

A-2-B

Roll No.....

Total No. of Questions : 28]

[Total No. of Printed Pages : 7

12thSZARJD22**6002-B****CHEMISTRY**

Time : 2.30 Hours]

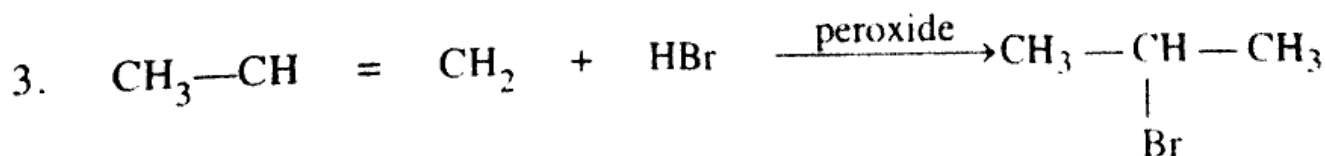
[Maximum Marks : 70

Section-A

1 each

(Very Short Answer Type Questions)

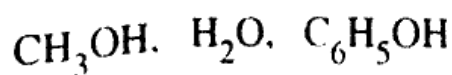
1. What is mathematical form of Freundlich adsorption isotherm ?
2. The IUPAC name of $K_4[Fe(CN)_6]$ is



as a major product.

(True/False)

4. Arrange the following in order of decreasing acidic strength :



5. Write IUPAC name of $\text{HOOC}-\text{CH}_2-\underset{\text{COOH}}{\text{CH}}-\text{COOH}$.

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Turn Over

6. Choose the correct answer :
Acetaldehyde reacts with P_2O_5 to give :

- (A) Methyl cyanide
- (B) Methyl cyanate
- (C) Ethyl cyanide
- (D) None of these

7. What is Glycoside Linkage ?

2 each

Section-B

(Short Answer Type Questions-I)

- 8. What do you mean by Schottky defect ?
- 9. What is Pyroelectricity ? Give *one* example of such solid.
- 10. What is Molar Conductivity ? Give its units.

Or

Write functions of a salt bridge in an electrochemical cell.

- 11. Define Activation Energy. How is activation energy effected by use of catalyst ?

Or

How does the order of a reaction differ from the molecularity ?

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12. Why transition metals act as catalysts ? Give reason.
13. What is geometrical isomerism in coordination compounds ? Give one example.

3 each

Section-C

(Short Answer Type Questions-II)

14. Define Corrosion. Explain electrical protection for protecting iron from corrosion.
15. Define First Order Reaction. Derive rate equation for first order reaction.
16. What is Brownian Movement ? What is its cause and significance ?
17. Give a brief account of calcination and roasting.
18. Why does nitrogen differ from rest of the members of group 15 ? Give *three* points of difference.
19. Explain, why haloarenes are much less reactive than haloalkanes towards nucleophilic substitution ?

20. Define and classify Vitamins. What is the role of Vitamin C in our daily life ? Give its sources.
21. What is Lanthanide contraction ? Give its causes.
22. How is phenol obtained from chlorobenzene and benzene diazonium chloride ? How phenol reacts with :
- $\text{CHCl}_3 + \text{NaOH}$ at 340K
 - Conc. H_2SO_4 at 375K ?

Or

How can you prepare ethyl alcohol from :

- Ethene
- Ethyl bromide ?

How can you convert ethyl alcohol to :

- Acetaldehyde
- Diethyl ether ?

23. Why are amines basic ? Compare basic strength of ammonia, ethylamine and diethylamine.

(5)

Or

How will you prepare ethylamine by using Hofmann bromide reaction and how will you convert ethylamine to ethylisocyanide?

24. Give preparation and uses of Nylon-66 and Terylene.

Or

Explain the term co-polymerisation and give its *two* examples.

25. What are Tranquilizers ? Give *two* examples.

Or

What are Antibiotics ? Give *two* examples.

Section-D

5 each

(Long Answer Type Questions)

26. Define the term Osmotic pressure. Describe how molecular mass of a substance can be determined on the basis of osmotic pressure. 200 cm³ of an aqueous solution of a protein contains 1.26 g of the protein. The osmotic pressure of such solution at 300K is found to be 2.57×10^{-3} bar. Calculate molecular mass of the protein.

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(6)

Or

Define the following :

- (i) Molarity
- (ii) Molality
- (iii) Mole fraction

Concentrated nitric acid in laboratory work is 68% nitric acid by mass in aqueous solution. What should be the molarity of such a sample of the acid if the density of the solution is 1.504 gmL^{-1} ?

27. What are Interhalogen Compounds ? How are they classified ? Give the structure and mention the hybridisation of central atom of the following :

- (a) IF_7
- (b) BrF_3
- (c) BrF_5

Or

Describe the manufacture of sulphuric acid by contact process.

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(7)

28. Describe the following reactions :

- (a) Aldol condensation
- (b) Cannizzaro reaction
- (c) Rosunmund's reaction

Or

How is acetic acid prepared from :

- (i) Acetylene
- (ii) Ethyl alcohol
- (iii) Acetamide ?

How does acetic acid react with :

- (i) Cl_2 in presence of phosphorus
- (ii) Methanol in presence of H_2SO_4 ?

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