

11. According to the third law of motion, action and reaction
- (a) always act on the same body
 - (b) always act on different bodies in opposite directions
 - (c) have same magnitude and direction
 - (d) act on either body at normal to each other
12. The value of acceleration due to gravity
- (a) is least on equator
 - (b) is least on poles
 - (c) is same on equator and poles
 - (d) increases from pole to equator
13. The gravitational force between two objects is F . If the masses of both objects are halved without changing distance between them, then the gravitational force would become
- (a) $F/4$ (b) $F/2$ (c) F (d) $2F$
14. Among the given options, which one is not correct for the use of large amount of fertilisers and pesticides?
- (a) They are eco-friendly
 - (b) They turn the fields barren after some time
 - (c) They remove the useful component from the soil
 - (d) They destroy the soil fertility
15. Find out the correct sentence
- (i) Hybridisation means crossing between genetically dissimilar plants.
 - (ii) Cross between two varieties is called as inter specific hybridisation.
 - (iii) Introducing genes of desired character into a plant gives genetically modified crop.
 - (iv) Cross between plants of two species is called as inter varietal.
- (a) (i) and (iii) (b) (ii) and (iv) (c) (ii) and (iii) (d) (iii) and (iv)
16. Find out the correct sentence about manure
- (i) Manure contains large quantities of organic matter and small quantities of nutrients.
 - (ii) It increases the water holding capacity of sandy soil.
 - (iii) It helps in draining out of excess of water from clayey soil.
 - (iv) Its excessive use pollutes environment because it is made of animal excretory waste.
- (a) (i) and (iii) (b) (i) and (ii) (c) (ii) and (iii) (d) (iii) and (iv)
17. If a bus starts suddenly, the passengers in the bus will tend to fall
- (a) In the direction opposite to the direction of motion of bus.
 - (b) In the same direction as the direction of motion of bus.
 - (c) Sideways.
 - (d) None of the above.
18. A student lowers a body in a liquid filled in a container. He finds that there is a maximum apparent loss in weight of the body when
- (a) It just touches the surface of the liquid.
 - (b) It is completely immersed in the liquid.
 - (c) It is partially immersed in the liquid.
 - (d) It is partially immersed and also touches the sides of the container.

19. An athlete runs some distance before taking a long jump because
- (a) He gains energy to take him through long distance.
 - (b) It helps him to apply large force.
 - (c) By running action and reaction forces increase.
 - (d) By running the athlete gives himself larger inertia of motion.
20. A rider on a horseback falls back when horse starts running all of a sudden because
- (a) Rider is taken back.
 - (b) Rider is suddenly afraid of falling.
 - (c) Inertia of rest keeps the upper part of body at rest whereas the lower part of the body moves forward with the horse.
 - (d) None of the above.