

UKA TARSADIA UNIVERSITY

M. Pharm. (Pharmaceutics) (3rd Semester)

Subject: 040040302 - Drug Delivery System - II

Time : 2.30 pm to 5.30 pm

Date : 15/05/2014

Duration: 3 Hours

Max. Marks: 70.

Instructions:

1. Attempt all questions.
2. Write each section in a separate answer book.
3. Make suitable assumptions wherever necessary.
4. Figures to the right indicate full marks allocated to that question.
5. Draw diagrams/figures whenever necessary.

Q.1 a) Define Microemulsion. Enlist its pharmaceutical application and describe the various theories of microemulsion formation. (6)

OR

Q.1 a) Enumerate the advantages of solid lipid nanoparticles over polymeric nanoparticles. Discuss the hot melt homogenization technique for preparation of SLN. (6)

Q.1 b) Enlist the applications of nanoparticles in drug delivery. Discuss their toxicological aspects. (5)

Q.2a) What are the applications of multiple emulsion? Discuss the evaluation parameters of multiple emulsion. (6)

OR

Q.2 a) Enlist the various polymers used in microsphere preparation and describe the double emulsion method for its preparation. (6)

Q.2 b) Discuss using a suitable diagram any one method for preparation of nanoparticles by Supercritical fluid technology. (6)

Q.3 Attempt any two of the following: (12)

- a) Describe techniques used for production of monoclonal antibody.
- b) Discuss therapeutic applications of niosomes.
- c) Explain methods of characterization of liposomes.

Section II

Q.4 a) "Protein and peptide drug delivery require special consideration." Justify the statement. (6)

Or

- a) Enlist the techniques for pelletization. Write their advantages and disadvantages and describe the extrusion spheronization technique in detail. (6)

Q.4 b) Explain fluid bed processing of pharmaceuticals. (5)

Q.5 a) Describe the various approaches for drug targeting to CNS. (6)

OR

a) Describe the formulation approaches for the protein and peptide delivery via the oral route. (6)

Q.5 b) What do you mean by co-processed excipient? Write its applications and discuss the hot melt extrusion method for co-processing. (6)

Q.6 Answer ANY TWO of the following: (12)

- a) Discuss importance of drug targeting and approaches used for RES targeting.
- b) Differentiate between active and passive targeting and describe the biological events in targeting.
- c) Describe In-vitro techniques for measurement of drug uptake by brain.