

Total No. of Question : [4]

Registration No. : 

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**Programme Name : Bachelor of Chemical Engineering**  
**Regular S.Y.B.Tech.Sem.IV ESE May / June 2023**  
**IV SEMESTER ( 2021 BATCH)**  
**201CHL 212-Industrial and Engineering Chemistry-II**

Duration : 2 Hours

Marks : 50

Instructions :

1.Read questions carefully.

(Q1) All questions are compulsory [20.0]

(1.1) Explain in brief account of manufacture of Ammonia by Habers processs. [6.0]

**CO :- C212.1**

**Blooms Taxonomy :- Understand**

(1.2) Explain water as universal solvent and discuss in brief classification of solvents [7.0]

**CO :- C212.2**

**Blooms Taxonomy :- Understand**

(1.3) Explain essential requirements of fertilizers with suitable example [7.0]

**CO :- C212.2**

**Blooms Taxonomy :- Understand**

(Q2) Attempt any two [10.0]

(2.1) Give preparation, properties and uses of Quinoline [6.0]

**CO :- C212.3**

**Blooms Taxonomy :- Apply**

(2.2) Give preparation, properties and uses of Five membered Heterocycles [6.0]

**CO :- C212.3**

**Blooms Taxonomy :- Apply**

(2.3) Define Heterocyclic compounds and its Classification [4.0]

**CO :- C212.3**

**Blooms Taxonomy :- Apply**

(Q3) Attempt any two [10.0]

(3.1) Define octane number. Explain constituents of petroleum in detail. [7.0]

**CO :- C212.3**  
**Blooms Taxonomy :- Apply**

**OR [ 3.1 / 3.2 ]**

(3.2) Explain additives used for improving antiknock properties [7.0]

**CO :- C212.3**  
**Blooms Taxonomy :- Apply**

(3.3) Define Cracking and Explain types of cracking [3.0]

**CO :- C212.3**  
**Blooms Taxonomy :- Apply**

(Q4) Attempt any two. [10.0]

(4.1) Define organometallic compounds with its classification. [5.0]

**CO :- C212.4**  
**Blooms Taxonomy :- Apply**

**OR [ 4.1 / 4.2 ]**

(4.2) Enlist limitations of EAN rule. [5.0]

**CO :- C212.4**  
**Blooms Taxonomy :- Apply**

(4.3) Classify metal carbonyls with its physical properties [5.0]

**CO :- C212.4**  
**Blooms Taxonomy :- Apply**

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