

**Sr.No.14097**

**Exam Code: 210004**

**Subject Code: 4582**

**M.Sc. Botany - 4th Semester**

**(2720)**

**Paper - BOTC-725**

**Immunology**

**Time allowed: 2 hrs.**

**Max. Marks: 50**

**Note: Attempt any four questions. All questions are of equal marks.  
Draw labelled diagrams wherever required.**

1. Give in detail the historical perspective of immunology.
2. What do you mean by adaptive immune response. How the immune response is executed by this system.
3. Discuss the following.
  - a) Adjuvant.
  - b) Haptenes.
  - c) Vaccine.
  - d) Mitogens
  - e) Superantigen
4. Discuss the prerequisites for immunogenicity. How the different molecules enhance this process.
5. What are gamma globulins. Draw its structure and discuss the bi functional properties of antibodies.
6. (A) Write a note on following:
  - a) Antigen-antibody interactions
  - b) Isotypes and allotypes

(B) Differentiate between CD-4 and CD-8 cells
7. What are Lymphoid tissues. Discuss in detail the primary and secondary tissues and their role in immune system. Support your answer with suitable diagrammes.
8. What is complement. Discuss in detail the different complement pathways and how they work in coordination with each other.

\*\*\*\*\*

**14097(2720)100**