Code No: 07A70806 **R07** **Set No. 2**

IV B.Tech I Semester Examinations,November 2010
PETROLEUM AND PETRO-CHEMICAL TECHNOLOGY
Chemical Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) Explain the principles involved for the manufacture of vinyl chloride by the addition of hydrochloric acid to Acetylene.
   (b) With the help of neat flow sheet, explain the vinyl chloride manufacture by the addition of hydrochloric acid to Acetylene. [6+10]
2. What is the importance of true boiling-point curve? Describe the distillation carried out in a true boiling point apparatus. [8+8]
3. What is F.C.C? Explain the operating conditions of F.C.C. [8+8]
4. Explain the formaldehyde manufacture by using Iron molybdate catalyst in Reichhold perstorp processes. [16]
5. (a) Discuss the advantages and disadvantages of various types of reflux arrangments in atmospheric distillation unit.
   (b) What types of additives are to be added to improve the pumping characteristics of crude? Explain. [8+8]
6. What is kerosene? Explain any one sweating process of kerosene with flowsheet. [16]
7. Explain the cryogenic production of carbon monoxide, scrubbing with liquid methane. [16]
8. (a) What are the different ways of transporting petroleum crude and Products?
   (b) What are the different forms of sulphur compounds present in Petroleum crude? [8+8]

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Code No: 07A70806 **R07** **Set No. 4**

IV B.Tech I Semester Examinations,November 2010
PETROLEUM AND PETRO-CHEMICAL TECHNOLOGY
Chemical Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. Give an account of ethanol production and consumption pattern worldwide. [16]
2. Write short notes on:
   (a) Line blending of gasolene.
   (b) Design aspects of atmospheric column. [8+8]
3. Describe the Ethylene chlorohydrin process with the help of salient chemical reactions. [16]
4. Describe any one base scheme of an absorption unit in petrochemical feed stocks. [16]
5. Describe about unit operation and processes involved in formation of petroleum. [8+8]
6. Define cracking efficiency. What precautions should be taken to improve the cracking efficiency in thermal or catalytic processes. [16]
7. What is kerosene and what are its applications? What are the various factors which affect the combustion of kerosene? [8+8]
8. Explain why lubes need to be treated. [16]

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Code No: 07A70806 **R07** **Set No. 1**

IV B.Tech I Semester Examinations,November 2010
PETROLEUM AND PETRO-CHEMICAL TECHNOLOGY
Chemical Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. Write about the history of petroleum refining in India. Explain about the profile of India's major oil fields. [8+8]
2. Give an account of production of Ethyl benzene by alkylation process. [16]
3. (a) How does mercaptan effect petroleum products? Describe the process to remove mercaptans.
   (b) What treatment methods are employed to improve the quality of lubes? Explain. [10+6]
4. (a) Explain the economic data on the production of PTFE.
   (b) Explain the average commercial specifications of PTFE. [8+8]
5. Explain about important petroleum products and their uses. [16]
6. Explain with a neat sketch about desalting of crude. [16]
7. (a) What is Chisso process? Mention the process temperature and pressure in a reactor.
   (b) Why this process is giving better yields for the hydration of Acetylene. [8+8]
8. Review the production of hydrogen from different feedstocks and their economic analysis. [16]

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Code No: 07A70806 **R07** **Set No. 3**

IV B.Tech I Semester Examinations,November 2010
PETROLEUM AND PETRO-CHEMICAL TECHNOLOGY
Chemical Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. What type of unit operaions occur during the decomposition of olefins? [16]
2. Describe the phenol extraction process with flowsheet. Indicate the conditions in the process. [16]
3. Discuss in detail various design aspects of pipe still heaters used in heating of crude. [16]
4. Enumerate the various processing methods of carbonaceous feedstocks to produce hydrogen. Give a neat block diagram. [16]
5. With the help of neat flowsheet, Explain the production of PTFE process. [16]
6. Explain about the thermal properties of petroleum fractions. [16]
7. With flow diagram,explain the Acetaldehyde production from Acetylene by using Chisso process. [16]
8. (a) What harms are caused by the presence of sulphur in petroleum products?
   (b) Compare the percentage of sulphur in some Indian crude with foreign crudes. [8+8]

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