

(Following Paper ID and Roll No. to be filled in your  
Answer Books)

Paper ID : 151408

Roll No. 

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**B.TECH.**

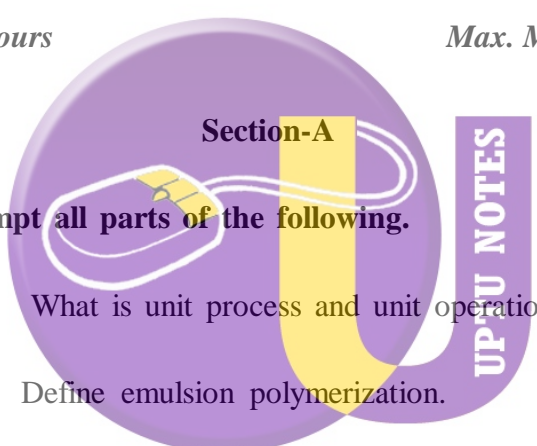
**Theory Examination (Semester-IV) 2015-16**

**CHEMICAL TECHNOLOGY - I**

*Time : 3 Hours*

*Max. Marks : 100*

**1. Attempt all parts of the following. (2×10=20)**

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- (a) What is unit process and unit operation?
- (b) Define emulsion polymerization.
- (c) What is edible oil and essential oils?
- (d) Write chemicals reactions involved for the preparation of Raney nickel.
- (e) What is fermentation? Which enzymes use for production of ethyl alcohol from molasses.

- (f) Why nutrients added in a fermentation process.
- (g) What is catalytic reforming?
- (h) What is industrial alcohol?
- (i) Write short note on present scenario of chemical industries in India.
- (j) What is suspension polymerization?

**2. Attempt any five parts of the following (10×5=50)**

- (a) Explain the manufacturing of starch from maize.
- (b) Describe the manufacturing of soap with neat flow diagram.
- (c) Explain the manufacturing process of glycerine with neat sketch.
- (d) Why is hydrogenation of oil required? Describe the manufacturing of oil from cottonseed with neat flow diagram. Also write engineering problems.

- (e) Describe the process for manufacturing of cane sugar with neat flow diagram. Also write by products of sugar industry.
- (f) What is the difference between soap and detergent? Explain the purpose of adding STTP during making of detergent.
- (g) Describe the manufacturing process of Butadiene Styrene copolymer with neat flow diagram and describe the various types of major engineering problem during the manufacturing of SBR.
- (h) Explain the manufacturing process of nylon 66 with neat flow diagram. Also write the reactions involved during the process. Write the application of nylon66.

**Section-C**

**Note: Attempt any two parts of the following. (15×2=30)**

3. Differentiate between natural rubber and synthetic rubber. Describe the vulcanization of rubber. Which properties changes due to vulcanization of rubber

4. What is viscous rayon? Explain with neat flow diagram the manufacturing of viscose rayon. Also discuss the engineering problems during the production.
5. What do you understand by Catalytic cracking? How is fluid bed catalytic cracking method superior as compared to fixed bed method? Explain it. Discuss the catalyst regenerations mechanism in fluid catalytic cracking process with neat sketch.

