

GUJARAT TECHNOLOGICAL UNIVERSITY
B.Pharm. - SEMESTER-III • EXAMINATION – SUMMER 2016

Subject Code: 2230002

Date: 06/05/2016

Subject Name: Pharmaceutical Engineering

Time: 2:30 PM to 5:30 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) Explain in detail “Different types of graphical presentation”. | 06 |
| | (b) Classify the manometers. Describe the inclined manometer. | 05 |
| | (c) Write the scope of Pharmaceutical Engineering. | 05 |
| Q.2 | (a) Explain unit operation, unit processes and tie-substance. | 06 |
| | (b) Define stoichiometry. Discuss its significance in Pharmacy. | 05 |
| | (c) Write Short note on “Total mechanical energy balance”. | 05 |
| Q.3 | (a) Describe mechanism and applications of Rotameter with neat and label diagram. | 06 |
| | (b) ‘Reynolds number is unit less’ comment and prove it. | 05 |
| | (c) Define Coefficient of discharge. Give the difference between orificemeter and venturimeter. | 05 |
| Q.4 | (a) Define BLACK BODY. Write and explain Stefan-Boltzman law of radiation for black bodies. | 06 |
| | (b) Explain Dalton’s Law and Amagat’s Law. | 05 |
| | (c) Write a note on heat exchangers. | 05 |
| Q.5 | (a) Classify the conveyors. Write a note on any one of them. | 06 |
| | (b) Draw and label the diagram of centrifugal pump. Explain its principle. | 05 |
| | (c) Explain “Color coding of Pipelines.” | 05 |
| Q.6 | (a) Define Fourier’s law. Derive an equation for heat transfer when resistance is in series. | 06 |
| | (b) Classify boilers. Enumerate boiler accessories. | 05 |
| | (c) Give the influences of mass transfer on unit operations. | 05 |
| Q.7 | (a) Define corrosion. Classify the types of corrosion. How do you prevent the galvanic corrosion? | 06 |
| | (b) Discuss the various factors affecting selection of material of plant construction. | 05 |
| | (c) A fluid with a density 50 lb / ft ³ has an absolute viscosity of 0.40 C.P. Express this viscosity as | 05 |
| | a) Poise b) LB / ft Sec. c) Lb / ft. hr. d) stokes e) Centistokes | |
