

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

B. Pharmacy Sem - 1st Regular / Remedial Examination January. 2011

Subject code: 210005

Subject Name: Pharmaceutics I

Date: 10 /01 /2011

Time: 10.30 am – 01.30 pm

Total Marks: 80

Instructions:

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

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|-------------|---|-----------|
| Q.1 | (a) Classify the centrifuges. Give the detailed principles of operation of centrifuge used for biological extracts. | 06 |
| | (b) Derive equation for relative centrifugal force. | 05 |
| | (c) Explain the mechanism of filtration. | 05 |
| Q.2 | (a) Describe compression refrigeration cycle with labeled diagram. | 06 |
| | (b) Write a note on psychometric chart & measurement of humidity. | 05 |
| | (c) The partial pressure of water vapor is 50mmHg in a mixture of air & water vapor at 110°F & 1atm. pressure. How many of Btu of heat energy must be added to 25 Lb of this mixture to raise the temperature to 125°F? | 05 |
| Q.3 | (a) Write a note on compressible & non compressible cakes. How do we carry out filtration when material is highly compressible? | 06 |
| | (b) Explain the construction and working of filter-press. | 05 |
| | (c) Write a brief note on cartridge filters. | 05 |
| Q.4 | (a) Explain the construction & working of a forced circular evaporator | 06 |
| | (b) Differentiate multiple effect & single effect evaporator. | 05 |
| | (c) How film evaporators are differentiated from other conventional evaporators on the basis of their working principle? | 05 |
| Q.5 | (a) Choose the most suitable drying equipment for production of milk powder. Describe its principle & working with labeled diagram. | 06 |
| | (b) Describe the drying rate curve for crude fibrous drug. | 05 |
| | (c) Discuss important factors affecting choice of dryers for pharmaceuticals. | 05 |
| Q. 6 | (a) Define & differentiate the evaporation, drying & distillation with example. | 06 |
| | (b) Write short note on HETP & HTU in distillation process. | 05 |
| | (c) Explain in detail about rectification. | 05 |
| Q. 7 | (a) Explain process of distillation of immiscible liquids. | 06 |
| | (b) Write a note on Hygrometer. | 05 |
| | (c) Discuss application of refrigeration & air –conditioning in pharma industry. | 05 |
