

2053

B.A./B.Sc. (General) Sixth Semester
Industrial Microbiology (Elective) - I

IMB-602: Immuno-biotechnology, Tissue Culture and Government Regulations

Time allowed: 3 Hours

Max. Marks: 33

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting one question from each Unit.

X-X-X

1. Answer the following briefly:

- a) Sub-cellular vaccines
- b) Immunoprecipitation
- c) Immunoprecipitation
- d) Teratogenic biologicals
- e) Fab and Fc regions

(1x5=5)

UNIT-I

- 2. a) What do you know about the history and scope of immunology?
b) Differentiate the acquired and innate immunity. What are first and second line of defenses?
(3 ½ + 3 ½ = 7)
- 3. a) What are the applications of Ag-Ab Interactions in diagnosis of diseases? Discuss anyone.
b) Describe the structure of a typical immunoglobulin. Write about their classes and distribution.
(3 ½ + 3 ½ = 7)

UNIT-II

- 4. a) What are siderophores? Give their applications in medical field.
b) How hybridoma cell lines are produced? Explain.
(3 ½ + 3 ½ = 7)
- 5. a) Describe the process of production of recombinant vaccines?
b) Give the applications of monoclonal in immunology.
(3 ½ + 3 ½ = 7)

UNIT-III

- 6. a) Describe the process of animal cell culturing in vitro.
b) Which products are produced for human welfare by the animal cell culture technique.
Explain with suitable examples.
(3 ½ + 3 ½ = 7)
- 7. a) Describe the advantages of recombinant DNA modified plants as producer of metabolites. What are their applications?
b) Describe the products produced by genetically engineered bacteria? How they are cultured in the laboratory?
(3 ½ + 3 ½ = 7)

UNIT-IV

- 8. a) What are the governmental regulations for disposal of biohazardous materials? Explain.
b) Explain how mycotoxins prove hazard for the production and recovery of fungal products?
(3 ½ + 3 ½ = 7)
- 9. a) What are the regulations for patenting the biotechnological processes and products?
b) Write about the governmental regulations of recombinant DNA research.
(3 ½ + 3 ½ = 7)

X-X-X