



**R-3811-12**

**M. Sc. Int. Biotechnology (Sem. IV) Examination**

**May / June - 2010**

**IBT - 404 : Immunology - I**

*(New Syllabus)*

Time : 3 Hours]

[Total Marks : 70

**R-3811**

**Instructions :**

(1)

नीचे दृशावेक निशानीवाणी विगतो उत्तरवही पर अवश्य कभवी.  
Fillup strictly the details of signs on your answer book.

Name of the Examination :  
M. SC. INT. BIOTECHNOLOGY (SEM. 4)

Name of the Subject :  
IBT - 404 : IMMUNOLOGY - 1 (NEW)

Subject Code No. : 3 8 1 1 Section No. (1, 2,.....): 1

Seat No. :

Student's Signature

- (2) Figures to the right indicate full marks of the question.  
(3) Draw neat and labelled diagrams whenever necessary.  
(4) Both sections must be written in **separate** answer books.

- 1 Define following terms : 6  
(a) Adaptive Immunity  
(b) Inflammation  
(c) Hapten  
(d) Hinge region  
(e) Epitopes  
(f) HGPRT.

- 2 (a) Explain in detail about various types of immunity. 7  
(b) Discuss in detail about physiological barriers of defense mechanisms. 7

**OR**

- 2 Describe in detail various antibody classes with its structure and biological functions. 14

- 3 Write notes : (any three) 15  
(a) Monoclonal antibodies  
(b) Factor influencing immunogenicity  
(c) Clonal Selection theory  
(d) Generation of antibody diversity.

## R-3812

### Instructions :

(1)

नीचे दर्शाविए ← निशानीवाणी विगतो उत्तरवडी पर अवश्य कभवी. Fillup strictly the details of ← signs on your answer book.	Seat No. :
Name of the Examination :	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
← M. SC. INT. BIOTECHNOLOGY (SEM. 4)	<div style="border: 1px solid black; border-radius: 15px; padding: 10px; text-align: center;">Student's Signature</div>
Name of the Subject :	
← IBT - 404 : IMMUNOLOGY - 1 (NEW)	
← Subject Code No. : <input type="text" value="3"/> <input type="text" value="8"/> <input type="text" value="1"/> <input type="text" value="2"/> ← Section No. (1, 2,.....) : <input type="text" value="2"/>	

- (2) Figures to the right indicate full marks of the question.  
(3) Draw neat and labelled diagrams whenever necessary.  
(4) Both sections must be written in **separate** answer books.

- 4 Define following terms : 6
- (a) Antigen Presenting Cell
  - (b) Western Blot
  - (c) Haematopoiesis
  - (d) Immunofluorescence
  - (e) Avidity
  - (f) Apoptosis.

- 5 (a) Explain in detail *In vivo* antigen-antibody reactions. 7  
(b) Explain precipitation reactions. 7

OR

- 5 (a) Discuss in detail about primary immunodeficiency disorders. 7  
(b) Describe in detail the cells of the immune system. 7

- 6 Write notes : (any **three**) 15
- (a) Bone marrow
  - (b) Hypersensitivity
  - (c) ELISA
  - (d) RIA.