

## GRAVITATION

Question (1): SI unit of gravitational constant is \_\_\_\_\_.

1.  $\text{N m}^2\text{kg}^2$
2.  $\text{N m}^2\text{kg}^{-2}$
3.  $\text{N m}^2\text{s}^{-2}$
4.  $\text{N mkg}^{-2}$

Ans: 2

Question (2): What is the value of gravitational constant?

1.  $6.6734 \times 10^{-11} \text{N m}^2/\text{kg}^2$
2.  $6.6734 \times 10^{-10} \text{N m}^2/\text{kg}^2$
3.  $6.6734 \times 10^{-11} \text{N m}/\text{kg}^2$
4.  $6.6734 \times 10^{-11} \text{N m}^2/\text{kg}$

Ans: 1

Question (3): If the distance between two bodies is doubled, the force of attraction F between them will be \_\_\_\_\_

1.  $1/4 F$
2.  $2 F$
3.  $1/2 F$
4.  $F$

Ans: 1

Question (4): The force of gravitation between two bodies in the universe does not depend on

1. the distance between them
2. the product of their masses
3. the sum of their masses
4. the gravitational constant

Ans: 3

Question (5): Name the fundamental force which holds the planets in their orbits around the sun.

1. Gravitational force of attraction
2. Electrostatic static force of attraction
3. Nuclear force of attraction
4. Electro static force of attraction

Ans: 1

Question (6): When an object is thrown up, the force of gravity \_\_\_\_\_.

1. is opposite to the direction of motion
2. is in the same direction as the direction of motion
3. becomes zero at the highest point
4. increases as it rises up

Ans: 1

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Question (7): What is the final velocity of a body moving against gravity when it attains the maximum height?

1. Zero
2.  $\frac{u^2}{2g}$
3.  $\frac{h}{t}$
4.  $2gh$

Ans: 1

Question (8): A stone is dropped from a cliff. Its speed after it has fallen 100 m is

1. 9.8 m/s
2. 44.2 m/s
3. 19.6 m/s
4. 98 m/s

Ans: 2

Question (9): A ball is thrown up and attains a maximum height of 100 m. Its initial speed was

1. 9.8 m/s
2. 44.2 m/s
3. 19.6 m/s
4. 98 m/s

Ans: 2

Question (10): A stone dropped from the roof of a building takes 4 seconds to reach the ground. What is the height of the building?

1. 19.6 m
2. 39.2 m
3. 156.8 m
4. 78.4 m

Ans: 4

Question (11): The acceleration due to gravity is zero at \_\_\_\_\_.

1. the equator
2. poles
3. sea level
4. the centre of the earth

Ans: 4

Question (12): If acceleration due to gravity on earth is  $10 \text{ m/s}^2$  then, the acceleration due to gravity on moon is \_\_\_\_\_.

1.  $1.66 \text{ m/s}^2$
2.  $16.6 \text{ m/s}^2$
3.  $10 \text{ m/s}^2$
4.  $0.166 \text{ m/s}^2$

Ans: 1

Question (13): The second equation of motion for a freely falling body starting from rest is \_\_\_\_\_.

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1.  $h = ut + \frac{1}{2}gt^2$

2.  $h = ut - \frac{1}{2}gt^2$

3.  $h = \frac{1}{2}gt^2$

4.  $h = -\frac{1}{2}gt^2$

Ans: 3

Question (14): The acceleration due to gravity of a body moving against gravity is

1.  $9.8 \text{ m/s}^2$

2.  $-9.8 \text{ m/s}^2$

3.  $\pm 9.8 \text{ m/s}^2$

4.  $9.6 \text{ m/s}$

Ans: 2

Question (15): A feather and a coin released simultaneously from the same height do not reach the ground at the same time because of the \_\_\_\_\_.

1. resistance of the air

2. force of gravity

3. force of gravitation

4. difference in mass

Ans: 1

Question (16): The weight of an object of mass 10 kg on earth is \_\_\_\_\_.

1. 9.8 N

2. 9.8 kg

3. 98 N

4. 98 kg

Ans: 3

Question (17): The weight of an object of mass 15 kg at the centre of the earth is \_\_\_\_\_.

1. 147 N

2. 147 kg

3. zero

4. 150 N

Ans: 3

Question (18): Mass remains \_\_\_\_\_ throughout the universe.

1. varies

2. zero

3. constant

4. negative

Ans: 3

Question (19): SI unit of weight is \_\_\_\_\_.

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1. newton
2. kg
3. Wt
4. kg.wt

Question (20): 100 kg.wt=\_\_\_\_\_.

1. 980 N
2. 9.800 N
3. 1000 N
4. 0.98 N

Ans: 1

Question (21): How much would a man, whose mass is 60 kg weigh on the moon?

1. 9.8 N
2. 600 N
3. 60 N
4. 98 N

Ans: 1

Question (22): What is the mass of an object whose weight on earth is 196 N?

1. 20 kg
2. 0.20 kg
3. 1960 kg
4. 2 kg

Ans: 4

Question (23): The upward force acting on an object submerged in a liquid is \_\_\_\_\_.

1. thrust
2. buoyant force
3. pressure
4. force of friction

Ans: 1

Question (24): The normal force per unit area is called \_\_\_\_\_.

1. pressure
2. thrust
3. balanced force
4. pascal

Ans: 2

Question (25): If the mass of a ball is 5 kg on earth, then what would be its mass on Jupiter?

1. 5 kg
2. 5000 kg
3. 40000 kg
4. 50 kg

Ans: 1

Ans: 1