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(20524)

Roll No.

(Printed Pages 3)

B.Sc. (Biotech)-II Year

**NS-3468**

**B.Sc. (Biotechnology)**

**Examination, May-2024**

**IMMUNOLOGY AND  
IMMUNOTECHNOLOGY**

**(B-205)**

**B.Sc. (Bio-Tech.)**

*Time : 3:00 Hours ]*

*[Maximum Marks : 50*

**Note :** Attempt any **five** questions. **All** questions carry equal marks.

1. What are immunoglobulins? Describe different types of immunoglobulins. 10
2. Discuss the principle, method and applications of ELISA. 10

**P.T.O.**

3. What is antibody diversity? Discuss the genetic and molecular mechanisms responsible for generation of antibody diversity. 10
4. Write short notes on any two:  $5 \times 2 = 10$ 
  - (a) Recombinant vaccines
  - (b) Primary and secondary immune response.
  - (c) Attenuated Vaccines
  - (d) MHC restriction
5. With the help of suitable diagrams differentiate between MHC class I, MHC class II & MHC class III complexes. 10
6. Discuss in detail the mechanism of clonal Selection of B cells. 10

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7. Discuss the symptoms & pathophysiology of Rheumatoid arthritis. Discuss the mechanism of development of the autoimmune disorders. 10
8. Give an detailed methodology for carrying out western blotting. Discuss some research problems where western blotting can be utilized in experimental procedures. 10