Reg. No.										

Manipal Institute of Technology, Manipal

(A Constituent Institute of Manipal University)

VIIth SEMESTER B.TECH (CHEMICAL ENGINEERING)

END SEMESTER MAKEUP EXAMINATIONS, DEC 2015/JAN 2016

SUBJECT: ELECTIVE – II PETROCHEMICALS [CHE 435]

REVISED CREDIT SYSTEM

Time: 3 Hours Max. Marks: 100

Instructions to Candidates:

- **Answer all the questions.**
- **Each questions carry equal marks(5 X 20 = 100).**
- **Write specific and precise answers, Usual notations shall apply.**

1A.	(i) Describe in detail about the growth and historical development of petrochemical industries. (ii) Compare and contrast between wet process and dry process.	**[06]** **[02]**
1B.	Draw a neat flow sheet, explain the process description for the production of acetylene by partial combustion of hydrocarbon process. Mention any two uses of acetylene.	**[12]**
2A.	List out the various pathway involved for production of acetone. Describe in detail about suitable pathway for production of acetone with the help of neat flow sheet and suitable operating conditions.	**[14]**
2B.	Give the various reaction pathway (any six pathway) for synthesis of Aniline.	**[06]**
3A.	Describe in detail about the reforming process for production of synthesis gas with a neat flow sheet and suitable operating condition.	**[10]**
3B.	(i) Give the various reaction pathway for synthesis of Acetic anhydride. (ii) Write the reaction pathway for synthesis of 'Plexiglas'.	**[05]** **[05]**
4A.	Explain the production of vinyl chloride monomer through thermal pyrolysis route with a neat flow sheet. List out any four major engineering problems encountered in the production of vinyl chloride.	**[12]**
4B.	How do you produce the following petrochemical compounds ? (i) Phenol by commercial process (ii) P - amino azo benzene (iii) diphenyl methane diisocyanate (iv) antiknocking agent	**[08]**
5A.	(i) Name the different methods for production of viscose rayon. (ii) Describe in detail about the production of viscose rayon with a neat flow sheet.	**[02]** **[10]**
5B.	Describe in detail about the compounding of plastics with example of each compound.	**[08]**

6.	Briefly explain the following (i) Production of polyvinyl chloride with neat flow sheet. (ii) Vulcanization of rubber with its advantages. (iii) Explosives TNT and RDX production with its uses. (iv) Production of Acrylic fibers with its uses	**[05]** **[05]** **[05]** **[05]**

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