

Code No: P21BST05

R21

HALL TICKET NUMBER

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PACE INSTITUTE OF TECHNOLOGY & SCIENCES::ONGOLE  
(AUTONOMOUS)  
I B.TECH I SEMESTER END REGULAR EXAMINATIONS, FEB - 2023  
ENGINEERING CHEMISTRY  
(ME Branch)

Time: 3 hours

Max. Marks: 70

Answer all the questions from each UNIT (5X14=70M)

Q.No.	Questions	Marks	CO	KL
UNIT-I				
1.	a) Explain mechanical properties of polymers.	[7M]	1	2
	b) Discuss the importance of bio-degradable polymers.	[7M]	1	2
OR				
2.	a) Draw the neat labeled diagram for injection moldings and mention its advantages.	[7M]	1	4
	b) Write notes on fiber reinforced plastics.	[7M]	1	3
UNIT-II				
3.	a) Discuss the uses of electrochemical series.	[7M]	2	2
	b) Differentiate cathodic and anodic coating on metal surface.	[7M]	2	4
OR				
4.	a) Discuss chemical attack theory of corrosion.	[7M]	2	2
	b) Explain working of Li-ion battery and mention its advantages in day to day life.	[7M]	2	2
UNIT-III				
5.	a) Discuss the applications of (i) nanoparticles (ii) fullerenes	[7M]	3	2
	b) Write notes on (i) Failures of refractory (ii) Thick film lubrication	[7M]	3	3
OR				
6.	a) Explain preparation of Portland cement.	[7M]	3	2
	b) Discuss characterization of nanomaterials by BET method.	[7M]	3	2
UNIT-IV				
7.	a) Explain proximate analysis of coal and mentions its significance.	[7M]	4	2
	b) Outline flue gases, explain analysis of flue gases by Orsat apparatus.	[7M]	4	4
OR				
8.	a) Discuss the refining of petroleum.	[7M]	4	2
	b) Write notes on (i) petrol knocking (ii) liquefied petroleum gas	[7M]	4	3
UNIT-V				
9.	a) Discuss how internal treatment minimize the boiler troubles?	[7M]	5	2
	b) Write notes on (i) Reverse osmosis (ii) Break point chlorination	[7M]	5	3
OR				
10.	a) Discuss determination of hardness of water by EDTA method.	[7M]	5	2
	b) Explain various steps involved in purification of water.	[7M]	5	2

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