

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)

CLASS: MPharm
BRANCH: PHARMACY

SEMESTER: 2nd
SESSION: SP 2022

SUBJECT: MPH201T Molecular Pharmaceutics

TIME: 3.00 Hours

FULL MARK: 75

INSTRUCTIONS:

1. The missing data, if any, may be assumed suitably. Answer any 5 questions
2. Before attempting the question paper, be sure that you have got the correct question paper.
3. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.

- | | | |
|-----|--|--------------------------|
| 1a. | Discuss the factors affecting the formation of Niosomes along with their advantages and limitations. Discuss the preparation of Niosomes along with their evaluation and applications. | [7] |
| 1b. | Differentiate between the following and provide their characterization along with their method of preparation <ol style="list-style-type: none"> i. Phytosomes ii. Aquasomes iii. Electrosomes | [8] |
| 2a. | Discuss the differences between Polyclonal and Monoclonal antibodies. Discuss their preparation, evaluation and specific applications. | [7] |
| 2b. | Discuss the following: <ol style="list-style-type: none"> i. Gene therapy both <i>exvivo</i> and <i>invivo</i> ii. Gene expression system iii. Liposomal gene delivery system | [8] |
| 3a. | Discuss the factors influencing Nasal absorption and also the strategies to improve Nasal absorption. Discuss the preparation and evaluation of Nasal dosage forms. | [7] |
| 3b. | Elaborately discuss Aerosol drug delivery systems including their formulation, quality control tests and evaluations | [8] |
| 4a. | Elucidate the different methods of preparation of polymeric nanoparticles along with their descriptive evaluation and applications | [7] |
| 4b. | Write short notes on the following: <ol style="list-style-type: none"> i. Illustrate the different administration routes for targeted gene delivery along with their advantages and limitations. ii. Receptor topography in Ligand targeted delivery | [8] |
| 5a. | Discuss the different strategies for brain penetration along with their limitations and advantages | [7] |
| 5b. | Discuss the different methods of Microencapsulation techniques along with their advantages and limitations | [8] |
| 6a. | Discuss the stimuli sensitive drug delivery systems and their evaluations | [7] |
| 6b. | Discuss the rationale for targeted therapy and site specific delivery. Discuss the factors determining the availability of drugs at the target site. Describe the different strategies of drug targeting. | [3+2+3=8] |
| 7a. | <ol style="list-style-type: none"> i. Define Targeting efficiency ii. Name some protein scaffolds used for LTDs iii. Discuss the role of a Spacer in Ligand Targeted delivery iv. Discuss the Importance of receptor location in LTD | [1]
[1]
[2]
[3] |
| 7b. | <ol style="list-style-type: none"> i. Write short notes on : Receptor Expression Profile & Receptor Competition in LTD ii. Discuss the preparation and evaluation of Liposomes as a drug delivery system | [2+2=4]
[4] |

:::25/04/2022 E:::