

# BOARD OF INTERMEDIATE EDUCATION

## JUNIOR INTER CHEMISTRY

### MODEL PAPER (English Version)

Time: 3 Hours

Max. Marks: 60

#### SECTION – A

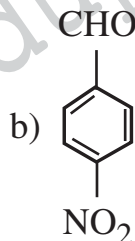
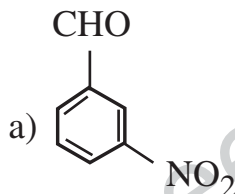
I. (i) Very Short Answer Type questions.

(ii) Answer ALL questions.

(iii) Each question carries TWO Marks.

10 × 2 = 20

1. What is Boltzman's constant? Give its value in Joules.
2. Calculate the Normality of Oxalic acid solution containing 6.3 g of  $H_2C_2O_4 \cdot 2 H_2O$  in 500 ml of solution.
3. What is "Heterogeneous equilibrium"? Give one example.
4.  $SiO_2$  is a solid while  $CO_2$  is a gas. Explain.
5. What are silicones?
6. Why does the solubility of alkaline earth metal carbonates and sulphates in water decrease down the group?
7. Give two properties of Washing soda.
8. What is 'Eutrophication'?
9. What is Ozone hole? Where was it first observed?
10. Write the IUPAC names of



#### SECTION – B

II. (i) Short Answer Type questions.

(ii) Answer any SIX questions.

(iii) Each question carries FOUR Marks.

6 × 4 = 24

11. Deduce  
a) Charle's law      b) Dalton's law from kinetic gas equation.
12. Balance the following redox reaction by half reaction method in basic medium.  
 $\text{MnO}_4^- + \text{I}^- \longrightarrow \text{MnO}_2 + \text{I}_2$
13. Explain spontaneity of process.
14. Explain Bronsted Acid - Base theory.
15. What is Borax? Explain the borax bead test with a suitable example.
16. Write few lines on the utility of Hydrogen as a fuel.
17. Define Dipole moment. Explain why  $\text{H}_2\text{O}$  has dipole moment while  $\text{CO}_2$  does not have.
18. State Fajan's rules with suitable examples.

### SECTION – C

III. (i) Long Answer Type questions. Draw labelled diagrams wherever necessary.

(ii) Answer any TWO questions.

(iii) Each question carries EIGHT Marks.

$2 \times 8 = 16$

19. What are Quantum numbers? Explain the significance of Quantum numbers.
20. Write an essay on s, p d, f block elements.
21. a) What is substitution reaction?  
Explain the formation of methyl benzene and nitro benzene.
- b) Explain addition of HBr to propene with the ionic mechanism.

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