

Seat No. : _____

SK-123

September-2020

B.Sc., Sem.-VI

**CC-309 : Biochemistry
(Immunology)
(New Course)**

Time : 2 Hours]

[Max. Marks : 50

- Instructions :**
- All questions in Section-I carry equal marks.
 - Attempt any **three** questions in Section-I.
 - Question-9 in Section-II is compulsory.

SECTION - I

- Write a note on : Cells and organs of immune system. 14
- Discuss microbial enzymes as invasiveness factor. 7
 - State differences between Exotoxin and Endotoxin. 7
- Define complements and discuss the classical and MBL pathway of their activation. 14
- Explain : Structure and functions of immunoglobulin. 7
 - What is a precipitin curve ? Discuss. 7
- What is ELISA ? List various types of ELISA and explain any two in detail. 14
- Discuss steps involved in production of monoclonal antibodies. 7
 - Explain : Compliment fixation test (CFT) 7
- Write a detail note on Type I hypersensitivity reaction. 14
- Define vaccine and discuss different types of vaccine. 7
 - List various types of Graft rejection and the mechanism of rejection. 7

9. Attempt any **eight** :

- (1) Define LD_{50}
 - (2) What is the chemical nature of endotoxin ?
 - (3) List portals of entry for microbes.
 - (4) Define : primary pathogen.
 - (5) State a function of Lysozyme.
 - (6) What are heptanes ? Give an example.
 - (7) What is avidity and affinity ?
 - (8) What is the role of an adjuvant ?
 - (9) Define : Antibody titre.
 - (10) State the full form of RIA.
 - (11) Which radioactive compound is used in RIA ?
 - (12) Who discovered Hybridoma technique ?
 - (13) Define : Hypersensitivity.
 - (14) Give an example of Type II hypersensitive reaction.
 - (15) What is Transplantation ?
 - (16) What is a passive immunization ?
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 - (ii) Attempt any **three** questions in Section-I.
 - (iii) Question-9 in Section-II is compulsory.

SECTION - I

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|----|---|----|
| 1. | Write a note on : Cells and organs of immune system. | 14 |
| 2. | (a) Discuss microbial enzymes as invasiveness factor. | 7 |
| | (b) State differences between Exotoxin and Endotoxin. | 7 |
| 3. | Define complements and discuss the classical and MBL pathway of their activation. | 14 |
| 4. | (a) Explain : Structure and functions of immunoglobulin. | 7 |
| | (b) What is a precipitin curve ? Discuss. | 7 |
| 5. | Write a detail note on Type I hypersensitivity reaction. | 14 |
| 6. | (a) Discuss steps involved in production of monoclonal antibodies. | 7 |
| | (b) Explain : Complement fixation test (CFT). | 7 |
| 7. | Describe process of conjugation in detail. | 14 |
| 8. | (a) Discuss generalized Transduction. | 7 |
| | (b) Write a note on E.Coli chromosome mapping by interrupted conjugation. | 7 |

9. Attempt any **eight** :

- (1) Define LD_{50}
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 - (10) State the full form of RIA.
 - (11) Which radioactive compound is used in RIA ?
 - (12) Who discovered Hybridoma technique ?
 - (13) Define : Hypersensitivity
 - (14) Give an example of Type II hypersensitive reaction.
 - (15) Define transformation.
 - (16) Name two commonly used markers in specialized transduction.
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