

Success Key Worksheet

Std: Class 10 (Eng.& Semi)

Ch.1 Gravitation
(DPP 1)

Time: 1 Hr.

Date:

Science and Technology -1

Marks: 25

Q.1) Choose the correct alternative and rewrite the statements:

15

- The sum of the distance to the two focal points from every point on the curves is _____.
(a) constant (b) keep changing
(c) gradually decreases (d) first decreases then increases
- The orbit of a planet is an _____ with the sun at one foci.
(a) ellipse (b) circular
(c) planar (d) triangular
- The gravitational force is much _____ them other forces in nature but it controls the universe and decide future.
(a) stronger (b) larger
(c) weaker (d) shorter
- The weight of an object is defined as the force with which the _____ attract the object.
(a) moon (b) earth (c) sun (d) mars
- The moon and artificial satellites are moving only under the influence of the _____ of the earth.
(a) gravitational field (b) electric field
(c) magnetic field (d) all above
- Newton's was the first scientist to construct a _____ telescope.
(a) refracting (b) reflecting
(c) advance (d) uniform
- A force acts on any objects moving along circle and it is directed toward the centre of the circle, is called its _____.
(a) centrifugal force (b) centripetal force
(c) gravitational force (d) magnetic force
- The gravitational force between two bodies is _____.
(a) always repulsive
(b) always attractive
(c) attractive only at large distances
(d) repulsive only at large distances
- The force of attraction between two unit point masses separated by a unit distance equals _____.
(a) gravitational potential (b) acceleration due to gravity
(c) gravitational field (d) universal gravitational constant
- Each 1 kg mass experience force of _____.
(a) 9.18 N (b) 9.81 N
(c) 8.91 N (d) 8.19 N

11. Time taken to complete a revolution around a planet is called _____.

- (a) time period
- (b) orbital period
- (c) frequency
- (d) wavelength

12. Which of the following statement about the gravitational constant is true?

- (a) It is a force
- (b) It has no limit
- (c) It has same value in all systems of units
- (d) It does not depend on the nature of the medium in which the bodies are kept.

13. The value of acceleration due to gravity of the surface of the earth is _____.

- (a) 6 m/s^2
- (b) 9.8 m/s^2
- (c) 4.9 m/s^2
- (d) 90.8 m/s^2

14. The force which keeps the body to move in circular motion when accelerated is _____.

- (a) magnetic force
- (b) centripetal force
- (c) electrostatic force
- (d) force of gravitation

15. The gravitational force of attraction between satellite and earth provides _____.

- (a) centrifugal force
- (b) centripetal force
- (c) resistive force
- (d) none of above

Q.2) State whether Right or Wrong.

5

1. The moon has a greater gravitational pull than Earth.
2. The gravitational force between two bodies changes if a material body is placed between them.
3. Gravity of Earth attracts all objects towards the centre of earth.
4. The universal gravitational constant is independent of the intervening medium.
5. Gravity helps the earth to stay in orbit around the sun.

Q.3) State True Or False.

5

1. The centre of mass of any object having uniform density is at its centroid.
2. The weight of an object is defined as the force with which the earth attracts the object.
3. The earth attracts every object near it towards itself because of the gravitational force.
4. The level of water in the sea changes because of the gravitational force exerted by the moon
5. The force of gravity due to the earth acts on each and every object.

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(DPP 1) Answer Key
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Q.1) Choose the correct alternative and rewrite the statements:

15

- 1) **Ans.**(a) constant
- 2) **Ans.**(a) ellipse
- 3) **Ans.**(c) weaker
- 4) **Ans.**(b) earth
- 5) **Ans.**(a) gravitational field
- 6) **Ans.**(b) reflecting
- 7) **Ans.**(a) centrifugal force
- 8) **Ans.**(b) always attractive
- 9) **Ans.**(d) universal gravitational constant
- 10) **Ans.**(b) 9.81 N
- 11) **Ans.**(b) orbital period
- 12) **Ans.**(d) It does not depend on the nature of the medium in which the bodies are kept.
- 13) **Ans.**(b) 9.8 m/s^2
- 14) **Ans.**(b) centripetal force
- 15) **Ans.**(b) centripetal force

Q.2) State whether Right or Wrong.

5

- 1) **Ans.** Wrong. The moon has a smaller mass than Earth so its gravitational pull is weaker.
- 2) **Ans.** Wrong. Gravitational force is the force between two bodies irrespective of the presence of any object between them.
- 3) **Ans.** Right
- 4) **Ans.** Right
- 5) **Ans.** Right

Q.3) State True Or False.

5

- 1) **Ans.** True.
- 2) **Ans.** True
- 3) **Ans.** True
- 4) **Ans.** True
- 5) **Ans.** True

Success Key Worksheet

Std: Class 10 (Eng.& Semi)

Ch.1 Gravitation

Time: 1 Hr.

DPP 2

Date:

Subject: Science and Technology -1

Max Marks: 25

Q.1) Choose the correct alternative and rewrite the statements:

15

- 1) Which force is directed towards the centre?
(a) circular force (b) linear force
(c) centripetal force (d) centrifugal force
- 2) The orbit of a planet is an ellipse with the sun at one of the foci is _____.
(a) Kepler's first law (b) Kepler's second law
(c) Kepler's third law (d) Newton's first law
- 3) The square of its period of revolution around the sun is directly proportional to the cube of the mean distance of a planet from the sun.
(a) Kepler's first law (b) Kepler's second law
(c) Kepler's third law (d) Newton's first law
- 4) According to Kepler's Third law _____.
(a) $T^2 / r^2 = k$ (b) $T^3 / r^3 = k$
(c) $T^2 / r^3 = k$ (d) $T^3 / r^2 = k$
- 5) A force acting on a body results in its _____.
(a) velocity (b) speed
(c) acceleration (d) displacement
- 6) _____ dropped two spheres of different masses from the tower of Pisa.
(a) Newton (b) Kepler
(c) Galileo (d) Dalton
- 7) The energy stored in an object because of its position is called _____.
(a) electric energy (b) magnetic energy
(c) potential energy (d) kinetic energy
- 8) Who was appointed as the royal mathematician in place of Brahe?
(a) Newton (b) Kepler
(c) Galileo (d) Dalton
- 9) The motion of any object under the influence of the force of gravity alone is called _____.
(a) acceleration (b) free fall
(c) gravitation (d) centrifugal force
- 10) Gravitational constant is a _____ quantity.
(a) vector (b) scalar
(c) zero (d) infinite

- 11) What is the gravitational force between two objects?
(a) attractive at large distances only
(b) attractive at small distance only
(c) attractive at all distances
(d) attractive at large distances but repulsive at small distances
- 12) The value of 'g'
(a) Increases as we go above the earth's surface
(b) Decreases as we go to the centre of the earth's
(c) Remains constant
(d) Is more at equator and less at poles
- 13) The ball is thrown up, the value of 'g' will be
(a) zero (b) positive
(c) negative (d) negligible
- 14) The gravitational force causes _____.
(a) Tides (b) Motion of moon
(c) None of them (d) Both 'a' and 'b'
- 15) The mass of the body on moon is 40 kg, what is the weight on the earth.
(a) 240 kg (b) 392 N
(c) 240 N (d) 400 kg

Q.2) State whether Right or Wrong.

5

- 1) Gravity helps the earth to stay in orbit around the sun.
- 2) The more mass of an object has, the faster it will fall.
- 3) The gravity of an object is depends on weight.
- 4) Your weight is more on mars than sun.
- 5) A falling stone also attracts the earth.

Q.3) State True Or False.

5

- 1) Newton's gravitational law means that if the distance is doubled, the force decreases by a factor of 2.
- 2) The moon and the artificial satellites are moving only under the influence of the gravitational field of the earth.
- 3) According to Newton's third law of motion, a force acting on a body results in its acceleration.
- 4) Mass is the amount of matter present in the object.
- 5) Light is a type of wave called the electromagnetic wave?

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Ch. 1 Gravitation

Time: 1 Hr.

DPP 2 (Answer key)

Date:

Subject: Science and Technology -1

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Q.1) Choose the correct alternative and rewrite the statements:

15

- 1)Ans. (c) centripetal force
- 2)Ans. (a) Kepler's first law
- 3)Ans. (c) Kepler's third law
- 4)Ans. (c) $T^2 / r^3 = k$
- 5)Ans. (c) acceleration
- 6)Ans. (c) Galileo
- 7)Ans. (c) potential energy
- 8)Ans. (b) Kepler
- 9)Ans. (b) free fall
- 10)Ans. (b) scalar
- 11)Ans. (c) attractive at all distances
- 12)Ans. (b) Decreases as we go to the centre of the earth's
- 13)Ans. (c) negative
- 14)Ans. (d) Both 'a' and 'b'
- 15)Ans. (b) 392 N

Q.2) State whether Right or Wrong.

5

- 1)Ans. Right
- 2)Ans. Wrong. It is not depends on mass of an objects.
- 3)Ans. Wrong. The gravity of an object is depends on mass.
- 4)Ans. Wrong. Your weight is more on sun than Mars.
- 5)Ans. Right

Q.3) State True Or False.

5

- 1)Ans. False
- 2)Ans. True
- 3)Ans. False
- 4)Ans. True
- 5)Ans. True