

Roll No. ....

Total No. of Questions : 10]

[Total No. of Pages : 02

## Paper ID [PH231]

(Please fill this Paper ID in OMR Sheet)

B.Pharmacy (Sem. - 3<sup>rd</sup>)

PHARMACEUTICS - II (UNIT OPERATION - I) (PHM - 2.3.1)

Time : 03 Hours

Maximum Marks : 80

### Instruction to Candidates:

- 1) Section - A is **Compulsory**.
- 2) Attempt any **Four** questions from Section - B.
- 3) Attempt any **Three** questions from Section - C.

### Section - A

Q1)

(15 × 2 = 30)

Define:

- a) Reynold's number.
- b) Compressors.
- c) Crystallization.
- d) Industrial hazards.
- e) Vena contracta.

Distinguish between:

- f) Reciprocating pumps and centrifugal pumps.
- g) Blowers and fans.
- h) Newtonian and non newtonian fluids.
- i) The density of starch is reported as 2.9 gm/mL. Express the same in SI system (kg/m<sup>3</sup>).
- j) Classify crystallizers.
- k) Give advantages of Gate value.
- l) How corrosion is prevented?
- m) Give two applications of incline tube manometers.
- n) Give any two examples of refrigerants.
- o) List limitations of Pneumatic Conveyors.

**Section - B**

**(4 × 5 = 20)**

- Q2)** Classify industrial centrifugal filters? Explain any one.
- Q3)** Choose and then explain a filter used to filter slurries containing more than 15% of solids.
- Q4)** Derive Bernoulli's theorem.
- Q5)** Enumerate stainless steel as material of construction.
- Q6)** How dew point is used to estimate humidity by employing Psychrometric charts?

**Section - C**

**(3 × 10 = 30)**

- Q7)** A liquid with a density of 1.11 g/cc and viscosity 0.8 cp flows through a straight steel pipe of internal diameter 50 mm at a rate of 40 l/hr. Calculate the pressure loss due to friction in kg/m<sup>3</sup>, if the pipe is one kilometer long. (Fanning's friction factor = 0.04)
- Q8)** (a) Classify conveyors. Explain Pneumatic conveyor.  
(b) Enumerate safety aspect from industrial hazards.
- Q9)** (a) Explain venturimeter with its advantages and its limitations.  
(b) Classify crystallizers and explain Swenson Walker crystallizer.
- Q10)** Write notes on any two:  
(a) Plate and frame filter press.  
(b) Principle of refrigeration.  
(c) Vacuum crystallizers.

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