This question paper contains 3 printed pages.]

Your Roll No. ....................

4334 A

M. Tech./Sem.VI
CHEMICAL SYNTHESIS AND PROCESS
TECHNOLOGIES
Paper–Module 32 : Drug Delivery Technologies
(Admissions of 2008 and onwards)

Time : 2 Hours
Maximum Marks : 38

(Write your Roll No. on the top immediately
on receipt of this question paper.)

Attempt five questions in all including
Q.No.1, which is compulsory.

1. (i) Define and give applications of following.

(a) Liposomes

(b) Dendrimers

(c) Organogels

(d) Solid liquid nano particles.

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[P.T.O.]
4. (i) Explain basic principle as of Targeted Drug Delivery. What is its importance?  
(ii) Give a brief account of factors affecting drug loading and drug release.  

3. (i) Giving suitable examples, discuss role of nano technology in targeted drug delivery.  
(ii) What are the applications of aquasomes in drug delivery systems?  

4. (i) What are multiple emulsions? Discuss various emulsification techniques.  
(ii) How liquid crystalline systems are used in drug delivery?  

5. Write a note on the following (any two)  
(i) Molecular Imprinting Technology (MIP)  
(ii) Microelectrochemical Systems (MEMS) in drug release.  
(iii) Parenteral routes of drug delivery.  

6. (i) How biodegradable polymers are important for micro encapsulation of drugs.  
(ii) What is protein and peptide based drug delivery system.
7. (i) Give a brief account of techniques to manufacture microcapsules.

(ii) What are the advantages and disadvantages of nasal systemic drug delivery.