Half Yearly Examination 2019-20

Class : 12 — BSE-858

Subject : Chemistry

Time : 3.15 Hours — **M.M. : 40**

Note: (i) Candidate/Student write their Roll Number on the Question Paper Compulsory.

(ii) All Questions are Compulsory.

(iii) Marks of all questions are mentioned in front of the question.

(iv) Write all the Answer in the given Answer booklet at one place.

1. What is conductor?

2. Define is molarity.

3. Write the formula of calculating osmotic pressure. ½

4. Write the first law of electrolysis. ½

5. Which type of colloid is cheese? ½

6. Write the name of one are of aluminum. ½

7. Write the general electronic configuration of *p*-block elements. ½

8. Give the name of substance used in Vulcanization of rubber. ½

9. Write the full name of DNA. ½

10. Which method is used for concentration of sulphide ores. ½

11. What is the difference between Schottky and Frenkel defects. 1

12. What is the unit of rate constant of zero order reaction. 1

13. Draw labelled diagram of Bessemer converter. 1

14. Zinc, Cadmium, Mercury are not considered as transition metals. Why? 1

15. How many particles in Face centered cubic unit cell 1

16. Determine the standauel electrocle potential of Ni^{+2}/Ni electrode when cell potintial of $Ni^{+}/Ni^{+2}(1M) \parallel Cu^{+2}(1M)/Cu$ cell is 0.59V and half cell potential of Cu^{+2}/C_{B} is 0.34V. 1

17. Why does NH_3 form Hydrogen bond but PH_3 does not? 1

18. Ti^{+4} ions is colourless. Give reason. 1

19. How many grams of NACl will be required 40 make 500 ml aqueous solution of $2\% \frac{w}{v}$ NaCl. 1

20. Write the names of monomer of nylon-66. 1

21. Write the difference between machanism of SN^1 and SN^2. 1

22. Write the general formula of alcohol. 1

23. Write the following acids in increasing order facielity : 1
    HCOOH, CH_3CH_2COOH, $(CH_3)_3C$ COOH, CH_3COOH, $(CH_3)_2CHCOOH$

24. Write the formula of chloropicrin. 1

25. How will you obtain the following from anilene :

    $1 + 1 + 1 = 3$

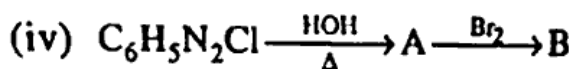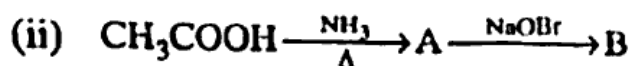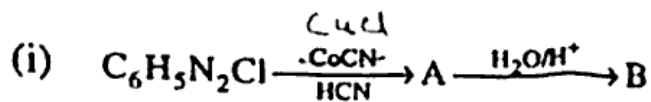   (i) Chlorobenzene

    (ii) Bromobenzene

    (iii) Iodobenzene

26. Write the Chemical equation for the following reaction :

    (i) Reimer Tiemann reaction

    $1 + 1 + 1 = 3$

    (ii) Wurtz reaction

    (iii) Hunsdiker reaction

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27. Define enzymes. Explain mechanism of enzyme action and give two uses. $\qquad$ ½ + 1½ + 1 = 3

28. Write the structures of A, B in the following reactions : $\quad$ 4

    (i) $C_6H_5N_2Cl \xrightarrow[HCN]{CuCl \\ \cdot CoCN \cdot} A \xrightarrow{H_2O/H^+} B$

    (ii) $CH_3COOH \xrightarrow[\Delta]{NH_3} A \xrightarrow{NaOBr} B$

    (iii) $CH_3Br \xrightarrow{KCN} A \xrightarrow{LiAlH_4} B$

    (iv) $C_6H_5N_2Cl \xrightarrow[\Delta]{HOH} A \xrightarrow{Br_2} B$
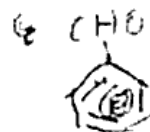
OR

    (i) HCHO is more stronger reducing agent than CH_3CHO. Why?
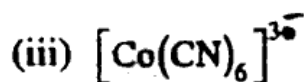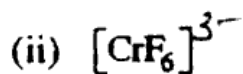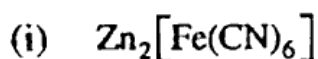
    (ii) Write the structurel formulas of the following :

        (a) Benzaldehyde

        (b) Acetophenone

29. Write the IUPAC names of following co-ordination compounds : $\quad$ 4

    (i) $Zn_2[Fe(CN)_6]$

    (ii) $[CrF_6]^{3-}$

    (iii) $[Co(CN)_6]^{3-}$

    (iv) $[Fe(C_5H_5)_2]$

OR

Explain the hybridization state of the central metal atom in the complexes $[Ni(CN)_4]^{-2}$ and $[NiCl_4]^{-2}$ ions.

P.T.O.

(4)

0. (i) Discuss the process of cottrell precipitation by ment and labelled diagram.

4

(ii) Describe the braiding arc method to prepare colloidal soln.

OR

Write short notes on the following :

(i) Tyndall effect

(ii) Electrophoreses

(iii) Hardy Schulze Rule

(iv) Brownian Movement

□□□

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