden block does not sink into water.
23	Why does brick sink into water.	We know the condition of sink objects into water. If the density of object is less than density of water then that objects does not sink into water. The density of brick is greater than water. Brick sink into water.
24	State the applications of Archimedes principle.	Archimedes principle is widely used in purposes. Some applications are as, ● Archimedes principle is used to design submarines and ships. ● We calculate the purity of milk using lactometer. The lactometer is based on Archimedes principle. ● It is used to find the purity of metals.
25	A piece of paper takes greater time to reach at ground from certain height than crumpled paper. Explain.	When an object falls on ground then air resistance opposes this motion. This air resistance depends on the area. If area is greater then air resistance also greater. The area of paper is greater than area of crumpled paper. So due to maximum oppose the paper takes greater time to reach at

		ground than crumpled paper.