Exam.Code:0438
Sub. Code: 3487

2072

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 pharmacophore.

b) What is virtual screening?

c) What is therapeutic index?

d) What is pharmacodyanamics?

e) What is subacute toxicity?

f) Define selection bias?

g) What is NDA?

h) What is trial drug packaging? (8x2)

UNIT - I

II. a) Discuss the factors affecting drug absorption.

b) Discuss the factors contributing to 3D QSAR. (2x8)

III. a) Discuss the process and role of high throughput screening.

b) Discuss the process of lead identification. (2x8)

UNIT - II

IV. a) Discuss clearance, volume of distribution and AUC as pharmacokinetic parameters.

b) Discuss the factors affecting coordination complex stability and its measurement. (2x8)

V. a) Discuss the significance and methods to study *in vitro* toxicity,

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

UNIT - III

VI. a) Give an overview of drug approval process by FDA.

b) Discuss the regulations governing the conduct of clinical trials. (10,6)

P.T.O.

VII. a) Explain the procedure of preclinical testing in drug approval.

b) Describe the considerations for blinding drug product for clinical trial packaging. (2x8)

UNIT - IV

VIII. a) Discuss the mechanism of action for prodrugs.

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

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

b) Describe the approaches towards effective protein and peptide drug delivery. (2x8)

x-x-x