

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B. Pharm. – SEMESTER – I • EXAMINATION – WINTER • 2014**

**Subject Code: 210004****Date: 26-12-2014****Subject Name: Pharmaceutical Engineering****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.

<b>Q.1</b>	(a) Differentiate followings 1) Unit operation –Unit process 2) Dimensional equation- Dimensionless equation	<b>06</b>
	(b) Write a note on different types of graphical presentation.	<b>05</b>
	(c) Write importance of pharmaceutical engineering.	<b>05</b>
<b>Q.2</b>	(a) State Dalton`s and Amagat`s laws. Derive their corollaries.	<b>06</b>
	(b) Write a short note on tie substance.	<b>05</b>
	(c) Write short note on fuels.	<b>05</b>
<b>Q.3</b>	(a) Explain different types of pressures.	<b>06</b>
	(b) Discuss various types of frictional losses.	<b>05</b>
	(c) Write short note on Orifice meter.	<b>05</b>
<b>Q.4</b>	(a) Write construction , working and advantages of Belt conveyor.	<b>06</b>
	(b) Write a short note on “Gear Pump”.	<b>05</b>
	(c) Explain different types of fans.	<b>05</b>
<b>Q.5</b>	(a) Describe various modes of heat transfer by examples.	<b>06</b>
	(b) Derive an equation for rate of heat transfer when the resistances are in parallel.	<b>05</b>
	(c) State & explain “Stefan – Boltzman`s” law of thermal radiation.	<b>05</b>
<b>Q. 6</b>	(a) Define corrosion. Discuss various factors affecting corrosion.	<b>06</b>
	(b) Write a short note on principle of mass transfer.	<b>05</b>
	(c) Write a short note on Venturi meter.	<b>05</b>
<b>Q.7</b>	(a) Discuss the factors affecting the selection of materials used for pharmaceutical plant.	<b>06</b>
	(b) Classify the types of corrosion. Write methods of prevention of galvanic corrosion.	<b>05</b>
	(c) Write properties and uses of 1) Copper 2) Aluminium	<b>05</b>

\*\*\*\*\*