(i) Printed Pages: 3 Roll No. .....

(ii) Questions : 9 Sub. Code : 0578

Exam. Code : 0006

B.A./B.Sc. (General) 6th Semester

(2054)

INDUSTRIAL MICROBIOLOGY (Elective) - I

Paper : IMB-602 : Immuno-Biotechnology, Tissue Culture and Government Regulations

Time Allowed : Three Hours] [Maximum Marks : 33

Note :—Attempt FIVE questions in all selecting ONE question each from Units I to IV including Q. No. 1, which is compulsory.

1. Answer the following briefly :

(a) Immunoprecipitation

(b) Live vaccines

(c) Mycotoxins

(d) Cell culture

(e) IgE. 1×5=5

UNIT—I

2. (a) What are the contributions of Louis Pasteur in the field of immunology ? Discuss the scope of immunology.

(b) Draw a well-labelled structure of immunoglobulin. How does IgA differ from IgG ? 3½×2=7

3. (a) Discuss the types of immunity and the activation of immune responses.

(b) How Ag-Ab interactions are helpful in the diagnosis of diseases ? 3½×2=7

UNIT—II

4. (a) Describe the production of various types of vaccines at the commercial level.

(b) How are monoclonal antibodies produced ? What is the significance of the hybridoma cell line discovery ?

3½×2=7

5. (a) Define siderophores. What is the role of siderophores ?

(b) What do you know about the various types of vaccines ? Explain with examples. 3½×2=7

UNIT—III

6. (a) What do you know about the plant cell growth systems ?

(b) Define metabolites. Which metabolites are recovered from recombinant DNA-modified bacteria ? 3½×2=7

7. (a) Explain the techniques you know of tissue culture for plant production.

(b) Describe the products recovered from genetically engineered animal cell culture. 3½×2=7

UNIT—IV

8. (a) What are the contributions of international organizations in developing biotechnology ?

   (b) Describe the regulations for patenting biotechnological processes and products. $3\frac{1}{2} \times 2 = 7$

9. (a) Discuss the possible health hazards during microbial spoilage.

   (b) Write a note on government programs for biotechnology development. $3\frac{1}{2} \times 2 = 7$