(Following Paper ID and Roll No. to be filled in your Answer Books)

Paper ID : 150805 **Roll No.**

B. PHARM.

Theory Examination (Semester-VIII) 2015-16

PHARMACEUTICAL BIO TECHNOLOGY

Time : 3 Hours *Max. Marks : 100*

Section-A

1. **Attempt all parts. All parts carry equal marks. Write answer of each part in short.** **(2×10=20)**

   a) Define Antigens.

   b) What are Haptens?

   c) Difference between active and passive immunity.

   d) What do you mean by gene cloning?

   e) Write about Activase.

   f) Discuss agglutination reaction.

(1) P.T.O.

g) Define Proteases.

h) Write a note on Humoral immunity

i) Define Immunoglobulin.

j) Define Hamalin.

Section-B

2. **Attempt any five questions from this section.**

   (10×5=50)

   a) Describe historical development of Antibiotics. Explain process of protoplast fusion.

   b) Write a short note on Immunological tolerances. Write a note on standardization and storage of BCG.

   c) Discuss the advantages and limitation of biotransformation reaction with examples.

   d) Describe in detail about various type of reaction cell mediated by microorganisms with examples.

   e) Explain plasmids and their role in biotechnology.

   f) Write a note on Penicillinase. How penicillin can be obtained by fermentation process?

(2)

g) Discuss method of standardization of broad spectrum antibiotics.

Section-C

3. Attempt any two questions from this section.

(15×2=30)

a) With the help of a neat diagram explain different parts of a fermentor and mention their functions.

b) Discuss complete process of development of hybidoma for monoclonal antibodies.

c) Derive Michaelis-Menten equation and discuss the role of double reciprocal plot.Explain the techniques of surface immobilization and covalent coupling.