

Code: 23BS1204

**I B.Tech - II Semester – Supplementary Examinations
DECEMBER 2024**

**ENGINEERING CHEMISTRY
(Common for CE, ME)**

Duration: 3 hours

Max. Marks: 70

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- Note: 1. This question paper contains two Parts A and B.
2. Part-A contains 10 short answer questions. Each Question carries 2 Marks.
3. Part-B contains 5 essay questions with an internal choice from each unit. Each Question carries 10 marks.
4. All parts of Question paper must be answered in one place.
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PART – A

1. a)	Define Priming and Foaming.
b)	What are the specifications for drinking water?
c)	What is Galvanic corrosion?
d)	Write the Nernst equation and explain its terms .
e)	Define a polymer.
f)	What is octane & cetane number?
g)	What is a saponification number?
h)	What is a composite? Write its classification.
i)	What is a Nanomaterial ?
j)	Write the BET equation and Explain its terms.

PART – B

				Max. Marks
UNIT-I				
2	a)	Explain how Dissolved oxygen is estimated in water.		5 M
	b)	Write a note on Reverse osmosis.		5 M
OR				
3	a)	Illustrate ion exchange process with a neat labelled diagram.		5 M
	b)	Write a note on scale & sludge.		5 M
UNIT-II				
4	a)	What is a battery? Explain construction, working and applications of Nickel-Cadmium battery.		5 M
	b)	Explain Electro chemical corrosion by absorption of oxygen mechanism.		5 M
OR				
5	a)	What is a primary cell? Explain Zinc –air battery with a neat diagram.		5 M
	b)	What is electro plating? Explain it with an example.		5 M
UNIT-III				
6	a)	What is addition polymerization? Explain mechanism involved in preparation of polyvinyl chloride.		5 M
	b)	Explain Fractional distillation method with a neat labelled diagram.		5 M
OR				

7	a)	Describe quantitative analysis of coal with its significance.	5 M
	b)	Write the characteristic of a monomer for step growth polymerization with an example.	5 M
UNIT-IV			
8	a)	Explain Thickfilm lubricating mechanism.	5 M
	b)	Write the properties and applications of structural reinforced composites and fibres.	5 M
OR			
9	a)	What is Portland cement? Explain reactions involved in setting and hardening of cement.	6 M
	b)	What is a lubricant? Describe its properties.	4 M
UNIT-V			
10	a)	Illustrate how Gold nano particles are prepared using neem leaf extract.	5 M
	b)	Write a note on Langmuir adsorption isotherm.	5 M
OR			
11	a)	Explain how nano metaloxides are prepared using sol-gel method.	6 M
	b)	Write the applications of colloids in various fields.	4 M