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: **1/2/2021** Time of Exam: 3 hours Max. Marks: **50**

Instructions to Candidates:

- Answer ALL the questions & missing data may be suitably assumed

1A.	Why some drugs are made in salt form? what difference does it make? Give proper example	**5**
1B.	Same drug is administered through different route and formulation why? Give proper example	**5**
2A.	What are bulk eroding and surface eroding polymers ? how they are used in drug delivery? Explain the drug release kinetics of these polymers with example	**6**
2B.	Why it takes long time for anesthetics to clear from the body ? what method body uses to clear chemicals from body?	**4**
3A.	What are the different barriers for oral insulin delivery? which one is the bottleneck and how researchers are trying to solve it?	**5**
3B.	What are the different way the drug gets into cell? To improve the therapeutic efficacy how new drug formulations are made for cancer therapy?	**5**
4A.	Why delivering drug to the posterior part of the eye is difficult? what are the new formulations researchers are working on to improve the efficacy?	**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 is the difference between matrix forming polymers, drug reservoir forming polymers and hydrogels? Where these materials are used for drug formulations ? give proper example	**4**
5B.	Difference between polyclonal and monoclonal antibodies? How antibodies are used for tumor targeted drug delivery?	**6**