Code No: RR220804 **Set No.1**

II B.Tech. II Semester Regular Examinations, April/May -2005
ORGANIC 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) Give the chemical reactions involved in the manufacture of phenol from benzene.
   (b) With a neat sketch illustrate the manufacture of formaldehyde from methanol.
2. Describe with the aid of a flow sheet the production of white pigment.
3. (a) What are the raw materials required for the production of synthetic rubbers.
   (b) How is ethyl alcohol useful in the production of synthetic rubber.
   (c) Draw the monomer structures of
      i. isoprene
      ii. Butadiene
      iii. Styrene-butadiene rubber
      iv. Natural rubber.
4. (a) Differentiate nylon 6,6 and 6?
   (b) Explain the manufacturing process of nylon 6,6.
5. (a) What is the use centrifugation in cane sugar recovery?
   (b) Discuss how a thickner is useful in sugar industry.
6. Write on:
   (a) Raw material requirements for ethanol production from molasses.
   (b) Selection of process and major engineering problems associated with ethanol production.
7. Discuss how the byproducts from paper industry are utilized?
8. (a) Classify the Surfactants and explain
   (b) Write the downs the major commercial routes for the manufacture of Surfactants.

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Code No: RR220804 **Set No.2**

II B.Tech. II Semester Regular Examinations, April/May -2005
ORGANIC CHEMICAL TECHNOLOGY
(Chemical Engineering)

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

Answer any FIVE Questions
All Questions carry equal marks

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1. How do you produce vinyl chloride?
2. Write short notes on:
   (a) Paints
   (b) Varnishes
   (c) Pigments
   (d) Volatile solvents
3. With the aid of a flow sheet explain in detail Butadiene- Styrene Copolymers and its production.
4. (a) What are the raw materials for nylon?
   (b) Describe the process of production of caprolactum.
5. Write short notes on
   (a) Amylose
   (b) White potato starch
   (c) Rice starch
   (d) Tapioca starch
6. What are the various major engineering problems associated with fermentation process? Explain in detail.
7. Draw a schematic drawing of paper making process?
8. (a) Write how Toilet soaps are manufactured?
   (b) Write short notes on LAB

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Code No: RR220804 **Set No.3**

II B.Tech. II Semester Regular Examinations, April/May -2005
ORGANIC 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 salient features of the manufacture of phenol-formaldehyde resins using basic catalyst. State the uses of these resins.
2. (a) Discuss the manufacture of white lead.
   (b) What are the constitutions of varnish?
3. (a) Explain in detail about Synthetic - Rubber Production.
   (b) Draw the structure of natural rubber.
4. (a) What are the procedures to be followed in continuous spinning and treating?
   (b) Explain with a neat sketch of cellulose acetate manufacture.
5. (a) Explain the type of evaporation used in sugar industry?
   (b) Describe the crystallization in sugar process.
6. (a) What are the required characteristics that micro-organisms used in industrial fermentation must possess?
   (b) Explain the chemical structure of starch
   (c) Economics of sugar industry in India
7. (a) Define pulp and paper?
   (b) Name the methods of production for pulp?
8. (a) Write down the Solvent Extraction Process of Oils
   (b) Discuss the DeSmet Extraction Process
   (c) Short notes on Desolventizisng Group

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Code No: RR220804 **Set No.4**

II B.Tech. II Semester Regular Examinations, April/May -2005
ORGANIC 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) Illustrate the benzene sulphonate process of maufacture of phenol emphasizing the reactions.
   (b) Define '' Degree of polymerization" and give examples
2. (a) Write an application and use of various types of surface coatings.
   (b) What are the general methods of application of paints.
3. (a) Write the chemical structure of Dimethylsiloxane.
   (b) How do you classify and code the chemical composition of the polymer chain.
4. (a) What are the main properties of fibers?
   (b) Describe with a neat flow sheet the production of Nylon fibers.
5. (a) Explain the importance of sulphatation of sugar juice.
   (b) Explain the operation of Sugar cane juice evaporation to recovery sugar.
   (c) What is the purpose of adding line to cane juice.
6. (a) Describe the manufacture of 100% alcohol from 95% ethanol?
   (b) Write on the energy requirements and waste disposal problems associated with alcohol production from molasses.
7. Mention the requisites for cellulose raw material for pulp and paper industry and discuss?
8. (a) Distinguish between Oils & Fats
   (b) Explain the properties of oils
   (c) Explain the classification of oils

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