

Q.1. Tick (□) the correct option.

Marks=1×10=10

- i. Amount of matter in terms of number is measured in:  
(A) Gram (B) Kilogramme (C) Newton (D) Mole
- ii. Which is the smallest quantity?  
(A) 0.01g (B) 2 mg (C) 100μg (D) 5000 ng
- iii. Which instrument is most suitable to measure the internal diameter of a test tube?  
(A) Meter rule (B) Vernier Callipers (C) Measuring tap (D) Screw gauge
- iv. The number of significant figures in 0.00580 Km is:  
(A) 6 (B) 5 (C) 3 (D) 2
- v. An interval of 200μs is equivalent to:  
(A) 0.2 s (B) 0.02 s (C) 2×10<sup>-4</sup>s (D) 2×10<sup>-6</sup>s
- vi. The number of base units in System International:  
(A) 3 (B) 6 (C) 7 (D) 9
- vii. 3.3 GHz is equal to:  
(A) 3300×10<sup>6</sup>Hz (B) 3.300×10<sup>6</sup>Hz (C) 3300×10<sup>9</sup>Hz (D) 3.300×10<sup>15</sup>Hz
- viii. Standard form of 6400 km is:  
(A) 64×10<sup>3</sup>Km (B) 6.4×10<sup>3</sup>Km (C) 64×10<sup>-2</sup>Km (D) 6.4×10<sup>-3</sup>Km
- ix. The least count of vernier calipers is:  
(A) 0.01 m (B) 0.01cm (C) 0.001mm (D) 0.01cm
- x. Identify the base quantity:  
(A) Distance (B) Area (C) Speed (D) Force

(Subjective Type)

Q2. Write short answers to any ten (10) questions:

10 X 2 = 20

- i. Define base quantities and write names of two basic quantities.
- ii. Define derived units and write two examples.
- iii. Write SI unit and symbol of following quantities: Length, mass, temperature, electric current.
- iv. What is meant by prefixes? Write an example.
- v. Change 15 years age into seconds.
- vi. What is meant by scientific notation and give one example.
- vii. What is meant by vernier constant? How do we find least count of it.
- viii. Write 6000 km and 3800 km in standard form.
- ix. Find the base quantities involved in each of the following derived quantities: (a) Work (b) Force
- x. What is meant by significant figures and how many significant figures are there in 0.027?
- xi. What is the difference between base and derived quantities?
- xii. Differentiate between positive zero error and negative zero error.

Note: Attempt any one (1) question.

1 X 10 = 10

Q.3. Write rules which are helpful in identifying significant figures

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Q.4. Express the following quantities using prefixes: i. 5000g ii. 225×10<sup>-8</sup>s iii. 52×10<sup>-10</sup>kg

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