

Subject Title: Immunology and Animal Biotechnology

Prepared by: Mohammadi sultana

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## Unit - I: Immunology

## Short Answers:

1. Basics concepts of immunology
2. Edward Jenner contribution to immunology.
3. Describe in detail about cell of immune system.
4. Explain primary and secondary lymphoid organs of immune system.
5. Write short notes on B and T cell epitopes.
6. Write short notes on Haptens and Adjuvants.

## Long Answer:

7. Define immunity and describe types of immunity with suitable example.
8. Write an essay on Innate immunity.
9. Write an essay on Acquired immunity.
10. Define basic properties of antigens.
11. Describe the structure, properties and function of immunoglobulins.
12. Explain the process of Antigen-Antibody Reaction.
13. Explain how the activation of B-cell takes place in immune system.
14. Activation of T-cell takes place in immune system
15. Explain about Monoclonal Antibodies and production of their monoclonal Antibodies with suitable examples.

## Unit - II: Immune system in health and disease.

## Short Answers:

1. Write short notes on Cytokines and Interferon.
2. Long Answers:
3. Explain about Major Histocompatibility Complex and its types.

4. What is complement protein explain in detail about complement system.
5. Write an essay on Humoral immune response.
6. Explain in detail about the cell-mediate immunity.
7. Define Hypersensitivity and explain the type of hypersensitivity.
8. Define Autoimmunity and give an account of various Autoimmune diseases.
9. Define Immunodeficiency and give an account of various immunodeficiency diseases.
10. What is Vaccines and explain in detail about types of vaccines.

Unit – III; Animal Biotechnology.

Short Answers;

11. Define the scope and importance of Animal biotechnology.
12. Write short notes on Cloning vectors, Plasmids, Cosmids.
13. Give a detail study on Lambda Bacteriophage and YAC.

Long Answers:

14. Define a Cloning and explain in detail about methods of cloning in cell, animals and gene cloning.
15. Define Recombinant DNA technology with its application.
16. Explain in detail about Transgenic animals and production of transgenic animals with application.
17. Describe Transgenesis and methods of Transgenesis.
18. Explain in detail about Transgenic animals and production of transgenic animals with application.
19. Define stem cells and types of stem cells.