

Roll No. ....

Total Pages : 02

**BT-7/M-20**

**37074**

**FLUIDIZATION ENGINEERING**

**CHE-419N/419E**

Time : Three Hours]

[Maximum Marks : 75

**Note :** Attempt any *Five* questions.

1. (a) Discuss the advantages and disadvantages of fluidized beds used for industrial operations. **5**  
(b) Make sketches of the following forms of fluidized beds and explain how these forms occurs during operations ? **10**
  - (i) Bubbling fluidized bed
  - (ii) Slugging fluidized bed (with axial slugs).
2. Discuss fluidized catalytic cracking process in detail. And write its advantages over thermal cracking process. **15**
3. Write detailed notes on the following :
  - (a) Mapping of regimes
  - (b) Pneumatic transport of solids. **15**
4. Discuss importance factors to be considered for designing of fluidized bed reactor. **15**

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5. Discuss different means to prevent slugging in the fluidized bed. **15**
6. Explain in detail the different bubble size correlations. **15**
7. (a) Write a detailed note on “Entrainment and Elutriation”. **8**  
(b) Discuss about turbulent fluidization. **7**
8. Explain about scale up and hydrodynamics study of gas-solid spouted beds. **15**