

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.

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