**Karan Arora**  **R.L. Institute M: 9416974837**

**Max Time : 1 hr** **Class = 9th Science Test Max Marks : 25**

**GRAVITATION**

1. Multiple choice questions : [ 1 X 5 = 5 ]
2. What is represented by G?

|  |  |
| --- | --- |
| a) Acceleration due to gravity | b) Universal gravitation constant |
| c) Both (a) and (b) | d) neither (a) and (b) |

1. The correct relation between g and G is :

|  |  |  |  |
| --- | --- | --- | --- |
| a) g = | b) G = | c) g = G | d) g = |

1. What is the value of acceleration of free fall?

|  |  |  |  |
| --- | --- | --- | --- |
| a) 5 m/s2 | b) 15 m/s2 | c) 20 m/s2 | d) 9.8 m/s2 |

1. The distance between two objects is halved. How does gravitational force (F) between them changed? It becomes :

|  |  |  |  |
| --- | --- | --- | --- |
| a) 2 F | b) F | c) 4 F | d) F/4 |

1. SI unit of weight is :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Newton | b) Kilogram | c) gram | d) none of these |

1. What is the ratio of weight of an object on moon to its weight on earth? [ 1 ]
2. State universal law of gravitation. [ 1 ]
3. What do you mean by free fall? [ 1 ]
4. Mass of an object is 10 kg. What is its weight on Earth? [ 1 ]
5. What are the differences between mass of an object and its weight? [ 2 ]
6. Write 4 importance of universal law of gravitation. [ 2 ]
7. A sphere of mass 40 kg and another sphere of mass 15 kg when their centers are 20 cm apart, calculate the gravitational force of attraction between them. [ 3 ]
8. Two electrons of mass 9.1 x 10 – 31 kg are at distance of 10 x 10 – 10 m. Calculate the gravitational force of attraction between them. [ 3 ]
9. A ball is thrown vertically upwards with a velocity of 49 m /s. Calculate : [ 3 ]
10. The maximum height to which it rises,
11. The total time it takes to return to the surface of the Earth.
12. A force of 20 N acts upon a body whose weight is 9.8 N. What is the mass of the body and how much is its acceleration. [ 3 ]

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