

**B.Sc. BIOTECHNOLOGY**  
**SEMESTER-V**  
**IMMUNOLOGY**  
**BBT-502**

**Duration: 3 Hrs.**

**Marks: 70**

PART : A (OBJECTIVE) = 20  
PART : B (DESCRIPTIVE) = 50

**[ PART-B : Descriptive ]**

**Duration: 2 Hrs. 40 Mins.**

**Marks: 50**

**[ Answer question no. One (1) & any four (4) from the rest ]**

1. Define hypersensitivity. What are the cells responsible for delayed type hypersensitivity? Explain type II hypersensitivity with examples. 2+1+7=10
2. Differentiate between innate and adaptive immunity. Write about the defensive barriers of innate immunity 4+6=10
3. Define hapten, cross reactivity, allergy and autoimmunity. Explain cross reactivity with the help of an example. Write about insulin dependant Diabetes Mellitus. 4+3+3=10
4. Explain the structure of antibody taking the example of IgG. Explain the structure of Class I MHC molecule. Write briefly about allergy with an example. 4+3+3=10
5. Explain the activation of classical pathway of complement activation. Explain the functions played by activated complement system. 5+5=10
6. Define precipitation and agglutination reaction. Explain agglutination reaction with an example. Write in brief about RIA, immunoelectrophoresis. 3+3+4=10
7. Explain the attributes of adaptive immunity. What is the mechanism of rejection of allograft after transplantation? 4+6=10
8. Define cancer, proto-oncogenes. What is the mechanism of cancer induction? What are the immunosuppressive therapies used during graft transplantation? 2+ 3+5=10