Reg. No.										

MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

A Constituent Institution of Manipal University

VII SEMESTER B.TECH (CHEMICAL ENGINEERING)

END SEMESTER MAKEUP EXAMINATIONS, DEC 2017/JAN 2018

SUBJECT: ELECTIVE – VI PETROCHEMICALS [CHE 4003]

REVISED CREDIT SYSTEM

Time: 3 Hours (02/01/2018 AN) Max. Marks: 50

Instructions to Candidates:

- **Answer all the questions.**
- **Each questions carry equal marks (5 X 10 = 50).**
- **Write the reactions wherever it is necessary.**

1A.	Discuss about the sources and classification of petrochemical compounds.	**[04]**
1B.	Draw a neat flow sheet and explain the process for the production of ethylene by hydrocarbon steam cracking process. List out any four uses of ethylene.	**[06]**
2A.	(i) Explain the Wacker-Chemie process for the production of suitable compound with a neat flow sheet. (ii) Name the different methods (any four methods) for the production of acetic anhydride.	**[05]** **[01]**
2B.	How to produce the following petrochemical compound? (i) Aspirin (ii) Silicones (ii) ABS copolymer (iv) Phenolphthalein	**[04]**
3A.	Draw a neat flow sheet and explain the process for the production of isopropyl alcohol.	**[05]**
3B.	Give the various reaction pathways (any five major pathways) for the synthesis of phenol.	**[05]**
4A.	Explain the polymerization process for the production of Buna-S rubber with a neat flow sheet.	**[05]**
4B.	(i) List out the possible ways for the production of vinyl chloride with necessary reaction and suitable operating condition. (ii) Discuss about the major engineering problems involved in the production of phenylethene.	**[2.5]** **[2.5]**
5A.	Describe in detail about the production of viscose rayon with a neat flow sheet.	**[05]**
5B.	Discuss about the following (i) Difference between thermo plastics and thermosetting plastics (any five points). (ii) Various modes of polymerization reaction.	 **[2.5]** **[2.5]**

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