

**A-2-A**

Roll No.....

Total No. of Questions : 28]

[Total No. of Printed Pages : 7

**12<sup>th</sup>SZARJD22****6002-A****CHEMISTRY**

Time : 2.30 Hours]

[Maximum Marks : 70

**Section-A**

1 each

**(Very Short Answer Type Questions)**

1. What happens when a negatively charged colloidal sol is added to a positively charged colloidal sol ?
2. The IUPAC name of  $[\text{Co}(\text{en})_3\text{Cl}_3]$  is .....
3.  $\text{CH}_3-\text{CH}=\text{CH}_2 + \text{HBr} \xrightarrow{\text{No peroxide}} \text{CH}_3-\text{CH}_2-\text{CH}_2\text{Br}$ ,  
is the major product. (True/False)
4. Arrange HCl, HBr and HI in the decreasing order of reactivity with alcohols.
5. Write IUPAC name of  $\text{OHC}-\text{CH}_2-\underset{\text{CHO}}{\text{CH}}-\text{CHO}$ .

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Turn Over

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6. Choose the correct answer :

Benzamide on treatment with  $\text{POCl}_3$  gives :

- (A) Aniline
- (B) Benzonitrile
- (C) Chlorobenzene
- (D) Benzylamine

7. Give an example of Anomers.

**Section-B**

2 each

**(Short Answer Type Questions-I)**

- 8. What do you mean by Frenkel defect ?
- 9. What is Piezoelectricity ? Give one example of such solid.
- 10. What is equivalent conductivity ? Give its units.

*Or*

What is Secondary Cell ? Give one example.

- 11. What is meant by the terms average and instantaneous rates of reaction ? How are they expressed ?

*Or*

Define Rate Law.

( 3 )

12. Transition metals have ability to form alloys. Give reason.
13. Define Ionisation Isomerism in coordination compounds. Give *one* example.

**Section-C**

3 each

**(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. <https://www.jkboseonline.com>
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.  $\text{H}_2\text{SO}_4$  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 cm<sup>3</sup> 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  $2.57 \times 10^{-3}$  bar. Calculate molecular mass of the protein.

( 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  $1.504 \text{ gmL}^{-1}$  ?

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

- (a)  $\text{IF}_7$
- (b)  $\text{BrF}_3$
- (c)  $\text{BrF}_5$

*Or*

Describe the manufacture of sulphuric acid by contact process.

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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)  $\text{Cl}_2$  in presence of phosphorus
- (ii) Methanol in presence of  $\text{H}_2\text{SO}_4$  ?

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