

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
ME Semester –III Examination Dec. - 2011

Subject code: 731601

Date: 05/12/2011

Subject Name: Process Intensification

Time: 10.30 am – 01.00 pm

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

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|-------|--|----|
| Q - 1 | a. Explain PI with its advantages. | 7 |
| | b. Discuss 'Pointed Circuit Heat Exchanger'. | 7 |
| Q - 2 | a. Write brief on obstacles in PI. | 7 |
| | b. Discuss PI in centrifuge. | 7 |
| | OR | |
| | b. Discuss PI in drying. | 7 |
| Q - 3 | a. Discuss Divided wall column in distillation unit as process intensification tool. | 7 |
| | b. Explain 'treated and extended surfaces' for intensified heat transfer. | 7 |
| | OR | |
| Q - 3 | a. Discuss HiGee for Distillation. | 7 |
| | b. Explain fluid vibration and rotation as active enhancement methods for the heat transfer. | 7 |
| Q - 4 | a. Write Short note on intensification in Glass industry. | 7 |
| | b. Give brief on intensification in membrane. | 7 |
| | OR | |
| Q - 4 | a. Discuss reactive extraction. | 7 |
| | b. Discuss process intensification in treatment of waste water. | 7 |
| Q - 5 | a. Discuss application of PI in various process industries. | 14 |
| | OR | |
| Q - 5 | a. Write short note on inline/static mixers. | 7 |
| | b. Discuss micro reactors in brief. | 7 |
