

Gandhi Institute of Engineering and Technology University, Odisha, Gunupur
(GIET University)



Diploma in Engineering, Semester-II, May 2026

Subject Code – 25DBS12001

(Subject Name – Engineering Chemistry)

(Common to All)

Time: 3 Hrs

Full Marks:60 Marks

Answer ALL questions

(The figures in the right hand margin indicate marks)

PART – A

(2 x 5 = 10 Marks)

Q.1. Answer *all the* questions

	CO #	Blooms Level
a. What is the shape of the s orbital?	CO1	K1
b. Explain the term hard water.	CO2	K1
c. What do you mean by gangue?	CO3	K2
d. Write the different types of fuel present in nature.	CO4	K2
e. Explain the term redox reaction.	CO5	K1

PART – B

(10 x 5 = 50 Marks)

Answer **ANY TWO (a, b OR c, d)** from all the questions below

	Marks	CO #	Blooms Level
2. a. Explain the Hund's rule of maximum multiplicity.	5	CO1	K2
b. Derive Aufbau rule to write the electronic configuration.	5	CO1	K3
(OR)			
c. Define the four quantum numbers and explain their significance.	10	CO1	K3
3.a. Write the causes of hardness of water.	5	CO2	K2
b. What are the different units of hard water?	5	CO2	K2
(OR)			
c. Describe the different steps involved in municipal water treatment.	10	CO2	K4
4.a. Write the preparation, properties and uses of polyethylene.	6	CO3	K4
b. Explain Fibres with example.	4	CO3	K2
(OR)			
c. Write the preparation, properties and uses of Nylon 6,6.	6	CO3	K4
d. Write the preparation and uses of Teflon.	4	CO3	K4
5.a. Write the characteristics of the good fuel.	5	CO4	K3
b. Write notes on LPG.	5	CO4	K3
(OR)			
c. What is biogas? Name its main constituents.	5	CO4	K3
d. Write the functions of Lubricants.	5	CO4	K4
6.a. What is the significance of octane number in petrol engines?	5	CO5	K4
b. Explain electrolysis with suitable examples.	5	CO5	K3
(OR)			
c. What is electrometallurgy? Explain its importance.	5	CO5	K3
d. Explain the terms flux and slag.	5	CO5	K2

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