



MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

A Constituent Institution of Manipal University

Reg. No.

VII SEMESTER B.TECH. (CHEMICAL ENGINEERING)

MAKEUP EXAMINATIONS, JAN 2017

SUBJECT: ELECTIVE – II PETROCHEMICALS [CHE 435]

REVISED CREDIT SYSTEM

Time: 3 Hours

MAX. MARKS: 100

Instructions to Candidates:

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

1A.	Discuss about the sources and classification of petrochemical compounds.	[08]
1B.	Draw a neat flow sheet, explain the process description for the production of acetylene by partial combustion of hydrocarbon process. List out any four uses of acetylene.	[12]
2A.	Describe in detail about the production of methanol with a neat flow sheet.	[10]
2B.	Compare and contrast between wet and dry process for production of acetylene.	[02]
2C.	Give the various pathway for synthesis of isopropyl alcohol with necessary equation.	[08]
3A.	Explain the Wacker-chemie process for the production of suitable compound with neat flow sheet and necessary equation.	[10]
3B.	How do you synthesize the following petrochemical compounds? (i) Antiknocking agent (ii) Perspex (iii) Acetyl salicylic acid (iv) Ethylene glycol	[10]
4A.	Explain the production of ethylene oxide from ethylene with a neat flowsheet. Also mention its uses.	[10]
4B.	Explain the production of phenol by cumene peroxidation-hydrolysis process with a neat flowsheet.	[10]
5A.	Explain the production of 6,6-Nylon with a neat flowsheet. Also mention its uses.	[12]
5B.	Explain the production of acetone from isopropanol with a neat flowsheet.	[08]

6A.	Discuss about the different types of detergents with suitable examples.	[08]
6B.	Discuss about the following with neat pictorial representations: (i) Emulsion polymerization (ii) Suspension polymerization (iii) Bulk polymerization	[06]
6C.	Discuss about the additional processing of rubbers. Also name any four synthetic rubbers.	[06]

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