Code No.

Symbol Number: _____ Invigilator's Sign: _____ Superintendent's Sign: _____

Symbol No. in Words: _____

Faculty: Medicine and Allied Health Sciences **Level: Bachelor** **Year/Part: II/I**

Program: Bachelor of Pharmacy **Level: Bachelor** **F.M.: 50**

Subject: BP 301 Pharmaceutical Engineering I **Time: 3 Hours** **P.M.: 25**

i Answers should be given by filling the Objective Answer Sheet.

Ii Rough can be done in the main answer sheet

Iii Maximum time of 20 minutes within the total time is given for this group.

Group A (Multiple Choice Questions) **[10×1=10]**

1. Which mill is suitable for wet grinding?
   a. Colloid mill b. Hammer mill c. Roller mill d. Rotary cutter mill

2. Which equipment is used for sieve analysis?
   a. Airjet sieve b. cyclone separator c. rotex screen d. Shaking screen

3. In which mixer type, the through is stationary?
   a. Ribbon mixer b. Silverson mixer
   c. Double cone mixer d. Barrel mixer

4. All radiations in a black body are:
   a. Reflected b. Refracted c. Transmitted d. Absorbed

5. The following are secondary or derived quantities except:
   a. Thermodynamic temperature b. kinetic energy
   c. potential energy d. acceleration

6. Baffles:
   a. Increase the length of path for heat exchange
   b. Create turbulence
   c. Increase velocity of liquid outside the tubes
   d. All of the above

7. The general equation for heat transfer rate, q, is expressed as:
   a. $A\Delta t/U$ b. $U/A\Delta t$ c. $UA\Delta t$ d. $UA/\Delta t$

8. The units of Reynold's number are:
   c. Kg.m/s b. $Kg.m/s^2$ c. Kgm^3/s^2 d. Dimensionless
   d.

9. In Reynold's experiment, critical velocity depends on:
   a. Pipe diameter b. average velocity of liquid
   c. density and viscosity of liquid d. all of the above

10. Which of the following is not an essential criterion for crystal formation?
    a. Moisture content b. Shape
    b. Caking characteristics of the crystal d. None of the above

Multiple Choice Questions' Answer Sheet

Code No. _____ Marks Secured: _____

In Words: _____

Examiner's Sign: _____ Date: _____

Scrutinizer's Marks: _____

In Words: _____

Scrutinizer's Sign: _____ Date: _____

Corrected Fill Ⓐ ● Ⓒ Ⓓ

Incorrected Fill Ⓐ Ⓑ ● Ⓓ

1.	Ⓐ Ⓑ Ⓒ Ⓓ		6.	Ⓐ Ⓑ Ⓒ Ⓓ	
2.	Ⓐ Ⓑ Ⓒ Ⓓ		7.	Ⓐ Ⓑ Ⓒ Ⓓ	
3.	Ⓐ Ⓑ Ⓒ Ⓓ		8.	Ⓐ Ⓑ Ⓒ Ⓓ	
4.	Ⓐ Ⓑ Ⓒ Ⓓ		9.	Ⓐ Ⓑ Ⓒ Ⓓ	
5.	Ⓐ Ⓑ Ⓒ Ⓓ		10.	Ⓐ Ⓑ Ⓒ Ⓓ	

MANMOHAN TECHNICAL UNIVERSITY

Office of the Controller of Examinations

Budiganga- 4, Morang, Koshi Province Nepal

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- ✓ *Group A contains Multiple Choice Questions of 5 marks.*
- ✓ *Candidates are required to give their answers in their own words as far as practicable.*
- ✓ *The figures in the margin indicate Full Marks.*
- ✓ *Assume suitable data if necessary.*

Group B (Problem-Based Question) **[1×10=10]**

1. A material having a tough, fibrous, and soft nature needs size reduction before the extraction procedure. Based on the above condition, discuss the following points:

   a. Suggest suitable equipment for size reduction with reason for selection. [2]

   b. Write down the principle involved in that equipment. [3]

   c. Explain the construction and working of that equipment. [5]

Group C (Long Answer Questions: Attempt Any Four) **[4×5=20]**

1. Describe Reynolds experiment to illustrate types of flow.
2. Explain principle and working of simple manometer.
3. Explain the construction and working of Planetary mixer.
4. State and explain Fourier's law of heat transmission with equation.
5. Explain the theory of crystallization in detail.

Group D (Write Short Notes: Any Five) **[5×2=10]**

1. A large number of size reduction equipment are available currently. Why do we require so many types of mills?
2. Enlist various grades of powders official in the pharmacopoeia.
3. What are 'Grey bodies'? How do they radiate heat?
4. What is surface coefficient? Write its importance.
5. Discuss the applications of Bernoulli's theorem.
6. Describe belt conveyors in brief.

- The End -