



B.K. BIRLA CENTRE FOR EDUCATION

SARALA BIRLA GROUP OF SCHOOLS
A CBSE DAY-CUM-BOYS' RESIDENTIAL SCHOOL

Pre-MidTerm-Test 2025-26

CHEMISTRY (043)

Class : XI
Date : 01 /8/2025
Admission No.:

Duration: 1 Hr
Max. Marks: 25
Roll No.:

General Instructions:

- (i) There are 13 questions in all. All questions are compulsory.
- (ii) This question paper has three sections: Section A, Section B and Section C.
- (iii) All the sections are compulsory.
- (iv) Section A contains five questions of 1 mark each, out of which one question is assertion and reasoning type question.
- (v) Section B contains four questions of two marks each, Section C contains four questions of three marks each.
- (vi) There is no overall choice. Use of calculators is not allowed.

SECTION-A

1. Which term does not depends on temperature 1
(a) Molarity (b) Molality (c) Concentration (d) none of these
2. The significant figure of 200.0 1
(a) 1 (b) 2 (c) 3 (d) 4
3. Balmer series belongs from spectral region. 1
(a) ultraviolet (b) visible (c) Paschen (d) Pfund
4. Electronic configuration of O(8) is 1
(a) $1s^2 2s^2 2p^2$ (b) $1s^3 2s^3 2p^1$ (c) $1s^2 2s^2 2p^4$ (d) $1s^2 2s^3 2p^2$
5. These questions consist of two statements, each printed as Assertion and Reason. While answering these questions, you are required to choose any one of the following four responses 1
 - a. Both Assertion and Reason are correct and Reason is the correct explanation for Assertion
 - b. Assertion is incorrect but Reason is correct.
 - c. Assertion is correct but Reason is incorrect
 - d. Both Assertion and Reason are correct but Reason is not the correct explanation for Assertion.

Assertion (A) : 505.0 has more significant than 505.

Reason (R) : 505.0 has more accuracy than 505.

SECTION – B

6. State and explain Heisenberg Uncertainty Principle. 2
7. Derive the relation of de Broglie wavelength, mass and velocity of an electron wave. 2
8. Determine the empirical formula of an oxide of iron, which has 70% Iron and 30% oxygen by mass. 2

(Atomic masses of Fe= 56gm and O= 16 gm)

9. Express the following in term scientific notation (i) 0.0048 (ii) 8008 2

SECTION C

10. 56 kg of N_2 and 10 kg of H_2 are mixed to produce NH_3 . Calculate the amount of NH_3 formed.
Identify the limiting reagent in the production of ammonia in this situation. 3
(Atomic masses of H-1 gm N- 14 gm)
11. Explain the term (i) Molarity (ii) molality and (iii) mole fraction 3
12. Explain Photo electric effect and black body radiation of a particle. 3
13. A microscope using suitable photons is employed to locate an electron in an atom within a distance of 0.1 \AA . What is the uncertainty involved in the measurement of its velocity? 3

-----ALL THE BEST-----