

**VOLUME-04 Part B and C**

**MCQs/ Objectives**

<b>VII. Experimental Techniques and data analysis</b>	<b>1</b>
<b>VIII. Atomic &amp; Molecular Physics</b>	<b>59</b>

**VII. Experimental Techniques and Data Analysis**

1. What is the significant number of the value 0.000102?

- a) 2
- b) 3
- c) 6
- d) 7

2. If 'O' represent observed value and T represent the measure value then the absolute error is represented by

- a)  $|O - T|$
- b)  $|T - O|$
- c)  $|O + T|$
- d)  $\frac{|O|}{|T|}$

3. In the following expression

$$R = \left( \frac{E}{T} \times 100 \right) \%$$

where E is the absolute error and T is the true or measured value, R represents

- a) Determinate error
- b) Indeterminate error
- c) Relative error
- d) None of them

4. Accuracy cannot be determined by the method?

- a) Comparative
- b) Minimal
- c) Absolute
- d) None of these

5. Which of the following errors cannot be avoided?

- a) Instrumental errors
- b) Personal errors
- c) Indeterminate errors
- d) Additive errors

6. Mathematically standard deviation is represented by

- a)  $\sigma = \sqrt{\frac{\sum(x_i - \bar{x})^2}{N}}$
- b)  $\sigma = \sqrt{\frac{\sum(x_i - \bar{x})}{N}}$
- c)  $\sigma = \frac{\sum(x_i - \bar{x})^2}{N^2}$
- d)  $\sigma = \sqrt{\frac{\sum(x_i - \bar{x})}{N^2}}$



14. When the upper limits of each class are excluded, so formed frequency distribution is known as

- a) Inclusive type distribution
- b) Continuous distribution
- c) Exclusive type distribution
- d) None of these

15. Standard error of correlation coefficient is given by the formula

- a)  $\frac{n-r}{1-n}$
- b)  $\frac{1-r}{n^2}$
- c)  $\frac{1-r^2}{\sqrt{n}}$
- d)  $\frac{n-r}{1+n}$

16. A single figure, which sums up the characteristics of whole group of figures, is known as

- a) Mean
- b) Median
- c) Mode
- d) Average

17. The quantity, obtained by dividing the sum of the value of items in a variable by their number, is known as

- a) Average
- b) Mode
- c) Median
- d) Mean

18. If the number of observation in two group be  $n_1$  and  $n_2$  with mean  $m_1$  and  $m_2$  respectively and if the two groups are combined then mean  $m$  of the combined group is given by

- a)  $m = \frac{n_2 m_1 + n_1 m_2}{n_1 + m_2}$
- b)  $m = \frac{n_1 m_2 + n_1 m_2}{m_1 + m_2}$
- c)  $m = \frac{n_1 m_1 + n_2 m_2}{n_1 + n_2}$
- d)  $m = \frac{n_1 m_1 + n_2 m_2}{m_1 + m_2}$

19. Which amongst the following divides the frequencies in four equal parts and they are denoted by  $Q_1, Q_2, Q_3$ . Where  $Q_2$  is same as the median?

- a) Average
- b) Mode
- c) Quartiles
- d) None of these

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