

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

B. Pharmacy Sem-I Remedial Examination March / April 2010

Subject code: 210004

Subject Name: Pharmaceutical Engineering

Date: 03 / 04 / 2010

Time: 11.00 am – 02.00 pm

Instructions:

Total Marks: 80

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

- Q.1** (a) Explain unit operation, unit processes and tie-substance. **06**
(b) Write in brief dimensional formulas, dimensionally homogeneous equations, dimensionally non-homogeneous equations and dimensionless equations. **05**
(c) Explain different types of graphical representation. **05**
- Q.2** (a) Derive corollary of Dalton's and Amagat's law. **06**
(b) Write short note on fuels and combustion. **05**
(c) Write in brief on material balance and energy balance. **05**
- Q.3** (a) Discuss the principles and mechanisms of Orifice meter and Venturi meter. **06**
(b) Draw a neat diagram of Rotameter. Describe mechanism and applications of Rotameter. **05**
(c) 'Reynolds number is unitless' comment and prove it. **05**
- Q.4** (a) Classify the solid transportation system. **06**
(b) Write a note on centrifugal pump with suitable diagrams. **05**
(c) Write a note on Belt-conveyer. **05**
- Q.5** (a) Define BLACK BODY. Write and explain Stefan-Boltzman law of radiation for black bodies. **06**
(b) Write short note on Modes of heat transfer. **05**
(c) Write the uses of steam. Explain Fourier's law. **05**
- Q. 6** (a) Write a note on various types of glasses used in a pharmaceutical plant. **06**
(b) Classify materials used for pharmaceutical plant construction. **05**
(c) Discuss various ways for prevention and control of corrosion in industry. **05**
- Q.7** (a) Write influences of mass transfer on unit operations. **06**
(b) Enumerate various energy losses being experienced by fluids while flowing through a pipe and explain contraction losses. **05**
(c) Classify heat exchange equipments. Explain any one. **05**
