Reg. No.										

MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

A Constituent Institution of Manipal University

VII SEMESTER B.TECH. (CHEMICAL ENGINEERING)

END SEMESTER EXAMINATIONS, NOV/DEC 2016

SUBJECT: CHEMICAL PROCESS INDUSTRIES [CHE 405]

REVISED CREDIT SYSTEM

(28/11/2016 AN)

Time: 3 Hours MAX. MARKS: 100

Instructions to Candidates:

- Answer **ANY FIVE FULL** questions.
- Missing data may be suitably assumed.

1A.	Discuss about the production of CO_2 by burning of carbonaceous materials with a neat flowsheet.	**[08]**
1B.	Discuss about the production of soda ash by Solvay's process with a neat flowsheet. Also mention any four major engineering problems faced in Solvay process.	**[12]**
2A.	Illustrate the production of sulfuric acid by contact process with a neat flowsheet.	**[09]**
2B.	Explain the production of phosphoric acid by wet process with a neat flowsheet.	**[07]**
2C.	Write a short note on the catalyst development for Ostwald's process.	**[04]**
3A.	Discuss about vegetable oil extraction with a neat flowsheet.	**[08]**
3B.	Explain about the chemical recovery from black liquor with a neat flowsheet.	**[08]**
3C.	List out the different types of detergents with suitable examples.	**[04]**
4A.	Explain the manufacture of sugar from sugar cane with a neat flowsheet.	**[08]**
4B.	Discuss about the fermentation process for the production of ethanol with a neat flowsheet.	**[10]**
4C.	What are the two different types of starch molecules?	**[02]**
5A.	Explain the production of 6,6-Nylon with a neat flowsheet.	**[08]**
5B.	Write short notes on emulsion and precipitation methods of polymerization with pictorial representation.	**[04]**
5C.	Discuss about any six pertinent properties of rubber polymers. Also name any 4 synthetic rubbers.	**[08]**

6A.	Explain about fluidized catalytic cracking reactor and moving bed cracking reactor.	**10**
6B.	Write a short note on catalyst used in isomerization reaction.	**02**
6C.	Discuss about sulfuric acid based alkylation with a neat flowsheet.	**08**

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