Exam.Code:0438
Sub. Code: 3487

2053

M.Sc. (Biotechnology) Fourth Semester

MBIO-402: Drug Designing and Drug Delivery

Time allowed: 3 Hours Max. Marks: 80

NOTE: *Attempt five questions in all, including Question No. I which is compulsory and selecting one question from each Unit.*

x-x-x

I. Attempt the following:-

a) Define efflux transporters.

b) What is molecular modelling?

c) What is minimum effective concentration of drug?

d) What is a coordinate complex?

e) What is acute toxicity?

f) Define allocation bias?

g) What is INDA?

h) What is a soft drug? (8x2)

UNIT - I

II. a) Discuss the physicochemical and biological factors affecting drug distribution.

b) Discuss the descriptors in 2D QSAR. (2x8)

III. a) Discuss the process and role of virtual screening.

b) Discuss the role and process of docking in drug design. (2x8)

UNIT - II

IV. a) Discuss elimination rate constant, AUC and clearance as pharmacokinetic parameters.

b) Discuss the theories of coordinate bonding. (2x8)

V. a) Discuss the significance and methods to study chronic toxicity.

b) Discuss c versus t plot for orally administered drug. (2x8)

UNIT - III

VI. a) Discuss process of filing different drug applications in FDA.

b) Discuss the role and process of subject and blinding in Clinical trials. (10,6)

P.T.O.

VII. a) Explain the techniques in trial drug packaging.

b) Describe the safety monitoring and changes to approved product. (2x8)

UNIT - IV

VIII. a) Discuss the considerations and strategies to improve protein drug delivery.

b) Explain the applications of nanoparticles in drug delivery. (2x8)

IX. a) Discuss the osmosis controlled drug delivery systems.

b) Describe the ligand appended drug delivery approach. (2x8)

x-x-x