Register No : _____

THE KAVERY ENGINEERING COLLEGE

(An Autonomous Institution)

UG/PG DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY 2026

Third Semester

Chemical Department

UCHT24305- CHEMICAL PROCESS INDUSTRIES

Regulations - 2024

Duration: 3 Hrs ***Maximum: 100 Marks***

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

Q.No	*Questions*	*BTL*	*CO*	*Marks*
1.	Compare Chamber and Contact processes for sulfuric acid production.	L2	1	2
2.	State the factors that affect the quality of cement.	L1	1	2
3.	Explain the difference between Single Super Phosphate (SSP) and Diammonium Phosphate (DAP).	L2	2	2
4.	Define Biofertilizer.	L1	2	2
5.	Explain the steps followed in pulping process.	L2	3	2
6.	What are the by-products of the sugar industry?	L2	3	2
7.	Define reforming in petroleum refining.	L1	4	2
8.	Name four chemicals obtained from aromatics in the petrochemical industry.	L1	4	2
9.	What is meant by synthesis gas?	L2	5	2
10.	State two applications of industrial gases: nitrogen and oxygen.	L1	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)

Q.No		*Questions*	*BLT*	*CO*	*Marks*
11.	a	Explain the elemental sulfur mining by Frasch process with neat flow diagram.	L2	1	16
		Or			
	b	Describe the major steps in cement manufacturing and discuss the factors affecting cement quality.	L2	1	16
12.	a	Discuss the production of urea from ammonia and carbon dioxide, including the reactions involved and industrial conditions.	L2	2	16
		Or			
	b	Explain the process for producing Single Super Phosphate and NPK fertilizers with major chemical reactions.	L2	2	16
13.	a	Discuss in detail flow diagram about Production of sugar from Sugarcane.	L2	3	16
		Or			
	b	Describe the process of starch production from corn and its derivatives.	L2	3	16
14.	a	Explain the Wulff process to produce acetylene from hydrocarbons with reaction and neat diagram.	L3	4	16
		Or			
	b	Discuss the flow diagram of Methanol production from synthesis gas, with reaction conditions and industrial significance.	L3	4	16

15.	a	Explain the production and applications of liquefied natural gas with neat flow diagram.	L2	5	16
		Or			
	b	Discuss the industrial production of oxygen and nitrogen by Linde-Frankl cycle with neat flowsheet.	L2	5	16