

**B-2-B**

Roll No.....

Total No. of Questions : 28]

[Total No. of Printed Pages : 7

**XIIKDAR21**

**5002-B**

**CHEMISTRY**

Time : 3 Hours]

[Maximum Marks : 70

**Section-A**

(Very Short Answer Type Questions)

1 each

1. If the radius of octahedral void is ' $r$ ' and the radius of the atoms in the close packing is ' $R$ ', what is the relation between ' $r$ ' and ' $R$ ' ?
2. Identify the positively charged sol :  
(A) Haemoglobin  
(B)  $As_2S_3$   
(C) Clay  
(D) Gold sol
3. Calculate the oxidation number of Co in  $[CoBr_2(CN)_2]^+$ .

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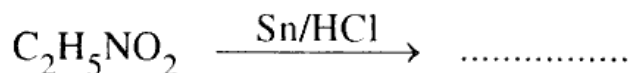
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4. Give the IUPAC name of  $(\text{CH}_3)_3\text{C.OCH}_3$ .
5. When a mixture of calcium acetate and calcium formate is distilled, the product formed is :

- (A) Formaldehyde  
(B) Acetone  
(C) Acetaldehyde  
(D) None of these

6. Predict the product of the following reaction :



7. Out of sucrose and maltose, sucrose is a reducing sugar.

(True/False)

### Section-B

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

2 each

8. Define equivalent conductivity and give its S.I. units.
9. Define Activation Energy. How is it related to threshold energy?
10. Give any two oxidising reactions of  $\text{KMnO}_4$  in acidic medium.

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Or

Why do transition metals form interstitial compounds ?

11. Define the terms with examples :

(a) Coordination complex

(b) Coordination number

Or

Explain hydrate isomerism in coordination compounds with an example.

12. Give any two chemical reactions of chlorobenzene.

13. What are the important uses and environmental effects of D.D.T. ?

### Section-C

(Short Answer Type Questions-II)

3 each

14. Define the following properties of solids :

(a) Paramagnetism

(b) Diamagnetism

(c) Ferromagnetism

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15. State and explain Faraday's second law of electrolysis.
16. Discuss the effect of temperature on the rate of reaction.
17. What is Chemical Adsorption ? Discuss the main characteristics of chemical adsorption.
18. Give a brief account of calcination and roasting.
19. Name the elements of group 15 and discuss their oxidation states.
20. What is Lanthanoid Contraction ? Explain the cause of lanthanoid contraction. <https://www.jkboseonline.com>
21. Give the chemical reactions of ethyl alcohol with :
  - (i) Conc.  $H_2SO_4$  at 440K
  - (ii)  $CH_3COOH$
  - (iii)  $CH_3MgBr$
22. What are Amines ? How are they classified ? Give one example of each type.

*Or*

How is aniline prepared from (i) Nitrobenzene (ii) Benzamide (iii) Phenyl cyanide ?

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23. What are Carbohydrates ? How are they classified on the basis of hydrolysis products ?

*Or*

Differentiate between fibrous and globular proteins.

24. Define the following with examples :

(i) Addition polymerisation

(ii) Condensation polymerisation

*Or*

What is Nylon-66 ? Give its preparation and uses.

25. Name the substance which can act both analgesic and antipyretic as well. How does it help heart patients ? What precautions must be taken while taking it ?

*Or*

Describe the following with suitable examples :

(i) Artificial sweeteners

(ii) Antioxidants

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