

Question No. 14

"Good precision" is an instrument's ability to give measurements that are:

- None of these answers is correct
- repeatedly far from each other
- always scattered
(موزعة)
- repeatedly close to each other

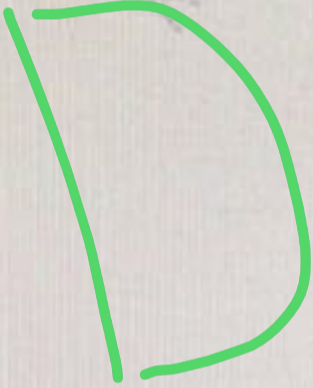
D

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Question No. 21

A vector is represented by:

- a square
- a triangle
- a circle
- an arrow



Question No. 12

Using a ruler with cm and mm divisions to measure a certain length, we get a value of 11.2 cm. Our measurement can then be written as

- L = 11.2 cm ± 1%
- L = 11.2 cm ± 3%
- L = 11.2 cm ± 2%
- L = 11.2 cm ± 5%

$$E = 0.1 \text{ R}$$

$$P.V = \frac{0.1}{11.2} \times 100$$

$$= 0.8\% \rightarrow 1\% \text{ A.}$$

1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25			

Question No. 8

The dimensions of (mass/volume) is:

- kg/m^3
- g/cm^3
- ML^{-3}
- ML^3

$$= \frac{M}{L^3} = ML^{-3} \cdot C.$$

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Question No. 22

Two forces are: ($F_1 = 30\text{ N}$, north) & ($F_2 = 40\text{ N}$, north). Their resultant (R) is:

- 50 N, north-east
- 50 N, north-west
- 70 N, north
- 70 N, south

$$= 30 + 40$$

$$= 70\text{ N}$$

C.

Question No. 18

The capacity in liters of a 5-m^3 water tank is: ($1\text{ m}^3 = 1000\text{ L}$)

- 500 L
- 50000 L
- 5000 L
- 50 L

$1\text{ m}^3 \rightarrow 1000\text{ L}$
 $5\text{ m}^3 \rightarrow x$
 $x \rightarrow 5000\text{ L}$

C.

Question No. 25

When two vectors do not act in exactly the same or opposite direction, their resultant can be found using:

- Newton's first law
- Parallelogram rule
- Volume rule
- Circle rule

B.

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Question No. 6

Taking significant figures into account, the product $1.044 \times 100 \times 0.06 \times 0.130$, is correctly written as:

- 0.81432 5x
- 0.8
- 0.814 3x
- 0.81 2x

B.

4 1 1 3

Question No. 10

The height of the Preparatory-Year's building = 12 m. In order-of-magnitude this height can be written as.

- 10^2 m
- 10^1 m
- 10^0 m
- 10^3 m

12
= 1.2×10^1
= 10^1 m. ✓

B.

1	2	3	4
8	9	10	11
15	16	17	18
22	23	24	25

Question No. 16

Convert (5400 s) to minutes:

- 90 min
- 900 min
- 54 min
- 180 min

$$\begin{aligned} & 5400 \text{ s} \rightarrow \text{min.} \\ & \underline{\quad 60 \quad} \\ & = 90 \text{ min} \\ & \text{A.} \end{aligned}$$

A

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Question No. 3

The distance between Sakaka and Makkah is measured to be about 1400 km. The number of significant figures in this measurement is

- 4
- 1
- 2
- 3

C.

Question No. 16

A distance of 0.05 km is equal to:

- 50000 cm
- 5000 cm
- 500 cm
- 500000 cm

B.

$$0.05 \text{ km} \rightarrow \text{cm}$$
$$0.05 \times 10^3 \times 10^2 = 5000 \text{ cm}$$

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Question No. 25

A box is pulled vertically up with rope. If the tension in the rope is 140 N, its vertical component is:

- 100 N
- 70 N
- 0 N
- 140 N

D.

Question No. 19

Which of the following is NOT an SI unit?

- meter
- foot
- mole
- candela

B

Question No. 21

Example of a vector is:

- temperature
- mass
- time
- velocity

D

Question No. 20

The frequency of radiation of cesium atoms is used to give the standard of:

- meter
- second
- kilogram
- inch

B

Question No. 13

The uncertainty in the measurement 8.8 ± 0.1 cm is:

- 0.1 cm
 0.2 cm
 0.01 cm
 0.02 cm

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Question No. 24

Two forces are: ($F_1 = 100\text{ N}$, up) & ($F_2 = 100\text{ N}$, down). The magnitude of their resultant (R) is:

- 0 N
- 140 N
- 100 N
- 200 N

$$= 100 - 100$$

$$= 0\text{ N}.$$

A.

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Question No. 10

Considering order of magnitude, the number 11345 can be written as:

- 10^3
- 10^5
- 10^4
- 10^6

$$\begin{array}{cccccc} 1 & 1 & 3 & 4 & 5 & \\ \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \\ & & 4 & 3 & 2 & 1 \end{array}$$

$= 1.3 \times 10^4$ C.

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Question No. 6

When making measurements, the result of subtracting 2.04 from 12.7 is written as:

- 10.0
- 11.0
- 10.7
- 10.66

$$\begin{aligned} & \text{---} \quad 2 \quad 1 \\ & = 12.7 - 2.04 \\ & = 10.66 \\ & = 10.7 \quad \text{C.} \end{aligned}$$

Question No. 11

The number of SI base quantities is:

- 5
- 7
- 6
- 8

B.

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Question No. 19

The SI unit of temperature is the

- Joule
- Newton
- Kelvin
- Watt

C.

Question No. 23

A quantity that has a magnitude and no direction is called:

- scalar
- order of magnitude
- vector
- direction

A.

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Question No. 15

Express 1000 in. in centimeters (1 in. = 2.54 cm).

- 394 cm
- 2540 cm
- 3940 cm
- 254 cm

1 in = 2.54 cm.
1000 in = X cm.
X → 2540 cm.

D.

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Question No. 18

The only set of units among the following that is fully British System is:

- centimeter, pound, second
- foot, gram, second
- foot, pound, second
- inch, mile, kilometer

C.

Question No. 21

A quantity that requires both magnitude and direction is called:

- scalar
- order of magnitude
- vector
- scientific notation

C.

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Question No. 17

An atom's radius is 10^{-10} m. This equals, (1 nano = 10^{-9} , 1 micro (μ) = 10^3 nano, $1\text{m} = 10^6 \mu\text{m}$):

- 1 μm
- 0.1 μm
- 0.1 nm
- 1 nm



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Question No. 8

The dimensions of (length x speed/area) is:

- T⁻¹
- T⁻²
- T⁻³
- T⁻⁴

A

$$L \cdot \frac{LT^{-1}}{L^2} = \frac{L^2 T^{-1}}{L^2} = T^{-1}$$