



CHEMISTRY HSSC-II (2025)

Most Expected Topics (METS)

Lecturer: Ayesha Amjad

Chapter #13 (S & p Block Elements)

1. Chemical Reaction of 3rd Period Elements
2. Acid Base behavior of Oxides
3. Reaction of Group I with water & dilute Acid
4. Chloride of Carbon silicon & lead
5. Trends in thermal stability of hydroxide, Sulphate & Carbonate
6. Trend in thermal stability of Carbonates & nitrates
7. How beryllium differs from other member of Group
8. Inert pair Effect & Positive Oxidation state

Long Q 6,9

Quick quiz #8 10

Short# i,ii,iv,vii,ix,x,xiii,xv

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Chapter #14 (d & f block Elements)

1. Catalytic Activity, Magnetic behaviour, Alloy formation
2. ligand & its types
3. Chemistry of iron
4. Chemistry of Manganese
5. Chemistry of copper
6. Chemistry of Copper
7. Chemistry of Chromium

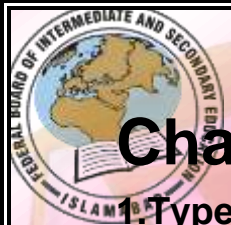
Exercise #Q2 ii,iv long Q3 (1 & 4)

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Chapter #15 (Organic Compounds)

1. Coal (As source of Organic Compound)
2. Detection of Elements in Organic Compounds



Chapter #16 (Hydrocarbons)



- 1.Types of Hydrocarbon
- 2.isomerism & types
- 3.Makownikovs & saytzeff Rule
- 4.Halohydration,Ozonolysis ,polymerization
- 5.Acidity of terminal alkynes
- 6.Reaction of Alkynes
- 7.Hydration,Catalytic oxidation, Side chain Oxidation
- 8.Nitration,Sulphonation Halogenation
- 9.Friedel-craft alkylation & acylation
- 10.Ortho para & meta directing with examples

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Exercise #Q3 (2,3,8)

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Chapter #17 (Alkyl halides & Amines)

- 1.SN1 SN2 Mechanisms
- 2.Beta elimination Reaction (E1 &E2)
- 3.Reactions of Grignards Reagents
- 4.Reactions of Amines

Exercise #Q5,9,10 Short iii, viii, ix

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Chapter #18 (Alcohols, Phenols & Ethers)

- 1.Lucas test
- 2.Mechanism of Alcohol Condensation
- 3.Oxidation of Alcohol
- 4.Comparison of Acidity of phenol, Alcohol & Carboxylic Acid
- 5.Preparation of Phenol
- 6.Kolbe's Schmitt Reaction (Carboxylation of phenol)
- 7.Williamson Synthesis

Exercise # Q 1,6 short ii, iv



Chapter #19 (Aldehydes & Ketones)



1. Aldol Condensation
2. Cannizaros Reaction
3. Haloform Reaction (iodoform test)
4. Addition of ammonia derivatives
5. Test used to distinguish aldehydes & ketones

Exercise Q i, iii, iv

Chapter #20 (Carboxylic Acids)

1. Preparation of Carboxylic acids
2. Mechanism of Reaction for Acid Catalyzed Esterification
3. Decarboxylation
4. Reaction of Derivatives of Carboxylic Acids

Exercise # Q 5 Short ii

Chapter #21 (Biochemistry)

1. Carbohydrates
2. Lipids (chemical Reactions Formation)
3. Proteins

Exercise # iv, v, viii, xi, xii

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Chapter #22 (Industrial Chemistry)

1. Dyes
- Pesticides
3. Synthetic Polymers
4. Adhesives

Exercise iii, iv, v Q6

Chapter #23 (Environmental Chemistry)

1. Acid Rain, Green House Effect Global Warming
2. Waste Water Treatment
3. Catalytic converter

Exercise # Q4 v, vi, vii, viii, ix, x, xi, xii, xiii, xv, xviii



Chapter #24 (Analytical Chemistry)



1. Combustion Analysis

2. Infrared Spectroscopy

3. Nuclear Magnetic Resonance (NMR)

4. Mass Spectrometry

5. Applications of atomic absorption & diff b/w Atomic emission & Atomic absorption

Exercise i, ii Q2,3

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