Code No: R201202 **R20** SET - 1

I B. Tech II Semester Regular/Supplementary Examinations, August - 2022

ENGINEERING CHEMISTRY

(Com. to CE, ME, Agri E)

Time: 3 hours Max. Marks: 70

Answer any five Questions one Question from Each Unit
All Questions Carry Equal Marks

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UNIT-I

1.	a)	Explain any two methods of polymerization.	(7M)
	b)	Explain compounding of plastics.	(7M)
		Or	
2.	a)	Discuss briefly about conducting polymers.	(7M)
	b)	Synthesis, properties and applications of Polyurethanes.	(7M)
		UNIT-II	
3.	a)	Give an account on electrochemical series and their uses.	(7M)
	b)	Explain working principle of calomel electrode.	(7M)
		Or	
4.	a)	Discuss briefly about corrosion inhibitors.	(7M)
	b)	Discuss Electrochemical corrosion with a neat diagram.	(7M)
		UNIT-III	
5.	a)	Write sol-gel method for preparation of nano materials.	(7M)
	b)	Explain Types of carbon Nanotubes and applications.	(7M)
		Or	
6.	a)	How do you characterize Nano materials with SEM and TEM .	(7M)
	b)	Describe working principle and applications of TG-DTA.	(7M)
		UNIT-IV	
7.	a)	Explain Fischer-Tropsch method.	(7M)
	b)	Discuss petrol knocking and Diesel knocking.	(7M)
		Or	
8.	a)	Explain Bergius method.	(7M)
	b)	Describe briefly on Proximate Analysis.	(7M)
		UNIT-V	
9.	a)	Determination of Hardness of water by complexometric method.	(7M)
	b)	Give note on Boiler Corrosion and its treatment.	(7M)
		Or	
10	a)	Define Hardness of water and types of Hardness with examples.	(7M)
	b)	Explain Reverse osmosis with a neat diagram.	(7M)
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Code No: R201202 **R20** SET - 2

I B. Tech II Semester Regular/Supplementary Examinations, August - 2022

ENGINEERING CHEMISTRY

(Common to Auto E, Min Eng, Pet Eng)

Time: 3 hours Max. Marks: 70

Answer any five Questions one Question from Each Unit
All Questions Carry Equal Marks

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UNIT-I

1.	a)	Explain Fiber reinforced plastics.	(7M)
	b)	Explain compounding of plastics .	(7M)
		Or	
2.	a)	Discuss briefly about Biodegradable polymers.	(7M)
	b)	Write Synthesis, properties and applications of Buna S.	(7M)

UNIT-II

3.	a)	Give an account on electrochemical series and uses.	(7M)
	b)	Explain working principle of Standard Hydrogen electrode.	(7M)
		Or	
4.	a)	Discuss briefly about corrosion types.	(7M)
	b)	Discuss Electrochemical corrosion with a neat diagram.	(7M)

UNIT-III

5.	a)	Discuss about sol-gel method for the preparation of Nano materials.	(7M)
	b)	Explain Types of carbon Nanotubes and applications.	(7M)
		Or	
6.	a)	How do you Characterize Nano materials with SEM and BET.	(7M)
	b)	Describe working principle and applications of TG-DTA.	(7M)

UNIT-IV

7.	a)	Explain Fischer-Tropsch method.	(7M)
	b)	Discuss about orsat apparatus.	(7M)
		Or	
8.	a)	Explain Bergius method.	(7M)
	b)	Describe briefly on Proximate Analysis.	(7M)

UNIT-V

9.	a)	Determination Hardness of wat by complexometric method.	(7M)
	b)	Boiler Corrosion and its treatment.	(7M)
		Or	
10	a)	Write Classification of Hardness of water and their disadvantages.	(7M)
	b)	Explain Electro dialysis Process with a neat diagram.	(7M)
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Code No: R201202 **R20** SET - 3

I B. Tech II Semester Regular/Supplementary Examinations, August - 2022

ENGINEERING CHEMISTRY

(Common to Auto E, Min Eng, Pet Eng)

Time: 3 hours Max. Marks: 70

Answer any five Questions one Question from Each Unit
All Questions Carry Equal Marks

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UNIT-I

1. a) Explain Suspension method of polymerization. (7M)
   b) Explain Recycling of E- plastic waste. (7M)

Or

2. a) Discuss briefly about conducting polymers. (7M)
   b) Write Synthesis, properties and applications of Polyvinyl plastics chloride. (7M)

UNIT-II

3. a) Give an account on Galvanic series and their uses (7M)
   b) Explain working principle of calomel electrode. (7M)

Or

4. a) Describe factors which influencing corrosion. (7M)
   b) Discuss Electrochemical corrosion with a neat diagram. (7M)

UNIT-III

5. a) Wet method for manufacturing of cement. (7M)
   b) Explain Types of carbon Nanotubes and applications. (7M)

Or

6. a) Explain Types of lubricants and Mechanism of lubrication. (7M)
   b) Describe working principle and applications of DSC. (7M)

UNIT-IV

7. a) Explain Fischer-Tropsch method. (7M)
   b) Distinguish Cetane and Octane number. (7M)

Or

8. a) Explain Knocking of Petrol. (7M)
   b) Describe briefly on Proximate Analysis. (7M)

UNIT-V

9. a) Determination of Hardness of water by complexometric method. (7M)
   b) Explain Boiler Corrosion and its treatment (7M)

Or

10 a) Define hardness of water and write types of Hardness with examples. (7M)
   b) Explain, Zeolite Process for Purification of Water. (7M)
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Code No: R201202 **R20** SET - 4

I B. Tech II Semester Regular/Supplementary Examinations, August - 2022

ENGINEERING CHEMISTRY

(Common to Auto E, Min Eng, Pet Eng)

Time: 3 hours Max. Marks: 70

Answer any five Questions one Question from Each Unit
All Questions Carry Equal Marks

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UNIT-I

1.	a)	Explain Emulsion method of polymerization.	(7M)
	b)	Explain Biomedical Polymers.	(7M)
		Or	
2.	a)	Discuss briefly about conducting polymers.	(7M)
	b)	Synthesis, properties and applications of Polycabonates.	(7M)
		UNIT-II	
3.	a)	Give an account on electrochemical series and uses.	(7M)
	b)	Explain working principle of Standard Hydrogen electrode.	(7M)
		Or	
4.	a)	Discuss briefly about corrosion inhibitors.	(7M)
	b)	Discuss Electrochemical corrosion with a neat diagram.	(7M)
		UNIT-III	
5.	a)	Write short notes on chemistry of materials.	(7M)
	b)	Explain Types of carbon Nanotubes and applications.	(7M)
		Or	
6.	a)	Working Principle and applications of Transmission electron microscopy.	(7M)
	b)	Describe working principle and applications of TG-DTA.	(7M)
		UNIT-IV	
7.	a)	Explain Fischer-Tropsch method.	(7M)
	b)	Distinguish octane and cetane number.	(7M)
		Or	
8.	a)	Explain Bergius method.	(7M)
	b)	Describe briefly on Proximate Analysis.	(7M)
		UNIT-V	
9.	a)	Determination of Hardness of water by complexometric method.	(7M)
	b)	Explain Boiler Corrosion and its treatment.	(7M)
		Or	
10	a)	Define Hardness of water and write types of Hardness with examples.	(7M)
	b)	Explain Ion exchange Process for Purification of Water.	(7M)
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