Roll No. | | | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 10

B. Pharma (2012 to 2016) (Sem.–4)

PHARMACEUTICS-V
(Physical Pharmacy)

Subject Code : BPHM-405

M.Code : 46235

Time : 3 Hrs. Max. Marks : 80

INSTRUCTION TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of FIFTEEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains FOUR questions carrying TEN marks each and students have to attempt any THREE questions.**

SECTION-A

1. Answer briefly :

a) What are eutectic mixtures? Explain with examples.

b) What is polymorphism? Explain with examples.

c) Define Angle of repose. What are its uses in the pharmaceutical field?

d) Write Stokes' equation. What are its applications in pharmacy?

e) Write the equation for the spreading coefficient. Suggest two methods to improve the spreading of a medicament.

f) Explain the concept of surface tension.

g) Define Thixotropy. Draw a thixotropic curve for a plastic flow.

h) What type of viscometers is necessary for the study of non-Newtonian fluids? Why?

i) What is Brownian movement? Which formulations exhibit this movement?

j) What is meant by protective colloids? Mention one example for the same.

k) Explain the term "phase inversion" with one suitable example.

l) What is Scatchard plot? Give a labeled plot with a suitable example.

m) Define First order reaction. List the examples which have applications in biological processes.

n) Define Half-Life. What relationship does the half-life period bear to the initial concentration?

o) What is buffer capacity?

SECTION-B

2. List different types of densities of powders/granules. Write the experimental method for the determination of any one of them.

3. Draw the flow curves for Newtonian and non-Newtonian types of flow. Give one example for each type of flow.

4. Deduce an equation for the determination of interfacial tension using DuNouy method.

5. Describe the process of micellar solubilization. Explain its applications in pharmacy with suitable examples.

6. How does complexation influence drug action? Explain with help of two examples.

SECTION-C

7. Compare first and second order reactions with respect to the rates and explain the mechanism for their behaviour.

8. Discuss the methodology of accelerated stability studies. Mention its limitations.

9. Explain with relevant mathematical equation, give the construction, working and applications of cup and bob viscometer. What are its disadvantages?

10. What is meant by controlled flocculation? Discuss the various means by which controlled flocculation can be achieved.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.