Force

1. **What is Force?**
   Ans. Force is that cause which changes the state of the body (either state of motion or rest) or changes the size or shape of the body.

2. **What are the effects of Force?**
   Ans. When force is applied it may have the following effects on an object.
   a. A force can move an object at rest.
   b. A force can stop a moving body
   c. A force can change the direction of motion of a moving object.
   d. A force can make a moving object move faster or slower.
   e. A force can change the shape or size of an object.

3. **What is the unit of Force?**
   Ans. The SI unit of Force is Newton. It is denoted by 'N'.

4. **What is 1 Newton?**
   Ans. One Newton is defined as the force applied on a moving body of Mass 1 Kg in the direction of the motion, increase its speed by 1 m in 1 Sec.

5. **What is the relation between Newton and Kgf?**
   Ans. 1 Kgf= 9.8 N

6. **How force can represent?**
   Ans. A force is represented by an arrow. The length of the arrow is a measure of its magnitude and the arrow head shows the direction.

7. **Through which instrument we can measure Force?**
   Ans. Spring Balance.

8. **What is resultant force?**
   Ans. When two or more forces act on an object in the same direction then the summation of forces are called Resultant Force.

9. **When two or more forces acts on opposite direction?**
   Ans. When two or more forces act on an object in the opposite direction the resultant force is the different of the forces. It acts in the direction of the large force.

10. **Force are how many types?**
    Ans. Force are two types:
    a. Contact Force
    b. Non- contact force.

11. **What is Balanced Force?**
    Ans. When two equal forces act on an object in the opposite directions, the resultant force is zero. Then the object is not move. This force is called Balanced Force.

12. **What is Contact Force?**
    Ans. The force that act the objects when they are in actual contact with each other are called contact forces.

13. **How many types of Contact Forces?**
    Ans. There are three types of Contact Forces:
    a. Muscular Force
    b. Mechanical Force
    c. Frictional Force

14. **What is Muscular Force?**
    Ans. The force applied by the muscles of a human or an animal is called Muscular Force.
    Ex: We use Muscular Force walking, running, throwing etc.

15. **What is Mechanical Force?**
    Ans. The force exerted by a machine to do some work is called Mechanical Force.
    Ex: A car moves when the force exerted by the engine moves the wheel. This force is a mechanical force.

16. **What is Non-Contact Force?**
    Ans. The forces that act on the objects when they are not in actual contact with each other are called Non-contact Force.

17. **How many types of Non-Contact Forces?**
    Ans. Non-Contact Forces are three types:
    a. Electrostatic Force
    b. Magnetic Force
    c. Gravitational Force

18. **What is Electrostatic Force?**
    Ans. The force exerted by a charged object on another charged or uncharged object is called Electrostatic Force.
    Ex: Rub a plastic comb on dry hair. Bring it near small bits of paper. The bit of paper moves towards the comb. It happens due to Electrostatic Force.

19. **What is Magnetic Force?**
    Ans. The force exerted by a magnet on magnetic substances is called Magnetic Force.
    Ex: A magnet attracts other metallic objects like Iron, Steel, Nickel and other Magnet due to Magnetic Force.

20. **What is Gravitational Force?**
    Ans. The force with which two objects attract each other is called the force of gravitation or Gravitational Force.
    Gravitational Force depends on the masses of the two objects and distance between them. When the masses of two objects are very small the gravitational force between them is also very small
    When a ball throw upward after sometimes it comes back to earth. This is due to Gravitational Force.

21. **What is Friction?**
    Ans. The force acting along the two surfaces in contact that opposes the motion of one object over the other is called the Force of Friction.
    Frictional Force occurs due to the roughness of the surface.
    It always acts in a direction opposite to the direction of Motion.

22. **What are the effects of Friction?**
    Ans. The effects of Friction are
    a. Friction opposes motion
    b. Friction produces heat
    c. Friction causes wear and tear
23. **Which factors affects the Frictional Force?**
    Ans. The factors affect the Frictional Force are:
    a. Nature of Surface: The force of friction is less between smooth surface, and it is more between rough surface.
    b. Weight of the object: When two objects have the same weight the force of friction is same as friction does not depend on size or area. The frictional force increases with an increase in weight of object.
    c. Physical state of Matter around a moving object: The Frictional Force is more between two solids. It is less between a slid and a liquid. It is least between a solid and Gas.

24. **What are the different types of Friction?**
    Ans.
25. **What is Static Friction?**
    Ans. The maximum opposing force between two surfaces when one surface tends to move over the other but the actual motion does not start, is called Static Friction.

26. **What is Kinetic Friction?**
    Ans. Kinetic Friction is the opposing force between two objects when one object is actually moving over the surface of the other object.

27. **What are the different types of Kinetic Friction?**
    Ans. Kinetic Friction is two types:
    a. Static Friction
    b. Kinetic Friction
28. **What is Sliding Friction?**
    Ans. When an object slides on the surface of the other object, the force exerted by the surface on the object is called Sliding Friction.
    Ex: When a wooden log is pulled over a flat surface when the help of a rope, the opposite force is Sliding Frictional.
29. **What is Rolling Friction?**
    Ans. When an object rolls on the surface of the other object, the force exerted by the surface on the object is called Rolling Friction.
    Ex: When a wooden log rolls over a flat surface the opposing force is rolling friction.

30. **What are the relations between Static Friction, Sliding Friction, Rolling Friction?**
    Ans. The relations between Static Friction, Sliding Friction, Rolling Friction are
    Static Friction > Sliding Friction > Rolling Friction