



## Force & its Characteristics

### A. Choose the correct answer:

**1. What is a force?**

- (a) A push or a pull on an object
- (b) A type of energy
- (c) A form of matter
- (d) A way to measure speed

**2. Which of the following is NOT an effect of force?**

- (a) Changing the shape of an object
- (b) Changing the color of an object
- (c) Changing the state of motion
- (d) Changing the direction of motion

**3. Which instrument is used to measure force?**

- (a) Thermometer
- (b) Barometer
- (c) Spring balance
- (d) Stopwatch

### B. Fill in the Blanks:

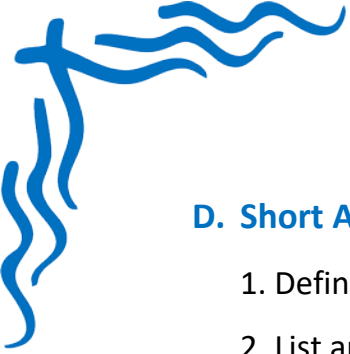
1. A force can be described as a \_\_\_\_\_ or a \_\_\_\_\_.
2. Force can change the \_\_\_\_\_, \_\_\_\_\_, or shape of an object.
3. The SI unit of force is \_\_\_\_\_.

### C. Case Study:

In a science activity, students pushed a box across the floor. When they stopped pushing, the box slowed down and eventually stopped. They noticed that the harder they pushed, the faster it moved. One group also pressed a rubber ball and observed it changing shape temporarily.

**Case Study Questions:**

1. What kind of activity was the class performing?
2. What effect of force did they observe on the box?
3. What effect of force did they observe on the rubber ball?
4. Why did the box stop moving after they stopped pushing?



#### **D. Short Answer Questions:**

1. Define force.
2. List any three effects of force.
3. Name two types of force based on contact.

#### **E. Long Answer Questions:**

1. Explain the characteristics of force with suitable examples.
2. Differentiate between contact and non-contact forces with examples.
3. Describe an activity that shows how force can change the direction and speed of a moving object.