FRICTION

<1M>

1.When does a body start motion?

2.What is the cause of friction?

3.What is rolling friction?

4.What is sliding friction?

5.What do you mean by the term drag?

6.What is the direction of frictional force?

7.Find the odd one out with reason; Gravitational force, magnetic force, electrostatic force and frictional force.

8.What is force of friction?

9.Explain, how the frictional force is used to stop a moving bicycle?

10.What is the most common way to reduce friction?

(A) Lubrication. (B) Warning signs. (C) Eliminate the motion. (D) None.

11.Do you want to increase or decrease friction when riding a bicycle?

(A) Increase. (B) Both. (C) Decrease. (D) None.

12.Why is it harder to start to slide a heavy box across the floor than to keep it sliding?

(A) Static friction is greater than kinetic friction.

(B) Kinetic friction is greater than the static friction.

(C) Sliding friction is less than rolling friction.

(D) None.

13.What is an advantage of using rollers instead of sliding an object?

(A) Rollers are much less expensive

(B) Rolling friction is much less than sliding friction

(C) Rolling friction has the advantage of being greater than sliding friction.

(D) None

14.Why is it easier to move water through a hose than grease?

(A) Since grease is slippery, it actually moves easier than water.

(B) Water has less viscosity than grease and thus less fluid friction.

(C) Because you would never move grease through a hose in the first place.

(D) None.

15.What effect does surface roughness have on friction?

(A) It is the main reason for friction.

(B) It only has a small effect unless the roughness is extreme.

(C) It depends if the materials are solids or liquids.

(D) None.

16.Friction is:

(A) Always a disadvantage.

(B) Always an advantage.

(C) Sometimes a disadvantage and sometimes an advantage.

(D) Neither an advantage nor a disadvantage.

17.Friction forces act:

(A) In the direction of force applied.

(B) In the direction of the motion.

(C) In the direction opposite to the direction of motion.

(D) None of these.

18.The effect of frictional force may be minimized by:

(A) Using a smooth object.

(B) Using a smooth plane.

(C) Providing a lubricant at the surface of contact.

(D) All of these.

19.A car slips on a wet road because

(A) Water increases the friction between the road and the tyres.

(B) It is not possible to apply brakes on a wet road.

(C) The friction between the brakes shoes and the wheels is reduced.

(D) Water reduce the friction between the road and the tyres.

20.Friction force is:

(A) Contact force.

(B) Non-Contact force.

(C) Muscular force. (D) None of these.

21.Friction can be reduced by

(A) Polishing. (B) Oiling. (C) By use the ball bearing. (D) All of these.

22.Which force is a contact force:

(A) Magnetic. (B) Electrostatic. (C) Gravitational. (D) Frictional.

23.Rocket has a special streamlined body in order to:

(A) Increase friction. (B) Reduced friction.

(C) Make them attractive. (D) None of these.

24.Grooves in tyre:

(A) Increase friction of the tyre with the road.

(B) Decrease friction of the tyre with the road.

(C) Do not affect friction of the tyre with the road.

(D) Make the tyre look good.

25.Burning of the meteor in the atmosphere is due to:

(A) Electrostatic force. (B) Magnetic force.

(C) Frictional force. (D) Gravitational force.

26.Fluid friction do not depends on:

(A) Speed of object. (B) Shape of object. (C) Nature of the fluid. (D) Speed of the fluid.

27.When an object moves through a liquid, it experiences

(A) Static friction. (B) Sliding friction. (C) Fluid friction. (D) Rolling friction.

28.The force of friction do not depends on:

(A) Material of the object. (B) Wetness of the surface.

(C) Roughness of the surface. (D) Distance of the object from the surface.

29.When one surface attempts to move over another surface, it experiences:

(A) Static friction. (B) Sliding friction. (C) Fluid friction. (D) Rolling friction.

30.When one body slide over another body in contact than it experiences:

(A) Static friction. (B) Sliding friction. (C) Fluid friction. (D) Rolling friction.

31.When one body rolls over another body in contact than it experiences

(A) Static friction. (B) Sliding friction. (C) Fluid friction. (D) Rolling friction.

32.Friction:

(A) Produces heat. (B) Causes wear and tear. (C) Oppose motion. (D) All of these.

33.Wheel is made circular, because:

(A) it minimises friction. (B) It increases friction.

(C) To make them attractive. (D) None of these.

34.Ball bearings are used in some machines to:

(A) Make them attractive. (B) To increase friction.

(C) To reduce friction. (D) None.

35.Sand is spread on slippery road before walking over it, because

(A) It increases friction. (B) It reduces friction

(C) It makes walking difficult (D) None.

36.The force which opposes the motion:

(A) Mechanical. (B) Electrical.

(C) Frictional. (D) Gravitational.

37.Which is an example of frictional force:

(A) A man lifts a weight. (B) Moon revolves around the earth.

(C) A man walks on a leveled road. (D) Crane is used to lift a heavy load.

38.When one body lying over another body, there is

(A) Sliding friction. (B) Rolling friction. (C) Fluid friction. (D) Static friction.

39.Hovercraft travels …… than a streamer.

(A) Slower. (B) Faster. (C) With same speed. (D) None.

40.Which one of the following is not use for reducing friction:

(A) Using lubricants. (B) Making grooves in tyres.

(C) Using ball bearings. (D) Polishing the surfaces.

41.Which one is not used for increasing friction:

(A) Making grooves in tyres. (B) Spreading sand on slippery roads.

(C) Providing spikes in shoes (D) Using ball bearings in wheels.

42.Which one out of the following is an advantage of friction:

(A) Loss of mechanical energy. (B) Loss of heat.

(C) Walking on the road. (D) Wear and tear.

43.Which one out of the following is not an advantage of friction:

(A) Loss of mechanical energy. (B) Loss of heat.

(C) Wear and tear. (D) None.

44.Which one has streamline body:

(A) Rickshaw. (B) Racing car. (C) A box. (D) Moon

45.Frictional force is independent of:

(A) Force on the surface. (B) Area of contact of the surfaces.

(C) Material of the object. (D) Conditions of the surfaces.

46.Which one is not a type of friction

(A) Static friction. (B) Rolling friction. (C) Fluid friction. (D) Gravitational friction.

47.

The force of friction which opposes the surfaces just to slide one over the other, is called:

(A) Limiting friction. (B) Rolling friction (C) Sliding friction (D) All of these.

<2M>

48.What do you mean by the force of friction? How can it be minimised? <

49.Write the factors on which drag depends.

50.Write the factors on which the friction depends.

51.Why does a ball rolling along the ground stop after some time?

52.Write two ways of reducing friction.

53.Give reasons for the following:

(a) Sparks are produced when a pair of scissors is sharpened against a grinding wheel.

(b)A piece of chalk wears out as it is used on a black board.

54.Wet surfaces are more slippery. Give reason.

55.How is the force of friction on a body in a fluid minimised?

56.Explain, why a hovercraft travels much faster than a streamer pushing through water?

57.Suppose your writing desk fs tilted a lfttte. A book kept on tt starts sftdfng down. Show the direction of frfctfonal force acting on ft.

58.You sptll a bucket of soapy water on a marble floor acddently. WouM ft make tt easier or more difficult for you to walk on the floor? Why?

59.Explain why sportsmen use shoes with spikes.

60.Iqbal has to push a lighter box and Seema has to push a stmflar heavtcr box on the same floor. Who wtll have to apply a larger force and why?

61.Explain why sliding friction fs less than static frfctfon.

62.Give examples to show that friction ts both a frfend and a foe.

63.Explain why objects moving In fluids must have spectal shapes.

<3M>

64.Give reasons for the following:

(a) Powder is applied to a carom board.

(b) A man walking on a street slips on a banana skin.

(c) Oil is applied to the moving part of a machine.

65.Friction produces heat, Write one advantage and one disadvantage of this property.

66.Mention three ways in which friction between two surfaces can be minimised.

67.Mention three ways in which friction between two surfaces can be increased.

68.State the types of friction.

69.Define the following:

(a) Fluid friction.

(b) Streamlined body.

<5M>

70.What is force of friction? How is the force of friction an advantage? <

71.Defineforce of friction? How is the force of friction a disadvantage? <

72.Mention three disadvantages of friction between the parts of a machine. How does (a) oiling and (b) using ball bearings help reduce friction?

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