

Full marks:14

1. Assertion: Motion of an object is always opposite to the friction.
Reason: Whenever two objects contact with each other or one surface moves over another.
2. Assertion: In case of rolling, the force of friction is zero.
Reason: The point of contact is zero in case of rolling friction.
3. Which of the following is not an effect of friction?
 - a) Moving object slows down.
 - b) Moving objects stop
 - c) Moving objects wear off
 - d) Moving objects experience loss in mass
4. A toy car released with the same initial speed will travel farthest on
 - a) Muddy surface.
 - b) Polished marble surface.
 - c) Cemented surface.
 - d) Brick surface
5. You spilled a bucket of soapy water on a marble floor accidentally. Would it make it easier or more difficult for you to walk on the floor? State the reason. (2)
6. Explain why object moving in fluid must have special shape. (2)
7. An object having mass 2000g starts to move when applied force on the object is more than 5 N. ($g=9.8 \text{ m/s}^2$)
 - a) Calculate weight of the object.
 - b) Calculate coefficient of friction and force applied by surface to the object. (3)
8. An object of 3 kg is kept on a glass slab having static friction 4.9 N. The same object is taken to another planet with gravitational acceleration 5 m/s^2 . Calculate the frictional force between the object and the glass slab in another planet. ($g=9.8 \text{ m/s}^2$) (3)