



ZIAUDDIN UNIVERSITY

EXAMINATION BOARD

CHEMISTRY PAPER-II (MODEL PAPER) Annual Examination 2021

Total Time 2 hour.

Total Marks 85

Time: 30 min

Section 'A' (M.C.Qs (Multiple Choice Question))

Marks: 43

Note: This section consists of 43 questions. Attempt all M.C.Qs. Each carries 1 marks.

Q 1: Choose the correct answers for each from the given options:

- 1. Saponification results in the formation of:**
 - a. Glass
 - b. Polymer
 - c. fertilizer
 - d. Soap
- 2. Bakelite is a polymer of phenol and _____**
 - a. Methanol
 - b. Methanal
 - c. Alcohol
 - d. None of these
- 3. EDTA is:**
 - a. Bidentate ligand
 - b. Monodentate ligand
 - c. Chelate
 - d. Multidentate ligand
- 4. The isomers caused by difference in the position of same functional group in the same chain are termed as _____ isomers.**
 - a. Chain
 - b. Functional group
 - c. Position
 - d. none of these
- 5. The general formula of alkyl halides is:**
 - a. $C_nH_{2n+2}X$
 - b. $C_nH_{2n+1}X$
 - c. $C_nH_{2n}X_2$
 - d. None of these

6. **Cod liver oil is a source of ,**
- Vitamin A
 - Vitamin B
 - Vitamin C
 - Vitamin K
7. **This gas is produced by ethene with sulphur monochloride:**
- Tear gas
 - Acetylene gas
 - Laughing gas
 - Mustard gas
8. **Kipp's apparatus is used for the preparation of this gas,**
- H₂S
 - O₂
 - Cl₂
 - SO₃
9. **In KMnO₄, oxidation number of Mn is:**
- +7
 - +6
 - +5
 - +4
10. **The metal present in Grignard's Reagent is:**
- Mg
Mn
Fe
Cu
11. **The chlorination of methane (CH₄) is an example of:**
- Addition reaction
 - Substitution reaction
 - Elimination reaction
 - Oxidation reaction
12. **The general formula of aldehyde is:**
- OH
 - COOH
 - RCOR
 - RCHO
13. **Wurtz reaction will be applicable in the :**
- CH₂ CH₂
 - CHBr
 - CH₃Br
 - None of them

14. In general alkali metals act as

- a. Reducing agents
- b. Oxidizing agents
- c. Both a & b
- d. None of these

15. When alkyl halide is heated with alcoholic KOH _____ is formed.

- a. Alkene
- b. Alkyl Halides
- c. Alkane
- d. Alkyne

16. The chemical formula Al_2O_3 stands for:

- a. Diaspore
- b. Corundum
- c. Bauxite
- d. Gibbsite

17. Water gas is produced by passing steam over red hot coke at:

- a. $800^\circ C$
- b. $900^\circ C$
- c. $600^\circ C$
- d. $1000^\circ C$

18. Aldehyde is formed by oxidation of:

- a. Primary Alcohol
- b. Secondary Alcohol
- c. Tertiary Alcohol
- d. Ether

19. Tollen's reagent is:

- a. Ammonical cuprous oxide
- b. Ammonical silver nitrate
- c. Ammonical silver oxide
- d. Ammonical silver bromide

20. Non metals acts as:

- a. Reducing agent
- b. Bleaching agent
- c. Oxidizing agent
- d. Nitrating Agent

21. Tetra ethyl lead is used for reduce the _____ of the engine.

- a. Knocking
- b. etching
- c. hydrogenation
- d. Sublimation

22. Making of design on glass surface is known as

- a. Knocking
- b. Etching
- c. Hydrogenation
- d. Sublimation

23. It is a nucleophile:

- a. OH^{-1}
- b. CN^{-1}
- c. SH^{-1}
- d. All of these

24. Ethanol can be prepared by the _____ of glucose:

- a. Hydration
- b. Hydrogenation
- c. Oxidation
- d. Fermentation

25. The hybridization in the carbon atom of methane is:

- a. sp^3
- b. sp^2
- c. sp
- d. sp^3

26. This will give Iodoform reaction on the treatment with Na_2CO_3 and I_2 :

- a. Acetic acid
- b. Acetone
- c. Acetic Anhydride
- d. Methanol

27. Only one of this compound given below obeys Markownikoff rule on reaction with HBr :

- a. $\text{CH}_3\text{-CH}=\text{CH}_2$
- b. $\text{CH}_2=\text{CH}_2$
- c. $\text{CH}\equiv\text{CH}$
- d. $\text{CH}_3\text{-CH}=\text{CH-CH}_3$

28. Saturated Hydrocarbon containing a single bond are called

- a. Parafins
- b. Alkynes
- c. Proteins
- d. Olefines

29. Electronic configuration of Zn:

- a. $4\text{S}^1, 3\text{d}^{10}$
- b. $4\text{S}^0, 3\text{d}^9$
- c. $4\text{S}^0, 3\text{d}^{10}$
- d. $4\text{S}^2, 3\text{d}^{10}$

- 30. The mixture of "Al" and Fe₂O₃ is used in :**
- Pyrolysis
 - Thermite process
 - Electrolysis
 - Washing
- 31. Hydrides of group VII A are ----- in nature:**
- Acidic
 - Basic
 - Amphoteric
 - Neutral
- 32. The meta director are the groups that allow new group to enter into:**
- 2,6 position
 - 3,5 position
 - 1,4 position
 - None of these
- 33. Any material which enhances the cleaning effect of water is called**
- Soap
 - detergent
 - Both a & b
 - None of these
- 34. A super cooled liquid having no definite melting and boiling point.**
- Paints
 - Glass
 - cement
 - None of these
- 35. The functional group present in oil and fats is:**
- Carboxylic group
 - Alcoholic group
 - Aldehydic group
 - Ester group
- 36. A dipolar charged but on overall electrically neutral ion is called**
- Zwitterions
 - Cation
 - Anion
 - None of these
- 37. Enzymes are synthesized only by living cells.**
- Living cells
 - Non living cells
 - Both a & b
 - None of these

- 38. Compounds with the general formula $C_nH_{2n}O_2$ are called _____.**
- carboxylic acids
 - Ether
 - Alkane
 - Alkene
- 39. Tertiary alkyl halides react with reaction mechanism.**
- SN^1
 - SN^1
 - Both SN^1 & SN^2
 - None of these
- 40. In the fractional distillation of petroleum, at the lowest boiling point hydrocarbon is:**
- Benzene
 - Methane
 - Ethene
 - Kerosene oil
- 41. It is used as a lubricant for machinery and also as a moderator in nuclear reactors.**
- Diamond
 - Graphite
 - Epsom
 - Gypsum
- 42. All the alums crystallize to yield crystals of the shape**
- Octahedral
 - Tetrahedral
 - Trigonal
 - Linear
- 43. Stainless steel is**
- mixture
 - compound
 - an alloy
 - both a and c

BEST OF LUCK

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6. Explain that the position of hydrogen in Group **IA** of the periodic table write four points of each.

OR

Give the refining of Aluminum by Hope's Electrolytic method.

OR

How chlorine gas prepared by Nelson's cell.

ORGANIC CHEMISTRY

1. Draw the orbital structure of an Ethyne molecule. Briefly explain the nature of hybridization in carbons and their bonds.
2. Define alcohol **OR** Alkyl halide. Describe its classification with suitable examples.
3. Define any **4** of the following:
 - Homologous series
 - Refining of Petroleum
 - Catenation

*Cracking

*Zwitter ion

*Peptide bond

OR

Write a short note any one of the following.

- **Fertilizers**
 - ***Plastics**
- *Glass industry
*Amino acid
4. Give equations for the following reactions:
 - Water with Ethyne
 - Ethanol with Grignard Reagent
 - Ethene with water
 - Phenol with zinc (Zn) dust
 5. Write the mechanism of benzene with **any two** of the following
 - friedel-craft alkylation
 - friedel-craft acylation
 - Nitration **and** Sulphonation
 - Bromination
 6. What happened when, **(Any Four)**
 - Ethanol gas react with sodium metal
 - Ethanol react with thionyl chloride
 - Phenol with conc. nitric acid
 - Phenol with conc. sulphuric acid at 15C°.
 - Phenol with Zn dust

SECTION C
DETAILED-ANSWER QUESTIONS

NOTE: Attempt three question from this section in all, selecting atleast one question from Inorganic chemistry and one from organic chemistry. (Marks: 18)

INORGANIC CHEMISTRY

1. What is binary compound of hydrogen? Describe any four of its types.

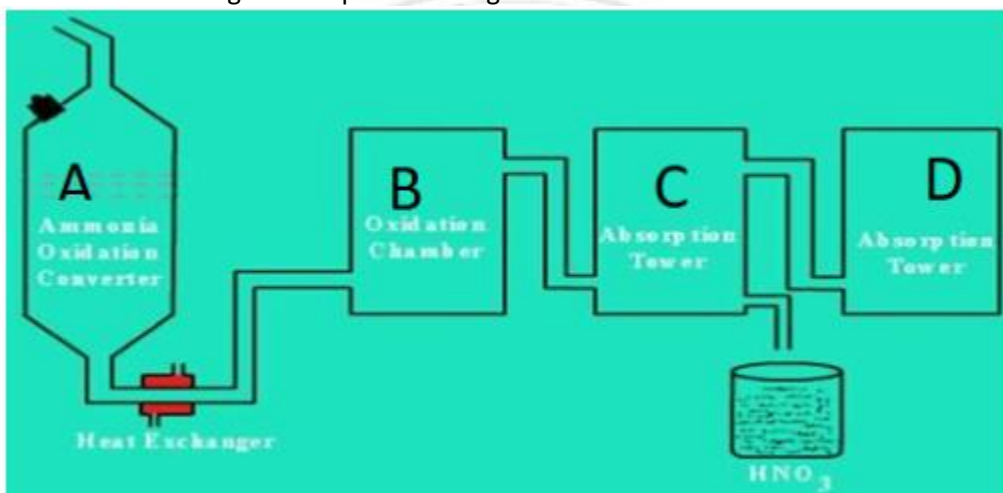
OR

Describe the extraction of sodium metal by Down's process.

OR

What is Modern periodic law and how it remove the defects of Mendeleev's periodic table?

2. The following chart represents stages in manufacture of HNO_3



- Describe the chemical process in stage A along with the conditions for maximum conversion.
- Describe the process in C and D.
- How 98% concentrated HNO_3 is obtained

OR

Discuss the chemical properties of S-Block Element.

OR

Describe the classification of long form of periodic table on the basis of electronic configuration.

ORGANIC CHEMISTRY

3. What are carbohydrates? How they are classified. Give its biological important.

OR

What is Grignard's Reagent? How are the following compound obtained from CH_3MgI .

* Ethanoic acid

* Ethane

* Ethanol

OR

Define Nucleophilic substitution reaction. Write the step wise mechanism of the following.

1. SN_1 reaction of 2-bromo2-chloro propane with NaOH
2. SN_2 reaction of bromo propane with NaCN

4. What is fermentation process? Explain the manufacture of ethanol from starch **or** molasses.

OR

Define isomerism. Explain its types with suitable example.

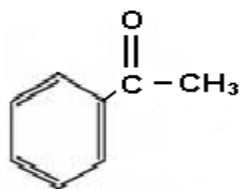
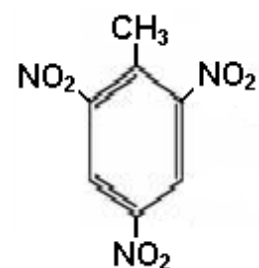
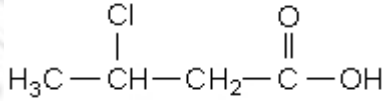
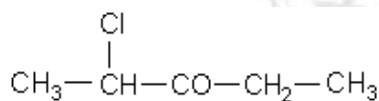
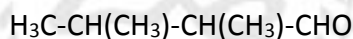
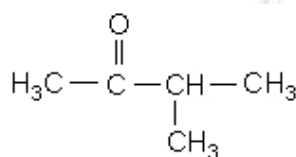
OR

Complete and balance following chemical equations.

- $\text{H-CHO} + \text{NaOH} \longrightarrow$
- $\text{CH}_3\text{-COCl} + \text{CH}_3\text{COONa} \longrightarrow$
- $\text{CH}_3\text{COOC}_2\text{H}_5 + \text{HOH} \longrightarrow$
- $\text{C}_6\text{H}_5\text{-OH} + \text{HNO}_3(\text{at } 25^\circ\text{C}) \longrightarrow$
- $\text{H-CH=O} + 2[\text{Ag}(\text{NH}_3)_2]\text{OH} \longrightarrow$
- $\text{C}_2\text{H}_5\text{OH} + [\text{O}] \longrightarrow$

OR

Give the I.U.P.A.C names of the following: **(ANY FIVE)**



BEST OF LUCK

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