



MANIPAL INSTITUTE OF TECHNOLOGY
MANIPAL
(A constituent unit of MAHE, Manipal)

VII SEMESTER B. TECH END SEMESTER EXAMINATIONS

DECEMBER/JANUARY 2020-2021

SUBJECT: DRUG DELIVERY: ENGINEERING PRINCIPLES [BIO 4011]

Date of Exam: **30/12/2020**

Time of Exam: 3 hours Max. Marks: **50**

Instructions to Candidates:

❖ Answer ALL the questions & missing data may be suitable assumed

1A.	Explain with proper example how the solubility and stability of drug can be enhanced by covalent and non-covalent modification	5
1B.	Mention different routes of drug administration with advantages and disadvantages	5
2A.	What are the difference between polymer matrix drug delivery system and polymer reservoir drug delivery system? Explain with proper example	6
2B.	Biotransformation occur in few organs. Explain in detail with proper example	4
3A.	Why oral insulin delivery is always a challenging research topic and explain recent developments in the area	5
3B.	Elucidate receptor mediated endocytosis coupled with EPR effect in cancer drug delivery	5
4A.	Why treating neuro-inflammation is essential and also very difficult and how recent drug delivery systems are helping in treating neuro-inflammation?	5
4B.	Why tuberculosis is different from other bacterial infections? How disease is different from infection? Can infection can be cured? What are the recent advances in this field?	5
5A.	What are hydrogels? How they are useful for drug delivery?	4
5B.	Difference between polyclonal and monoclonal antibodies? How antibodies are used for tumor targeted drug delivery?	6