

Roll No

PY - 301**B.Pharmacy III Semester**

Examination, December 2015

Pharmaceutics - III**(Pharmaceutical Engineering - I)****Time : Three Hours****Maximum Marks : 70**

Note: i) Answer five questions. In each question part A, B, C is compulsory and D part has internal choice.

ii) All parts of each questions are to be attempted at one place.

iii) All questions carry equal marks, out of which part A and B (Max.50 words) carry 2 marks, part C (Max.100 words) carry 3 marks, part D (Max.400 words) carry 7 marks.

iv) Except numericals, Derivation, Design and Drawing etc.

1. a) Enumerate the different grades of glasses used for parenteral preparation?
- b) What are the different types of stainless steel used in pharmaceutical industry.
- c) What do you mean by intergranular corrosion?
- d) Describe the electrochemical theory of corrosion? Give the measures you'll suggest to check the problems of corrosion?

OR

Describe the various factors to be considered during the selection of material for plant construction? Explain the role of tin in Pharmaceuticals.

2. a) Give the various classes of fire.
- b) Give the designation of standard color codes used in labels of chemical containers in shape color diamonds?
- c) Draw a neat diagram and very briefly describe bourdon tube pressure gauge.
- d) Explain the Poiseuille's equation for flow of fluid through pipe.

OR

Describe the different types of hazardous waste from bulk drug manufacturing? Explain in detail about the methods of treatment of such wastes.

3. a) Give the advantages of orifice meter used to measure fluid flow.
- b) Describe the working of diaphragm pump.
- c) Give the comparisons of reciprocating pump and centrifugal pump.
- d) Explain the role of Pneumatic conveyors used in pharmaceutical industry. Give its advantages and disadvantages.

OR

Explain the law of conservation of energy for flow of liquid? Explain the working and construction of differential manometer.

4. a) What is fouling factor in heat exchanger?
- b) Describe the role of screw conveyors in pharmaceutical plant.
- c) Describe the heat transfer from condensing vapors?
- d) Explain with neat diagram about boiling inside the vertical tube of calandria.

OR

Describe the Fourier's equation for steady state heat transfer through consecutive layers of different material.

5. a) Explain the role of dehumidifier in pharmaceutical industry.
- b) Enumerate the pharmaceutical application of refrigerator.
- c) Describe the various terms used in the psychrometric chart.
- d) Explain the element of automatic control system.

OR

Explain the procedure for determining humidity by wet bulb method.
