

THE KAVERY ENGINEERING COLLEGE
(An Autonomous Institution)

B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, NOV /DEC 2024

Third Semester

Chemical Engineering

CH3303 - Chemical Process Industries

Regulations - 2021

Duration : 3 Hrs

Maximum : 100 Marks

PART - A (ANSWER ALL QUESTIONS) (Marks 10*2=20)

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
1.	List the major engineering problems faced in the manufacture of sulfuric acid by contact process?	RE	1	2
2.	List various types of Portland cement. Distinguish between each.	RE	1	2
3.	What are mixed and complex fertilizers?	RE	2	2
4.	Ammonium sulfate, Ammonium nitrate, Ammonium chloride and Urea are used as fertilizers. List the available nitrogen in each.	RE	2	2
5.	Define pulping process.	RE	3	2
6.	List out the types of paper products.	RE	3	2
7.	Define pyrolysis.	RE	4	2
8.	What is solution polymerization?	RE	4	2
9.	Mention any four applications of argon.	RE	5	2
10.	What are the processes and raw materials available for the production of hydrogen?	RE	5	2

PART - B (ANSWER ALL QUESTIONS) (Marks 5*13 = 65)

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
11.	a Explain mining of Sulfur by Frasch process with neat sketch.	UN	1	13
	Or			
	b Explain the manufacture process of sulphuric acid by contact process with a neat flow diagram.	UN	1	13
12.	a Explain the manufacture process of nitric acid with neat flow sheet.	EV	2	13
	Or			
	b Explain the manufacture of Potassium chloride and potassium sulphate.	EV	2	13
13.	a What is pulp? with a neat flow sheet discuss and detail about the various unit operations involved in the production of paper.	RE	3	13
	Or			

	b	Explain the manufacturing Process of Sugar from Sugarcane with neat flow sheet.	RE	3	13
14.	a	Illustrate petroleum refining process? How different petroleum products separated from crude oil? Name the different fractions along with the range of their C atoms, obtained on refining petroleum.	UN	4	13

Or

	b	What is catalytic reforming? with a neat flow diagram explain the process of catalytic reforming.	UN	4	13
15.	a	Discuss in detail about the various chemical intermediates and products obtained from the methane and synthesis gas.	CR	5	13

Or

	b	Elaborate the manufacturing of pure CO ₂ with neat flow diagram. Enlist different uses of dry CO ₂ .	CR	5	13
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*PART – C (Marks 1*15 = 15)*

<i>Q.No</i>		<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
16.	a	With a neat sketch, explain how petrol synthesized by Fischer-Tropsch method.	EV	4	15
		Or			
	b	Give the reactions involved in manufacturing process of acetylene. With the help of a neat flow diagram explain the process.	EV	4	15