

B-22-X

Roll No.

Total No. of Questions : 28]

[Total No. of Printed Pages : 7

XIIARJKUT23

9122-X

CHEMISTRY

Time : 3 Hours]

[Maximum Marks : 70

SECTION-A

1 each

1. Define Crystal Lattice.
2. Tyndal effect is due to of light.
3. The functional group in alcohols is :

(A) —O—

(B) —OH—

(C) >C=O

(D) —CHO

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Turn Over

4. Amines are :

- (A) Acidic
- (B) Basic
- (C) Neutral
- (D) None of these

5. What is IUPAC name of $K_4[Fe(CN)_6]$?

6. Citrus fruits have :

- (A) Vitamin A
- (B) Vitamin B
- (C) Vitamin D
- (D) Vitamin C

7. Aldehydes have :

- (A) $>C=O$ group
- (B) $-CHO$ group
- (C) $-OH$ group
- (D) $-O-$ group

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SECTION-B

2 each

- ✓8. State Faraday's 2nd law of Electrolysis.
- ✓9. Define Molecularity of Reaction.
- ✓10. How *d*-Block elements form coloured ions ?

Or

Why *d*-Block elements show catalytic properties ?

- ✓11. Define Co-ordination Number.

Or

Explain Ionization Isomerism.

- ✓12. Define Haloarenes.
- ✓13. Give harmful effects of DDT.

SECTION-C

3 each

- ✓14. Explain Schottky defect.
- ✓15. Draw a labelled diagram of Galvanic cell.

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Turn Over

- ✓16. Calculate Half-life period for 1st order reaction.
- ✓17. Explain Tyndal effect.
18. Explain Zone refining.
- ✓19. Give the electronic configuration of group 15 elements.
20. Give *three* oxidising properties of $K_2Cr_2O_7$.
- ✓21. Discuss the nitration of phenol with conc. HNO_3 in presence of conc. H_2SO_4 .
22. How Benzene diazonium chloride is prepared?

Or

✓What are Amines ? Give their classification.

23. ✓Define Carbohydrates and give their classification.

Or

What are Enzymes ? Give their importance.

24. What are Polymers ? How are they classified on the basis of structure ?

Or

Give the preparation and two uses of polythene.

25. Define Analgesics, Antiseptics and Antibiotics.

Or

Why detergents are preferred over soaps ?

SECTION-D

5 each

26. Define elevation in B.P. How can you calculate the molecular mass of a non-volatile solute with it ?

Or

Define Osmotic Pressure. How is it determined by Berkeley-Hartley method ?

27. Discuss the oxidation states of group 16 elements.

Or

Discuss the manufacture of NH_3 by Haber's process.

28. (a) Show how each of the following compounds can be converted into benzoic acid ? <https://www.jkboseonline.com>

(i) Ethyl benzene

(ii) Acetophenone

(iii) Bromobenzene

(b) Account for the following :

(i) Electrophilic substitution in benzoic acid takes place at meta position.

(ii) Chloroacetic acid is stronger than acetic acid

Or

Explain the following :

✓ (a) Aldol condensation

✓ (b) Cannizzaro's reaction

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