2nd Year Chemistry Guess Paper For all Punjab Boards (English Medium):

Here are the 2nd Year Chemistry guess papers of all Punjab boards 2024. which Includes important short questions and long questions for various boards in Punjab.

This 2nd Year Chemistry guess paper is for the following Punjab Boards: Lahore Board, Multan Board, Bahawalpur Board, Rawalpindi Board, Gujranwala Board, Faisalabad Board, DG Khan Board, Sargodha Board, and Sahiwal Board.

Visit Website: https://ilmroshan.com

2nd Year Chemistry Guess Paper (2024) for All Punjab Boards

Chapter 1

Important Short Questions

1. Why do anions tend to be larger than their parent atoms?

2. What are the different types of hydrides?
3. How does metallic character change within a group of metals?
4. Why do alkali metals form ionic hydrides?
5. Name four uses of nitric acid.
6. Define electron affinity and explain its trend in the periodic table.
7. Why is hydrogen placed at the top of group VII-A elements?
8. Explain why the hydration energy of Al^{3+} ion is higher than that of Mg^{2+} ion.
9. Highlight the differences between lithium and other members of its family.
10. What makes metals good conductors of electricity?
11. Describe hydration energy with examples.
12. Why is diamond a non-conductor while graphite is a good conductor?
13. How does hydrogen resemble group IV-A elements?
14. Justify why ionization energy increases from left to right in a period.

Important Long Questions

1. Discuss the classification and characteristics of hydrides.
2. Explore the trends in metallic character across groups and periods, considering the impact of atomic size.
3. Define the periodic table and discuss Mendeleev's contributions to its improvement.

Chapter 2

Important Short Questions

1. Provide the formulas for (i) Dolomite and (ii) Asbestos.
2. What reactions occur when (i) lithium carbonate and (ii) sodium bicarbonate are heated?
3. Name two properties that lithium and magnesium share.
4. Write the chemical formulas for Beryl and Barite.
5. Identify two main problems faced by the diaphragm cell during operation.
6. Why is Down's cell preferred for mass production of sodium?
7. How does hydrogen resemble alkali metals?
8. Give the formulas for borax and chili saltpeter.
9. Provide the formulas for Natron and Halite.
10. How can ethanol and propanol be differentiated?

Important Long Questions

1. Explain the process of producing sodium metal using Down's cell.
2. Discuss the commercial-scale production of sodium hydroxide using diaphragm cell or Nelson cell.
3. Complete and balance the following equations: (i) $Li_2O + H_2O$, (ii) $Na_2O + H_2O$, (iii) $Mg + (OH)_2$, (iv) $NaNO_3$.

Chapter 3

Important Short Questions

1. What is carbonization?
2. Describe the structure of CO_2.
3. List two uses of sodium silicate.
4. How can borax be prepared from colemanite? Provide the equation.
5. Name the oxides of nitrogen along with their formulas.
6. State four everyday uses of aluminum.
7. Highlight two similarities between carbon and silicate.
8. Explain the reactions of P_2O_5 with cold and hot water.
9. Why is an aqueous solution of borax alkaline?
10. Describe four uses of borax.
11. What is the borax bread test?
12. How is borax utilized as a water softening agent?
13. Why are borate glazes preferred over silicate glazes?

Important Long Questions

1. Provide information on aluminum silicate.
2. Describe the conversion of boric acid to borax and vice versa.
3. Explain the method of preparing glass and its various uses.

Chapter 4

Important Short Questions

1. all the short questions from the exercises.

Chapter 5

Important Short Questions

1. all the short questions from the exercises.

Chapter 6

Important Short Questions

1. all the short questions from the exercises.

Important Long Questions

1. Explain the properties of transition elements: i) Paramagnetism ii) Color.
2. Discuss the concepts of: i) Binding energy ii) Paramagnetism.

Chapter 7

Important Short Questions

1. Define octane number and suggest methods for its improvement.
2. What is iodized salt?
3. Give structural formulas for two isomers of C4H10.

4. Describe major sources of organic compounds.
5. Define catalytic cracking.
6. Explain alicyclic and aromatic compounds.
7. Define petroleum and its origin.
8. Discuss the importance of ethane in industry.
9. Explain coal tar and its constituents.
10. Describe thermal and steam cracking.
11. Define catenation and provide examples.
12. Explain cis-trans isomerism.
13. Define and exemplify tautomerism.
14. Define organic chemistry.
15. Differentiate between homocyclic and heterocyclic compounds.
16. Why is ethane significant industrially?
17. Define isomers and name four types.
18. Explain functional groups and name oxygen-containing ones.

Important Long Questions

1. Define Isomerism and its types.
2. Detail the process of petroleum cracking.
3. What is orbital hybridization? Define sp^3, sp^2, and sp hybridization modes.
4. Describe major sources of organic compounds.

Chapter 8

Important Short Questions

1. Discuss why alkanes are less reactive than alkenes.
2. Convert ethane to acetaldehyde.
3. How are cis and trans alkenes formed?
4. Convert ethane to ethyl alcohol.
5. Explain hydrogenolysis.
6. Convert methane to formic acid.
7. What is Markonikov's principle?
8. Elaborate on the acidity of ethyne.
9. Convert methane to formic acid.
10. Define Raney-Nickel and state its uses.
11. Describe Beer's test and its applications.
12. Distinguish between ethane and ethene.
13. Why is a π bond more reactive than a σ bond?
14. Convert 1-butane to 1-butene.
15. Enumerate four uses of methane.
16. Synthesize: i. benzene ii. oxalic acid from ethane.

Important Long Questions

1. Prepare ethane using Colby's electrolytic method and outline the procedure.
2. Explain the acidic nature of alkynes with examples.
3. Compare the reactivity of alkanes, alkenes, and alkynes.
4. Provide chemical reactions of ethane with: i) O_2 in presence of Ag_2O ii) Conc. H_2SO_4 iii) S_2Cl_2 iv) HOCl.

Chapter 9

Important Short Questions

1. Give the reaction of benzene with SO3.
2. Prepare benzene from: i. n-hexane ii. Sodium benzoate.
3. Explain the mechanism of nitration of benzene.
4. Provide the reaction of benzene with electrophiles.
5. Illustrate the cyclic structure of benzene with a diagram.
6. Define aromatization.
7. Why is benzene less reactive than alkanes?
8. What is the Wurts fitting reaction and its importance?
9. List two oxidation reactions of benzene.
10. Define fused ring aromatic compounds.
11. Summarize X-ray studies on the structure of benzene.
12. Define electrophile and give two examples.
13. Give the reaction of benzene with ozone (ozonolysis).
14. How is benzene converted to malic acid via catalytic oxidation?
15. Explain aromatic compounds.

Important Long Questions

1. Outline four chemical methods for preparing benzene.
2. Describe the reactions of benzene regarding: i) Nitration ii) Sulphonation.
3. Convert benzene to: i) Cyclohexane ii) Maleic acid.
4. Explain Friedel-Crafts reactions and the mechanisms of benzene alkylation and acylation.

Chapter 10

Important Short Questions

2. What are alkyl halides? Provide their general formula.
3. Enumerate the types of nucleophilic substitution reactions.
4. Convert ethyl alcohol to respective halides using PCl_3 and PI_5.
5. Define Wurtz reaction.
6. Explain Grignard reagent.
7. Compare SN1 and SN2 mechanisms.
8. How do we obtain alkyl nitriles from Grignard reagent?
9. Define elimination reactions and give an example of an E1 reaction.
10. What are primary, secondary, and tertiary alkyl halides? Provide an example of each.
11. Explain Markovnikov's principle with a suitable example.
12. Starting from C_2H_4Br, how would you prepare ethane and ethene?
13. Discuss the reaction: $CH_4 \rightarrow CH_3CH_2COOH$.

Important Long Questions

1. Explain β elimination reaction E2 with an example.
2. Describe SN2 reaction of alkyl halides in detail.
3. Discuss the mechanism of nucleophilic substitution reactions.
4. How can the presence of a double bond be detected using Baeyer's reagent?

Chapter 11

Important Short Questions

1. Define fermentation and its terms.
2. Why can't absolute alcohol be produced by fermentation?
3. Define wood spirit and explain its production from water gas.
4. Write the equation for the reaction of C2H5OH with PBr3, PCl5.
5. Convert methanol to ethanol and acetone to ethyl alcohol.
6. What is the Lucas test?
7. State the uses of ethyl alcohol and methyl alcohol.
8. Explain why ethyl alcohol is a liquid while methyl chloride is a gas.
9. Provide names and formulas of two polyhydric alcohols.
10. Convert methanol to ethanol.
11. Differentiate between primary and secondary alcohols.
12. Write the structural formula of: a) Carbolic acid b) Glycerol.
13. Define rectified spirits, commercial alcohol, and absolute alcohol.
14. Why is the boiling point of water higher than that of ethanol?

Important Long Questions

1. What is ether? Give its reaction.
2. How are alcohols produced? Explain their properties

and uses.
3. Explain the properties of phenol regarding: i) Esterification ii) Sulphonation.

Chapter 13

Important Short Questions

1. List four uses of acetic acid.
2. Describe the conversion of ethanol to acetic acid and vice versa.
3. Define protein and differentiate it from polypeptides.
4. Define fatty acids and provide examples.
5. Explain Zwitter ions with an equation.
6. How would you prepare acetic acid from ethene?
7. Name five dicarboxylic acids and provide their formulas.
8. What is the composition of streaker?
9. Enumerate four uses of nitric acid.
10. How can carboxylic acid be converted into amino acid?
11. Define peptides and peptide linkage.
12. Explain the ninhydrin test.
13. Define aromatic carboxylic acids.
14. Explain the mechanism of esterification of carboxylic acids.
15. Define essential and non-essential amino acids.

Chapter 14

1. Provide the structure of cholesterol.

2. List the uses of proteins.
3. Define saponification number and iodine number.
4. Define fatty acids and give examples.
5. How are polymers classified based on heat effect?
6. Define carbohydrate, classify them, and give an example of each.
7. Explain: i) Protein ii) Lipids iii) Polymer.
8. Describe the manufacture of polystyrene and its two uses.

Chapter 15+16

1. What is cement setting?
2. Explain the role of phosphorus in plant growth.
3. Discuss the role/importance of potassium in plant growth.
4. Name the steps in the papermaking process.
5. Define urea filtration.
6. Compare SN1 and SN2 mechanisms.
7. Why is fertilizer needed?
8. Define urea filtration.
9. Name some bleaching agents commonly used in papermaking.
10. Define clinker and explain its use in cement manufacturing.
11. What reaction occurs in the decomposition zone during cement manufacturing?
12. What type of wood raw material is used in the paper industry?
13. Define macronutrients.

14. Discuss the role of chlorofluorocarbons in ozone depletion.

Note:

Keep in mind that guess papers are just most Important Question and should not be relied on entirely. They can be used as a guide to focus on important topics. 2nd year Chemistry guess papers are designed for weaker students to pass exams by preparing important questions. It's always best to study all the material thoroughly for the best possible outcome.