



GIET UNIVERSITY, GUNUPUR - 765022

B. Tech (Fifth Semester Regular) Examinations, December - 2023

21BCHPC35001 - Chemical Process Technology

(Chemical)

Time: 3 hrs

Maximum: 70 Marks

Answer all questions

(The figures in the right hand margin indicate marks)

PART - A

(2 x 5 = 10 Marks)

Q.1. Answer **ALL** questions

	CO #	Blooms Level
a. Why Inorganic Processes are simpler and more easily developed than those classified as organic processes?	CO1	K2
b. Compare the catalytic conversion of SO ₂ into SO ₃ using platinum and vanadium catalyst.	CO2	K1
c. What is "saponification"? Draw a mechanism for the saponification.	CO2	K2
d. Elaborate about the different bleaching agent and acidifying agent used in sugar industry depending on the extract.	CO1	K2
e. Differentiate between poly vinyl chloride (PVC) and polyvinyl acetate (PVA).	CO2	K1

PART - B

(15 x 4 = 60 Marks)

Answer **ALL** questions

	Marks	CO #	Blooms Level
2. a. Which principles are used when studying the chemical industry either in a plant inspection trip or during internship?	8	CO2	K2
b. Analyze some of the Process Equipment Symbols which are used for Distillation, Drying of Solids, Evaporation, and Extraction devices with schematic representation.	7	CO3	K2

(OR)

c. Enumerate the main chemical industry products along with their area of applications.	8	CO2	K2
d. Describe the common problems that chemical industries face.	7	CO3	K2
3.a. Examine the Functional role of each process that is involved during hydrogenation of oil to remove the double bond and make the oil saturated.	10	CO3	K3
b. Discuss the functional role of various units of Papermaking process.	5	CO3	K2

(OR)

c. Classify the different methods of production of Pulp. With a neat flow	10	CO3	K2
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diagram discuss in detail about the Kraft pulping process with necessary reaction in digester.

d.	Mention some of the by-product utilization process in paper industry.	5	CO3	K2
4.a.	With help of Process Flow diagram discuss about Dextrin by starch hydrolysis.	8	CO4	K4
b.	Describe about Extraction of Sugar form sugar cane with neat flow sheet.	7	CO3	K3
(OR)				
c.	Classify the different characteristics of surface coating material.	7	CO4	K2
d.	With help of Process Flow diagram discuss about starch production from maize.	8	CO3	K3
5.a.	Discuss in details with a neat flow sheet the production of polyethylene by low pressure Ziegler's process. Mention its properties and uses.	15	CO4	K4
(OR)				
b.	Mention the production process of Viscous Rayon with a neat flow sheet.	7	CO3	K4
c.	Differentiate between Synthetic Fibre and Cellulosic Fibers.	8	CO4	K3

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