Paper Id: 150304 Roll No: | | | | | | | | | | | | | |

B. PHARM
(SEM-III) THEORY EXAMINATION 2019-20
PHARMACEUTICAL ENGINEERING

Time: 3 Hours **Total Marks: 75**

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt all questions in brief. **10 x 2 = 20**

a.	Differentiate between Fluid Statics & Fluid Dynamics.
b.	Define Attrition & Impact?
c.	What is the difference between Sedimentation & Elutriation?
d.	State and express Fourier's Law of heat transmission with equation.
e.	How evaporation differs from drying and distillation?
f.	Write the principle of Steam Distillation.
g.	What do you mean by Sublimation?
h.	Differentiate between Mixing & Blending. What do you understand by dead spot in solid mixing?
i.	Express the mechanisms of Impingement & Entanglement.
j.	What is meant by under-driven and over-driven assembly? Give examples also.

SECTION B

2. Attempt any two parts of the following: **2 x 10 = 20**

a.	State and derive Bernoulli's equation.
b.	What do you understand by Multiple Effect Evaporator? Describe construction & working of triple effect evaporator? Add a note on economy of multiple effect evaporators.
c.	Explain with the help of diagram the principle, working and applications of Flash Distillation.

SECTION C

3. Attempt any five parts of the following: **5 x 7 = 35**

a.	Describe Reynolds's experiment elucidating different types of flow patterns.
b.	Draw a neat and labeled diagram of a Shell & Tube Heat Exchanger and explain its construction and working.
c.	Describe the principle, construction, working and uses of Fluidized Bed Dryer.
d.	Describe the principle, construction working and uses of Twin Shell Blender.
e.	Explain theories of filtration. Add a note on objectives of filtration.
f.	Describe the principle, construction working and uses of Perforated Basket Centrifuge.
g.	Write a note on different types of Stainless Steel, its composition and its uses.

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