MASTER OF PHARMACY (M. PHARM.) (CBCS-2019 COURSE)
M.Pharm. Sem-I Pharmaceutics : MARCH : 2022
SUBJECT: DRUG DELIVERY SYSTEMS

Day : Wednesday | Time : 10:00 AM-01:00 PM
Date 23-03-2022 | **M-20717-2022** | Max. Marks: 75

N. B.:

1) **Q. No. 1** and **Q. No. 5** are **COMPULSORY**. Out of remaining questions answer any **TWO** from each section.
2) Figures to the right indicate **FULL** marks.
3) Answers to both the sections should be written in **SEPARATE** answer books.

SECTION – I

Q. 1 Explain in brief biopharmaceutic characteristics of drugs in design of SR formulation. **(08)**

Q. 2 Answer the following:

a) Explain in detail osmotic activated drug delivery systems. **(07)**

b) An anti-diabetic drug is formulated as a sustained release oral tablet. What are the probable mechanisms of release of drug from the SR drug delivery systems? **(08)**

Q. 3 Answer the following:

a) Enlist marketed 3D printed pharmaceutical formulations. Elaborate on Fused Deposition Modelling (FDM). **(07)**

b) Describe approaches used in design of floating delivery systems. **(08)**

Q. 4 Write notes on **ANY TWO** of the following: **(15)**

a) Personalized medicines and its importance

b) Buccal drug delivery systems

c) pH activated drug delivery systems

SECTION – II

Q. 5 Write a note on transdermal permeation enhancers with appropriate examples. **(08)**

Q. 6 What are the barriers of protein drug delivery? Explain various modified formulation of proteins and peptides to overcome the absorption barriers. **(15)**

Q. 7 What are the advancements in vaccine delivery systems? Explain transdermal delivery of vaccines. **(15)**

Q. 8 Write notes on **ANY TWO** of the following: **(15)**

a) Methods to overcome ocular barriers

b) Single shot vaccines

c) Mucosal delivery of vaccines

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