

Physical Quantities and Scientific Methods of Measurement

Part Two

I. Answer the following questions

1. Which of the following is not a physical quantity ?
 - a) Time
 - b) Taste
 - c) color
 - d) b and c
2. How many base/fundamental physical quantities are there?
 - a) 5
 - b) 7
 - c) 9
 - d) 6
3. Which of the following is not true about fundamental physical quantities?
 - a) Cannot be expressed in terms of any other quantity.
 - b) They are the bases for other quantities.
 - c) They can be derived from other quantities
 - d) They are unique
4. A physical quantity is:
 - a) A number without a unit
 - b) A property that can be measured or calculated
 - c) A unit only
 - d) A feeling that cannot be measured
5. Which of the following is **NOT** a physical quantity?
 - a) Force
 - b) Intelligence
 - c) Temperature
 - d) Mass

6. Fundamental quantities are:
- a) Quantities that depend on other quantities
 - b) Quantities that cannot be expressed in terms of other quantities
 - c) Quantities that have no unit
 - d) Always derived
7. Which of the following is a **fundamental quantity**?
- a) Speed
 - b) Force
 - c) Mass
 - d) Area
8. Which of the following is a **derived quantity**?
- a) Length
 - b) Time
 - c) Volume
 - d) Temperature
9. The SI unit of length is:
- a) Kilogram
 - b) Second
 - c) Metre
 - d) Newton
10. The SI unit of temperature is:
- a) Celsius ($^{\circ}\text{C}$)
 - b) Kelvin (K)
 - c) Fahrenheit ($^{\circ}\text{F}$)
 - d) Joule (J)
11. Which of the following units is **derived**?
- a) Kilogram (kg)
 - b) Metre (m)
 - c) Newton (N)
 - d) Second (s)
12. The unit of **density** is:
- a) m/s
 - b) kg/m^3
 - c) N
 - d) J

13. A measurement result always consists of:

- a) A number only
- b) A unit only
- c) Both a number and a unit
- d) None of the above

14. Which of the following correctly pairs **quantity and unit**?

- a) Mass – Newton
- b) Length – Metre
- c) Time – Kelvin
- d) Temperature – Joule

15. The scientific method of measurement involves:

- a) Guessing the value
- b) Comparing with a standard unit
- c) Looking at the size of the object
- d) Using any instrument randomly

16. The SI system of units originated from:

- a) English system
- b) French system
- c) German system
- d) Greek system

17. Which statement is **TRUE** about derived quantities?

- a) They are independent of fundamental quantities
- b) They are expressed using only one fundamental unit
- c) They are obtained by combining fundamental units mathematically
- d) They have no SI unit

18. Which of the following are not a fundamental physical quantity? Select all possible answers

Time	weight	Gravity
Mass	temperature,	electric current,
luminous intensity	amount of a substance.	Resistance
Velocity	Area	Volume
Density	Speed	

19. Select the correct SI Unit for the following fundamental quantities

Length.....

Time.....

Temperature.....

Mass.....

20. Which of the following are derived physical quantities?

- | | |
|-------------|---------------------|
| a) Weight | c) electric current |
| b) Velocity | d) a and b |