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**B.Pharmacy (Semester – III)(Old CBCS) Examination, 2018
PHARMACEUTICAL ENGINEERING**

Day and Date : Monday, 24-12-2018
Time : 2.30 p.m. to 5.30 p.m.

Max. Marks : 70

1. Multiple choice questions. **(1×15=15)**

- 1) Which one of the following is example of unit operation ?
 - a) Determination of viscosity
 - b) Drying
 - c) Production of tablets
 - d) Synthesis of penicillin
- 2) Reynolds number depends on one of the following factor
 - a) Roughness of the pipe
 - b) Surface area of the pipe
 - c) Viscosity of the pipe
 - d) Volume of the liquid
- 3) Which type of head is measured using pitot tube ?
 - a) Kinetic velocity head
 - b) Pressure head
 - c) Total head
 - d) Static velocity head
- 4) Separation of liquids by distillation is based on one of the following principles
 - a) Vapour pressure
 - b) Miscibility
 - c) Boiling point
 - d) Viscosity
- 5) Raoult's law is applicable is one of the following distillation process
 - a) Flash distillation
 - b) Simple distillation
 - c) Molecular distillation
 - d) Fractional distillation
- 6) Which type of liquid evaporates first in the distillation ?
 - a) Immiscible liquid
 - b) Less volatile liquid
 - c) More volatile liquid
 - d) Non-volatile liquid
- 7) The product becomes porous, when the following equipment for drying is used
 - a) Drum dryer
 - b) Spray dryer
 - c) Fluidised bed dryer
 - d) Tray dryer

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- 5) Define and classify evaporation. Describe in detail factor affecting evaporation.
- 6) Describe the principle, construction and working of simple distillation.

3. Answer **any three**.

(10×3=30)

- 1) Differentiate between evaporation and distillation. Describe principle, construction and working of Fractional distillation with neat labelled diagram.
 - 2) Enlist the different flow meter used for measurement of rate of flow of fluid. Describe one such flow meter.
 - 3) Explain the theory behind drying. Give the principle, construction and working of tray dryer.
 - 4) Describe in detail Bernoulli's theorem. Derive an expression for Bernoulli's theorem.
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