

[This question paper contains 3 printed pages.]

1455

Your Roll No. ....

**B.Sc. (Hons.) / III**

**A**

**MICROBIOLOGY – Paper XI**

**(Immunology)**

**(Admissions of 2004 & onwards)**

*Time : 3 Hours*

*Maximum Marks : 60*

*(Write your Roll No. on the top immediately  
on receipt of this question paper.)*

*Attempt any Five questions.*

*All questions carry equal marks.*

1. (a) Write the characteristic features of the following diseases :-
  - (i) Chediak-Higashi Syndrome
  - (ii) Congenital neutropenia
  - (iii) Rheumatoid arthritis
  - (iv) Hashimoto's thyroiditis (1×4=4)
- (b) How does cytosolic pathway of antigen processing occur ? (3)
- (c) Compare an isograft and allograft. (2)

P.T.O.

- (d) Explain the structure of TCR-CD3 complex. (3)
2. Differentiate between the following (any four):-
- (i) First and second set of graft rejection
  - (ii) T-cell and B-cell activation
  - (iii) Class I MHC and Class II MHC
  - (iv) Papain and Pepsin digestion of Antibodies
  - (v) Primary and Secondary Immune response
- (3×4=12)
3. Write short notes on any three :-
- (i) Inflammation
  - (ii) Dendritic cell
  - (iii) Allelic exclusion
  - (iv) Immunoglobulin superfamily
  - (v) ELISPOT
- (4×3=12)
4. (a) Write the functions of the following :-
- (i) B7 molecule
  - (ii) RSS
  - (iii) M cells
  - (iv) C5a
- (1×4=4)

- (b) Comment on the use of TIL and LAK cells as therapeutic agents for Cancer. (2)
- (c) Describe the mechanism of destruction of target cells by CTLs. (4)
- (d) Describe the mode of action of adjuvants. (2)
5. (a) Elaborate the following :-
- (i) GVHD
  - (ii) SCID
  - (iii) ARAM
  - (iv) CDRS (1×4=4)
- (b) Explain the alternate pathway of complement activation. (4)
- (c) Draw a well labelled diagram of internal structure of Lymph Nodes. (4)
6. (a) Explain type I hypersensitivity. (4)
- (b) Write the principle of
- (i) MLR
  - (ii) FACS (2×2=4)
- (c) What is self-MHC restriction? (2)
- (d) What are T dependent and T independent Antigens? (2)

