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

CLASS: B. PHARM **SEMESTER: 7th**
BRANCH: PHARMACY **SESSION: MO/2023**

SUBJECT: BP704T NOVEL DRUG DELIVERY SYSTEMS-II

TIME: 3.00 Hours **FULL MARK: 75**

INSTRUCTIONS:

1. **The missing data, if any, may be assumed suitably.**
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.**
4. **This question paper consists of (03) three parts. Read the part wise instructions before attempting the questions.**

PART-I

Objective types questions (Instruction: Answer all questions)

Q1. (10 x 2 = 20 Marks)

A. In which type of TDDS, adhesive is included separately in composition.
B. Amongst following, which is not part of invitro evaluation for TDDS:
   a. Paddle over disc
   b. reciprocating disc
   c. skin permeation test in animals
   d. invitro skin permeation test
C. Which type of surfactants are most preferred in ophthalmic formulations?
D. Enlist three main factors for effective targeting.
E. Floating Drug Delivery Systems have bulk density higher than gastric fluids. State- True or False.
F. Enlist the advantages of mucosal drug delivery system.
G. What is role of goblet cell in nasal mucosae?
H. Write the various layers/components of human rectal mucosae.
I. Differentiate between muco-adhesion and bio-adhesion.
J. What do you mean by apparent volume of distribution?

PART-II
Short Answers
(Instruction: Answer seven out of nine questions)

(7 x 5 = 35 Marks)

Q2. Derive the equation for first order and zero order kinetics.
Q3. Discuss the significance of volume of distribution in preparing the controlled release formulation.
Q4. "As long as the drug is uniformly absorbed, although incomplete, a successful controlled release product can be generated". Explain the statement.
Q5. Enumerate the advantage and disadvantage of controlled drug delivery system.
Q6. Discuss the ion-exchange principles for preparation of controlled drug delivery system.
Q7. Discuss the various mechanism of muco-adhesion.
Q8. Discuss in detail mode of drug targeting.
Q9. Discuss two invitro evaluation method of transdermal drug delivery as per U.S.P.
Q10. Describe anatomical and physiological barriers for ocular delivery.

PART-III
Long Answers
(Instruction: Answer two out of three questions)

(2 x 10 = 20 marks)

Q11. Describe mechanism of skin through delivery by TDDS and formulation design of TDDS.
Q12. Discuss in detail physiology of gastric emptying. Explain approaches for development of pharmaceuticals for gastric retention.
Q13. Discuss the dissolution control release mechanism in detail.

:::::24/11/2023 M:::::