Board of Intermediate Education (TS)

Junior Inter Chemistry (2021)

Model Paper (English Version)

Time: 3 Hrs. **Maximum Marks: 60**

SECTION - A

Note: i) All are Very Short Answer Type questions.

ii) Answer ALL the questions.

iii) Each question carries TWO marks. **10 × 2 = 20**

1. State Dalton's law of partial pressures.

2. The empirical formula of a compound is CH_2O. Its molecular weight is 90. Calculate molecular formula of compound.

3. What is homogeneous equillibrium? Write two homogeneous reactions.

4. Ionization enthalpy (IE_1) of 'O' is less than of 'N' . Explain.

5. What happens when magnesium metal is burnt in air?

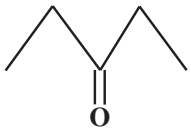
6. Which of the two ions Ca^{2+} or Zn^{2+} is more stable? Why?

7. Lithium salts are mostly hydrated. Why?

8. How does Graphite function as a lubricant?

9. What is allotropy? Give the crystalline allotropes of carbon.

10. Write the IUPAC name of the following compounds.

a) 

b) 

SECTION - B

Note: i) All are Short Answer Type questions.

ii) Answer any SIX of the following questions.

iii) Each question carries FOUR marks. **6 × 4 = 24**

11. Give the important postulates of Kinetic molecular theory of gases.

12. State and explain "Hess law of constant heat summation" with example.

13. Define Le Chatelier principle and mention the conditions for the preparation of the ammonia (NH_3) by Haber's process.

14. Explain the terms hard water and soft water. How is hardness of water removed by calgon method.

15. Explain a) Position isomerism b) Functional group isomerism with one example.

16. Explain the differences between emission and absorption spectra.

17. A carbon compound contains 12.8% carbon, 2.1% hydrogen, 85.1% bromine. The molecular weight of compound is 187.9. Calculate the molecular formula.

18. Derive Ideal gas equation.

19. Balance the following redox equation in acidic medium by ion - electron method.

$Fe^{2+}_{(aq)} + Cr_2O^{-2}_{7\,(aq)} \longrightarrow Fe^{+3}_{(aq)} + Cr^{+3}_{(aq)}$

20. Explain the difference in properties of diamond and graphite on the basis of their structure.

21. What are electron deficient compounds? Is BCl_3 an electron deficient species.

22. What is conjugate acid - base pair? Explain with one example.

SECTION - C

Note: i) All are Long Answer Type questions.

ii) Answer any TWO of the following questions.

iii) Each question carries EIGHT marks. **$2 \times 8 = 16$**

23. What are the postulates of Bohr's model of hydrogen atom? Discuss the importance of model to explain line spectra in hydrogen atom.

24. Define IE_1 and IE_2. Why is $IE_2 > IE_1$ for a given atom? Discuss the factors that effect IE of an element.

25. What is hybridisation? Explain different types of hybridisation involving s and p orbitals. (or) Describe the hybridisation. Explain sp, sp^2 and sp^3 hybrdisations each with one example.

26. How do we get benzene from acetylene? Give the corresponding equation. Explain the halogenation, alkylation, acylation, nitration and sulphonation of benzene.

Please click for Answers

https://pratibha.eenadu.net/ebooks/more/intermediate/5