



BCH-003-1015023 Seat No. _____

B. Sc. (Sem. V) (CBCS) Examination

August – 2021

IC - 503 : Heavy & Fine Chemicals

Faculty Code : 003

Subject Code : 1015023

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

INSTRUCTIONS:

- 1) Question paper carries total 10-questions.
- 2) All the questions have general option & carry 14 marks each.
- 3) Answer any 5 questions out of total 10 questions.
- 4) Draw labeled diagram wherever necessary & Assume suitable data.

1A: Answer the following questions. 04

1. Give two properties of ammonium nitrate.
2. Electric arc furnace process is used to produce _____ acid.
3. Write raw materials required to manufacture calcium carbide.
4. Synthetic graphite is also known as carbon graphite. True/False?

B: Answer in brief. 02

1. Write brief note on copper chromite.

C: Answer in detail. 03

1. Explain fluorine cell with neat diagram.

D: Write a note on. 05

1. Explain manufacturing of borax with diagram.

2A: Answer the following questions. 04

1. 90 % ammonia used in _____ industry.
2. Ammonium Phosphate is used in fertilizer industry. True/False?
3. Which Catalyst is used in Bosch & Haber process for manufacturing of Ammonia?
4. Temperature required for converting yellow P₄ to red P₄ is _____ °C

B: Answer in brief. 02

1. Draw only diagram manufacturing of 95% nitric acid.

C: Answer in detail. 03

1. Explain in brief: Nelson cell.

D: Write a note on.	05
1. Explain in detail: Manufacturing of triple Superphosphate	
3A: Answer the following questions.	04
1. $TiCl_4$ is Volatile Material. True/False?	
2. Titania is also called _____.	
3. In fluorine cell, which metal is used as cathode?	
4. Which Catalyst is used in Suzuki Coupling?	
B: Answer in brief.	02
1. Give uses of silicon carbide.	
C: Answer in detail.	03
1. Write a brief note on Palladium catalyst.	
D: Write a note on.	05
1. Explain manufacturing of boric acid with neat & clean diagram in detail.	
4A: Answer the following questions.	04
1. NaCl is also known as _____ salt.	
2. Bromine can be produced from seawater. True/False?	
3. Vanadia is also known as _____	
4. The other name of Raney nickel is Spongy nickel. True/False?	
B: Answer in brief.	02
1. Write uses of sodium thiosulphate.	
C: Answer in detail.	03
1. Discuss in brief: Manufacturing of bromine from bittern.	
D: Write a note on.	05
1. Explain manufacturing of anhydrous sodium sulphate from Glauber's salt in detail.	
5A: Answer the following questions.	04
1. Give full form of MSG.	
2. Argol contains _____% tartaric acid.	
3. Silica gel is _____ in nature (Acidic/Basic)?	
4. Peppermint oil can be extracted from _____.	
B: Answer in brief.	02
1. What is emulsion? Enlist types of emulsion.	
C: Answer in detail.	03
1. Write a short note on isolates.	
D: Write a note on.	05
1. Explain production of Citric acid with neat & clean diagram in detail.	

6A: Answer the following questions.	04
1. Cold fat extraction is also known as_____.	
2. Cinnamal is one type of alcohol. True/False?	
3. Give full form of HLV	
4. Kieselguhr is _____ in nature (Acidic/Neutral)?	
B: Answer in brief.	02
1. Enlist composition of essential oils.	
C: Answer in detail.	03
1. Discuss camphor in brief.	
D: Write a note on.	05
1. Discuss in detail: Manufacturing of Monosodium glutamate with diagram with neat & clean diagram.	
7A: Answer the following questions.	04
1. Write two uses of 1,4-dioxane.	
2. Write catalysts used to manufacture acetaldehyde from ethylene.	
3. _____ is used as useful polymerization inhibitor.	
4. Which base catalyst is used to manufacture tributyl phosphate?	
B: Answer in brief.	02
1. Write two properties of acetaldehyde.	
C: Answer in detail.	03
1. Explain DMF in brief.	
D: Write a note on.	05
1. Discuss in detail: Manufacturing of amino ethanol with neat & clean diagram.	
8A: Answer the following questions.	04
1. Triethyl phosphate is soluble in water. True/False?	
2. Give full form of DMSO.	
3. Phenyl Magnesium Bromide is raw material for manufacturing of triphenyl phosphine. True/False?	
4. Triphenyl Phosphine is used as_____.	
B: Answer in brief.	02
1. Give two uses of THF.	
C: Answer in detail.	03
1. Explain in brief: Manufacturing of ketenes with diagram.	
D: Write a note on.	05
1. Explain manufacturing of acetaldehyde with neat & clean diagram in detail.	

- 9A: Answer the following questions.** **04**
1. Write two uses of vinyl chloride.
 2. Write two properties of phthalic anhydride.
 3. Give a full form of PVC.
 4. Sorbitol is also called_____.
- B: Answer in brief.** **02**
1. Draw only diagram for manufacturing of Resorcinol.
- C: Answer in detail.** **03**
1. Write a brief note on lithium aluminum hydride.
- D: Write a note on.** **05**
1. Explain manufacturing of vinyl acetate in detail.
- 10A: Answer the following questions.** **04**
1. Lithium aluminum hydride is used as _____ agent.
 2. Sodium ethoxide is also known as _____.
 3. Which compound used in drugs and cosmetics industries?
 4. Which compound is used as a raw material for manufacturing of PVC?
- B: Answer in brief.** **02**
1. Write properties and uses of melamine.
- C: Answer in detail.** **03**
1. Explain in brief: Manufacturing of raschig process of phenol.
- D: Write a note on.** **05**
1. Describe manufacturing of sorbitol in detail.
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