

Seat No. : _____

AE-113

April-2015

B.Sc., Sem.-VI

**BIC-309 : Biochemistry
(Immunology & Bacterial Genetics)**

Time : 3 Hours]

[Max. Marks : 70

1. (a) Discuss about various cells and organs of immune system. **7**
(b) What is a toxin ? Explain mechanism of action of : **7**
1. Diphtheria toxin
2. Cholera toxin
3. Tetanus toxin

OR

- (a) Discuss : Microbial metabolites as a virulence factor. **7**
(b) State differences between endotoxin and exotoxin. **7**
2. (a) What is interferon ? Explain its mode of action. **6**
(b) Explain : Phagocytosis in detail. **8**

OR

- (a) Explain : Inflammatory response as a host defense mechanism. **6**
(b) What are complements ? Discuss the classical pathway of complement activation. **8**
3. (a) Explain precipitin curve. **6**
(b) Write a note on type II hypersensitive reactions. **8**

OR

- (a) What are monoclonal antibodies ? Explain the technique used for the production of monoclonal antibodies. **7**
(b) Discuss : **7**
(1) Heamagglutination inhibition reaction
(2) ELISA

4. (a) Explain conjugation between Hfr X F⁻. 6
(b) What is transformation ? Explain with example. 8

OR

- (a) Define transduction. Discuss specialized transduction. 8
(b) Explain the technique used in the mapping of E.coli chromosome. 6

5. Answer the followings :

- (1) Define : (a) LD₅₀. (b) Primary pathogen. 2
(2) Name the portals for the entry of micro organisms. 2
(3) Define : (a) Antigen (b) Antibody 2
(4) State the full form of : (a) SIRD (b) RIA 2 2
(5) What is a primary immune response ? 1
(6) Why secondary immune response is faster ? 1
(7) What is affinity and avidity ? 2
(8) Define adjuvant with example. 2
-