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

IV B.Tech I Semester Examinations,May 2011
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 are the different types of distillation which are carried out in a petroleum industry? What is stabilization and why is it done? [16]
2. Explain the various schemes based on hydrocarbon steam reforming process. [16]
3. With the help of neat diagram explain the fluid Coking process. [16]
4. Explain about the thermal properties of petroleum fractions. [16]
5. What was the purpose of setting up petroleum India international? How far has it served it's purpose. [16]
6. Describe the Kinetic aspects of methanol synthesis process. [16]
7. Describe the procedure for the Acetylene manufacture from the hydrocarbons by using Auto thermal process. [16]
8. Describe the origin of different impurities present in petroleum fractions. [16]

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

IV B.Tech I Semester Examinations,May 2011
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. With a neat flow sheet explain the hydrogen manufacture by any partial oxidation process. [16]
2. Discuss present, past and future status of petroleum industry in India and abroad. [16]
3. Explain the catalytic reaction and operating conditions of Ethanol synthesis by direct hydration of Ethylene. [16]
4. Explain the absorption technique for the production of LPG, with the help of a neat flowsheet. [16]
5. Give a report on Economic Data available on the production of ethylene glycol by the hydration of ethylene oxide and also its uses. [16]
6. Describe about vacuum distillation. [16]
7. Define reforming. Explain in detail the working principle of reforming process.[16]
8. What are the utilities of distillation curve? How many types of distillation curves are there? Describe one of them. [16]

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

IV B.Tech I Semester Examinations,May 2011
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. Define cracking process. Explain the mechanisms of Thermal cracking process. [16]
2. What is solvent extraction.Describe in detail, the process of extraction of aromatics from lube oil stocks? [16]
3. With a neat flow sheet, explain the ammonia synthesis by partial oxidation of hydrocarbon process. [16]
4. (a) Discuss the advantages and disadvantages of various types of reflux arangments in atmospheric distillation unit.
   (b) What types of additives are to be added to improve the pumpable characteristics of crude? Explain. [8+8]
5. (a) Describe the average commercial specifications of Methylamines.
   (b) Explain the various producers, consumption of the methylamines and their end uses. [8+8]
6. With neat diagram,explain the production of vinyl chloride manufacture by Ethylene dichloride cracking. [16]
7. Describe the role of OPEL country's in meeting the world petroleum requirements. [16]
8. Explain about the density property of petrol with respect to temperature, and how it effects in volume change. [16]

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

IV B.Tech I Semester Examinations,May 2011
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. Explain the production of Methylamines, in detail. [16]
2. Describe the Ethylene chlorohydrin process with the help of salient chemical reactions. [16]
3. Define recycling. Discuss the advantages for recycling in cracked plants and also suggest alternative methods. [16]
4. (a) Write about methods of fractionation of crude.
   (b) Mention different petroleum cuts and its boiling point ranges. [8+8]
5. Mention the petroleum reserves in india and world indicating their current and future scope of exploration. [16]
6. Write short notes on the following properties of petroleum fractiom
   (a) Heat of vapourisation
   (b) Heat of fusion
   (c) Thermal conductivity
   (d) Heat of combustion
   (e) specific heat. [3+3+3+3+4]
7. (a) Describe in detail the economic data on the separation of carbonmonoxide by absorption and cryogenics.
   (b) List out the average, commercial specifications of carbon monoxide. [8+8]
8. Write the effects of impurity on quality of petroleum products. [16]

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