Total No. of Questions : 6] **SEAT No. :**

P2073 **[Total No. of Pages : 3**

[4925] - 303

M.Sc. (Semester - III)

DRUG CHEMISTRY

CHD-363 : Drug Development

(2013 Pattern)

Time : 3 Hours] ***[Max. Marks : 50***

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Figures to the right indicate full marks.***
3) ***Answers to the two sections to be written in separate answer books.***

SECTION - I

Q1) Answer any three of the following. **[12]**

a) Describe different morphological forms of bacteria, giving suitable examples.

b) Give principle of Gram staining of bacteria.

c) What are the differentiating characters of bacteria and fungi?

d) Describe components of nutrient media used for cultivation of bacteria.

e) List the methods used for isolation of micro-organisms. Describe any one method in detail.

Q2) Attempt any three of the following. **[9]**

a) Explain classification of immunity, giving suitable examples.

b) Give difference between cell mediated and antibody mediated immunity

c) Describe primary and secondary immune response.

d) Give Gell-Coomb's classification of immunity.

e) Explain principle of agglutination technique, giving its applications.

P.T.O.

Q3) Explain any four of the following terms : **[4]**

a) T and B lymphocytes

b) Lead compound

c) LD_{50}

d) Therapeutic index

e) Combinatorial synthesis

f) MIC

SECTION - II

Q4) Answer any three of the following. **[12]**

a) Explain the process of rational drug discovery with proper examples.

b) Explain

i) IPR

ii) Invention

iii) Prior Art

iv) Complete specification

c) What is bioavailability? How is it determined? What are the factors that affect bioavailability?

d) A company has obtained a novel antimicrobial compound. What toxicological tests it has to perform before sending for clinical trials?

e) What are the various dosage forms of the drugs? What are the special benefits of injectables, sprays & patches.

Q5) Answer any two of the following. **[8]**

a) How are clinical trials planned? What is the role of FDA & Institutional review board in execution of clinical trials? What are the intentions of each phase of study? Discuss.

b) Explain the roles of the following in a pharma company.

i) QA & QC

ii) Safety & Hygeine

iii) Process development

c) Give a brief review of drug targets & bioassay.

Q6) Explain the following terms in brief (any five) : **[5]**

a) Phase I metabolism

b) SAR

c) Pharmacophore

d) First pass effect

e) Partial antagonist

f) Sub acute toxicity

g) Bioequivalence