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

II B.Tech II Semester Supplementary Examinations, Nov/Dec 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. What are ziqler Nathan catalysts? How are they useful for production of HDPE. [16]
2. Name the machinery required for manufacturing a typical paint and explains the functions. [16]
3. With the aid of a flow sheet explain in detail Butadiene- Styrene Copolymers and its production. [16]
4. Write short notes on the production of
   (a) Hexa methylene dianine
   (b) Adiposities
   (c) Caprolactum
   (d) Tereplethalic acid [4×4]
5. (a) Explain the type of evaporation used in sugar industry?
   (b) Describe the crystallization in sugar process. [8+8]
6. Discuss the unit operations and chemical reactions involved in ethanol production from molasses. [16]
7. (a) Write down the chemical reactions involved in the krafts process?
   (b) Write down the chemical reactions for the sulphite process? [8+8]
8. Clarify detergents and explain with examples. [16]

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

II B.Tech II Semester Supplementary Examinations, Nov/Dec 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. What are ziqler Nathan catalysts? How are they useful for production of HDPE. [16]

2. (a) Discuss the manufacture of white lead.
   (b) What are the constitutions of varnish? [8+8]

3. (a) Explain in detail about Synthetic - Rubber Production.
   (b) Draw the structure of natural rubber. [10+6]

4. (a) What are the main properties of fibers?
   (b) Describe with a neat flow sheet the production of Nylon fibers. [6+10]

5. Write short notes on
   (a) Amylose
   (b) White potato starch
   (c) Rice starch
   (d) Tapioca starch [4×4]

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. [10+6]

7. (a) Define pulp and paper?
   (b) Name the methods of production for pulp? [4+12]

8. (a) Discuss the principle of Hydrogenation of Oils.
   (b) Describe the process of Hydrogentation of oils. [8+8]

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

II B.Tech II Semester Supplementary Examinations, Nov/Dec 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. What are ziqler Nathan catalysts? How are they useful for production of HDPE. [16]
2. (a) What are the characteristics of pigmented varnish.
   (b) Write a note on Driers and Oils used in the paint industry. [8+8]
3. (a) Write about Softeners and extenders.
   (b) Describe the unit operations used in rubber manufacture. [10+6]
4. (a) Describe the synthetic fiber industry in India.
   (b) What are polyamides? Describe the production of any one of them. [6+10]
5. (a) Discuss the consumption pattern of starch by various industries.
   (b) Describe the Unit operations involved in starch production. [8+8]
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. [6+5+5]
7. Draw the flow sheet for the manufacture of pulp by the krafts process (sulphate) and explain. [16]
8. Describe the production of Detergent with a neat flow sheet. [16]

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

II B.Tech II Semester Supplementary Examinations, Nov/Dec 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. What are ziqler Nathan catalysts? How are they useful for production of HDPE. [16]

2. (a) What are the constituents of varnish.
   (b) How does it differ from a paint. [8+8]

3. With the aid of a flow sheet explain in detail Butadiene- Styrene Copolymers and its production. [16]

4. (a) What are the raw materials for the production of adipic acid?
   (b) Discuss how adipic acid is manufactured?
   (c) Describe how benzene is converted into Nylon. [5+5+6]

5. (a) Discuss the Economics of starch industry in India
   (b) Discuss the general characteristics of a fermentation process. [8+8]

6. Discuss the various unit operations involved in the production of ethanol from molasses. [16]

7. (a) Discuss about finishing operations for pulp?
   (b) How is the sulphate process modified for bagesse utilization? [8+8]

8. Describe manufacturing of synthetic detergent powders with the aid of a flow chart.

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