

Multiple Choice Questions (MCQs)-(15*1=15)

1. Which of the following is an example of a force changing the direction of an object? a) Kicking a football at rest b) Pressing the brakes of a bicycle c) Hitting a tennis ball with a racquet d) Stretching clay
2. What is the SI unit of force? a) Kilogram (kg) b) Newton (N) c) Gram (g) d) Kilogram-force (kgf)
3. Which type of friction is the largest? a) Static friction b) Sliding friction c) Rolling friction d) Fluid friction
4. What happens to the weight of an object when it is taken from the Earth to the Moon? a) It increases b) It decreases c) It remains the same d) It becomes zero
5. Which of the following is a fundamental physical quantity? a) Speed b) Area c) Time d) Volume
6. The SI unit of temperature is: a) Celsius b) Kelvin c) Fahrenheit d) Centigrade
7. Which system of units uses foot, pound, and second as its fundamental units? a) CGS b) SI c) FPS d) MKS
8. What is the symbol for the unit of luminous intensity? a) A b) cd c) K d) mol
9. Which device is commonly used to measure mass electronically? a) Beam Balance b) Measuring Tape c) Electronic Balance d) Graph Paper
10. What are the main characteristics of matter? a) It has color. b) It has mass. c) It occupies space. d) Both b and c.
11. The amount of matter contained in an object is called: a) Weight b) Volume c) Mass d) Density
12. Which activity demonstrates that matter has mass? a) Pouring water into a jar b) Blowing air into a balloon c) Placing a glass on a balance d) Melting ice
13. What is the basic unit of matter? a) Molecule b) Atom c) Cell d) Compound
14. What state of matter has the weakest intermolecular force of attraction? a) Solid b) Liquid c) Gas d) Plasma
15. Two forces, 10 N to the right and 15 N to the left, act on an object. What is the magnitude and direction of the resultant force? A) 5 N to the right B) 25 N to the left C) 5 N to the left D) 25 N to the right

Fill in the Blanks-(10*1=10)

1. The force of attraction between objects with mass is known as _____.
2. The force that opposes the movement of an object over a surface is called _____.
3. The weight of an object is measured using a _____.
4. When a toy car rolls down a plane, the friction that opposes its movement is _____ friction.
5. _____ is the amount of surface a plane figure occupies.
6. 1 kilometre is equal to _____ metres.
7. The degree of hotness or coldness of an object is measured as _____.
8. The property of a liquid that allows insects to move on water is called _____.
9. The smallest particle of matter capable of independent existence is called a _____.
10. The space occupied by matter is called its _____.

True or False-(10*1=10)

1. Friction always opposes the motion of an object. (True/False)
2. A magnet has only one pole. (True/False)
3. Electrostatic force can only be attractive. (True/False)
4. Lubricants increase friction between surfaces. (True/False)
5. Gravitation force can both attract and repel objects. (True/False)

6. A Metrologist works only with electronic devices for measurement. (True/False)
7. 1 gram is equal to 0.001 kilograms. (True/False)
8. All atoms are incapable of independent existence. (True/False)
9. The molecules of matter are always at rest. (True/False)
10. There is no space between the molecules of water. (True/False)

Give Reasons-(10*2=20)

1. Explain why an object weighs less on the Moon than on the Earth.
2. Why do we use ball bearings in machines?
3. Why is friction considered both a friend and a foe?
4. Explain why treads on tires are important.
5. Why do we feel warmth when we rub our hands together?
6. Explain why the water level does not rise when sugar is dissolved in it.
7. Why do solids have a definite shape and volume?
8. Give a reason for why gases are highly compressible.
9. Explain why liquids can flow easily compared to solids.
10. Why does the balloon expand when air is blown into it?

Question Answers-(6*3=18)

1. How is the area of an irregular shape measured using graph paper?
2. Describe two devices used to measure length and the scenarios in which each would be used.
3. Describe a real-life situation where reducing friction is essential and explain the methods used to achieve it.
4. Explain streamlining and why is it needed?
5. Describe an activity to show that matter occupies space.
6. Explain the process of evaporation and how it differs from boiling.

Convert as directed-(7*1=7)

1. 3.345 km into metres
2. 9km 1m into centimetres
3. 90 square cm into square metres
4. 5g 2cg into milligrams
5. 2 days 12 hours into minutes
6. 450 kelvin into degree celsius
7. 12 quintals into hg