PG (CBCS) EVEN SEMESTER EXAMINATION, 2024

PHARMACEUTICAL SCIENCES
(M.Pharm. 2nd Semester)

Course No: MPH 201T
(MOLECULAR PHARMACEUTICS)

Full Marks : 75

Time : 3 hours

The figures in the margin indicate full marks for the questions

I. Objective type (Answer the following in brief) 2x10=20

1. Why drug targeting is essential? Mention the reasons.
2. What do mean by inverse targeting?
3. What is opsonization?
4. Mention the significance of stealth liposomes.
5. Why blood-brain-barrier is considered as formidable barrier in drug delivery to brain?
6. Define nanosphere and nanocapsule.
7. Explain Flash point test for aerosol.
8. Write the formula to calculate encapsulation efficiency and drug loading.
9. What is zeta potential and mention the significance of Zeta potential in the nanoparticle evaluation?
10. Write the formulation of dry powder inhaler (DPI)

(Turn Over)

II. Long answers (Answer two out of three questions) 10x2=20

1. Classify types of drug targeting. Explain passive and active targeting. Add a note on Pinocyctosis. (2+6+2)
2. Mention different bottom-up and top-down methods for the preparation of polymeric nanoparticles. Explain any four methods employed to prepare polymeric nanoparticle. (2+8)
3. Discuss propellant and containers for aerosol. Explain metered dose inhaler. (6+4)

III. Short answers (Answer seven out of nine questions) 5x7=35

1. Write the advantages and disadvantages of drug targeting (2.5x2)
2. Mention the tumour targeting approaches. Explain the tumour targeting with prodrug therapy. (1+4)
3. Write the composition of liposomes. Classify and describe liposomes on the basis of composition and application. (1+4)
4. Discuss brain targeted drug delivery approaches. (5)
5. Write the process of extravasation with a suitable diagram. (5)
6. Discuss the official (IP) leakage test for metered dose aerosol with acceptance criteria. (5)

7. Mention different techniques used for particle size determination and explain any three of them. (2+3)
8. Write the advantages and disadvantages of nasal route of drug delivery. Give a note on formulation of nasal spray. (5)
9. How niosomes are different from liposomes? Write any two methods of preparation of niosomes. (5)

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