



DEPARTMENT OF HUMANITIES & APPLIED SCIENCES

I Year I/II Semester

1FY2-03/2FY2-03: ENGINEERING CHEMISTRY

*Note: Each Assignment of 10 marks
All questions carry equal marks*

UNIT-01/ASSIGNMENT-01

Q.No.	Questions	CO	BLT
1	How many types of dissolved impurities are present in water? Which hardness causing salts are known as carbonates? Write the formula.	1	2
2	What do you mean by break point chlorination? Give advantages.	1	1
3	What is the principle of complexometric titration? What is the role of buffer solution in this process?	1	2
4	Explain Calgon, phosphate and carbonate conditioning, Priming and foaming?	1	3
5	Analysis of water sample gave the following results- Mg (HCO ₃) ₂ =25.0 mg/l MgCl ₂ =15.0 mg/l, CaSO ₄ =20 mg/l Calculate the amount of lime and soda required for softening 40,000 litres of water, if purity of lime is 80% and soda is 90%.	1	4

UNIT-02/ASSIGNMENT-02

Q.No.	Question	CO	BLT
1	What do you understand by Knocking in Internal combustion Engine?	2	1
2	Write the comparison between Solid, Liquid and Gaseous fuels.	2	2
3	What are GCV and NCV?	2	1
4	Write a short note on Bergius process on and oil gas.	2	3
5	What is carbonization? Explain the manufacturing of coke by Otto Hoffmann by product coke oven process.	2	4

*BLT: BLT shows the **Bloom's taxonomy** levels



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UNIT-03/ASSIGNMENT-03

Q.No.	Question	CO	BLT
1	Define Corrosion with example. What is oxidation corrosion?	3	1
2	Write Pilling Bedworth Rule.	3	1
3	Explain impressed current cathodic protection with diagram	3	4
4	Write short note on – A. Pitting corrosion B. Concentration cell corrosion.	3	1
5	Explain Electrochemical corrosion with mechanism.	3	6

UNIT-04/ASSIGNMENT-04

Q.No.	Question	CO	BLT
1	Define the term lubricant and their functions. What is Flash and Fire point?	4	1
2	What is the role of gypsum in cement manufacturing?	4	4
3	Discuss the manufacturing of Portland cement by Rotary Kiln technology with labelled diagram.	4	5
4	Discuss the mechanism of thick and thin film lubrication.	4	1
5	What is the importance of Annealing in glass making? Write short note on – Borosilicate and Safety glass	4	3

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UNIT-05/ASSIGNMENT-05

Q.No.	Question	CO	BLT
1	What is peroxide effect?	5	1
2	Give the properties and uses of Aspirin.	5	2
3	Explain Nucleophilic substitution reaction with examples.	5	1
4	What is addition reaction? Explain Nucleophilic and electrophilic reaction.	5	4
5	Discuss the synthesis, properties and uses of Paracetamol.	5	5

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