

Bachelor of Pharmacy Fourth Year First Semester-2024

Novel Drug Delivery System

Time: Three hours

Full Marks: 75

Answer any FIVE questions taking at least TWO questions from Group A, and One each from Groups B and C

Group A

1. a) Write the advantages of controlled release drug delivery system. b) What are the rate limiting step for the design of conventional dosage form and controlled release dosage form? c) Briefly describe about dissolution and diffusion controlled release drug delivery system. 4+1+(5+5)=15
2. a) Define monomers, polymers, degree of polymerization, isotactic, and atactic. b) What are number average molecular weight and weight average molecular weight of polymer? c) What are thermoplastic and thermosetting plastic? d) How intermolecular forces and plasticizers affects the glass transition temperature. 5+3+3+4=15
3. a) Define with example of homopolymers, heteropolymers, homochain polymers, and heterochain polymers. b) Classify the polymers based on source. c) Describe about the mechanical properties of polymers. 4+3+8=15
4. a) What is targeted drug delivery system? b) Write the preparation method of liposome by thin film hydration method. c) Describe in detail the characterization technique of liposomes. 2+5+8=15

Group B

- Q 1. i. Classify Different approaches of TDDS. And explain with a diagram (each one). (5+5) +5=15
- ii. Write in details about how to evaluate transdermal formulations. (5+5) +5=15
- Q2. i. What are the factor effecting in GRDDS? 5+(5+5)=15
- ii. Explain in details approaches to gastric retention (with diagram). 5+(5+5)=15

Group C

1. What are the constraints on the proper bioavailability of ocular drug delivery systems? What attempts to be adopted to overcome it? 15
2. Write notes on (Any 3) 5x3=15
- a) Ocuserts and contact lens
- b) Hormonal intrauterine drug delivery systems
- c) Coacervation phase separation for microencapsulation
- d) Importance of cornea in respect to ocular bioavailability
- e) Copper-T
3. Write in details of the Air suspension and Solvent evaporation techniques for microencapsulation. 15