

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
DIPLOMA ENGINEERING - SEMESTER-V • EXAMINATION – SUMMER 2013

Subject Code: 350502

Date: 14-05-2013

Subject Name: Mass Transfer II

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.
4. English version is considered to be Authentic.

- Q:1 (a) Explain vapor- Liquid equilibria of distillation. 07
(b) Define distillation and write six industrial application of it. 07
- Q:2 (a) write types of cooling tower and state their principle. 07
(b) Explain psychometric chart for air-water system. 07
OR
(b) Define adsorption and explain its various types. 07
- Q:3(a) Explain flash vaporization with material balance. 07
(b) Explain nucleation in detail. 07
OR
- Q:3 (a) Derive equation of constant rate period and falling rate period. 07
(b) Discuss draft tube baffle crystallizer with figure. 07
- Q:4 (a) Classify drying equipments and explain Tray dryer. 07
(b) Define crystallization and explain supersaturation. 07
OR
- Q:4 (a) Explain characteristics of adsorbents. 07
(b) Differentiate azeotropic distillation vs Extractive distillation. 07
- Q:5 (a) Explain various types of packing and packing arrangement. 07
(b) Explain packed tower with its operating problem. 07
OR
- Q:5 (a) Explain ion-exchange with principles and applications. 07
(b) Discuss Meir's theory of crystallization. 07