

D-6639 (A)

M.Sc. (IIIrd Semester) Examination, 2020

BOTANY

(Immunology)

Time Allowed : Three Hours

Maximum Marks : 70

SECTION - A

Note : Attempt any ten questions. Each question carries one mark. **1×10=10**

Q. 1. Objective Type Questions :

Fill in the blanks :

- (i) Cytokines which are released in response to virus infection is _____.
- (ii) B-Cells originate in _____.
- (iii) The first line of defense against external pathogenic attack is _____.

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- (iv) Antibody secreting B-cells are called _____.
- (v) Immunity acquired after an infection is _____.
- (vi) Chemically all antibodies are _____.
- (vii) Which immunoglobulin can pass through placenta ?
 - (a) IgD
 - (b) IgE
 - (c) IgM
 - (d) IgG
- (viii) The predominant hypersensitivity reaction involving IgE is :
 - (a) Type - I
 - (b) Type - II

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- (c) Type - III
- (d) Type - IV
- (ix) AIDS is caused by :
- (a) RNA virus
- (b) DNA virus
- (c) Herpes virus
- (d) Hepatitis virus
- (x) Which of the following statement regarding antibody is correct ?
- (a) Consists of two different heavy and two identical light polypeptide chains
- (b) Consists of two different heavy and two different light polypeptide chains

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- (c) Consists of two identical heavy and two identical light polypeptide chains
- (d) None of the above
- (xi) Hydrolytic enzyme found in mucous secretions and in tears is :
- (a) Lysozyme
- (b) Collectins
- (c) Bradikinin
- (d) Interferon
- (xii) A large protein antigen generally can combine with many different antibody molecule (State whether true or false).

SECTION - B

Note : Attempt any five questions. Each question carries 2 marks. **5×2=10**

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Q. 2. Very Short Answer Type (25-30 words) :

- (i) Define antigen.
- (ii) Define vaccine.
- (iii) What is meant by autograft ?
- (iv) What are monoclonal antibodies ?
- (v) Name any four innate barrier of the body.
- (vi) What are superantigens ?
- (vii) What is meant by autoimmunity ?

SECTION - C

Note : Attempt any five questions. Each question carries 4 marks. **5×4=20**

Q. 3. Short Answer Type (250 words) :

- (i) Draw a well labelled diagram of antibody.
- (ii) Differentiate between innate and adaptive immunity.

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- (iii) Describe antigen processing and presentation.
- (iv) What are functions of natural killer cells ?
- (v) Describe the activation of T-Lymphocytes.
- (vi) Describe allergen mediated hypersensitivity.
- (vii) Describe thymic selection.

SECTION - D

Note : Attempt any three questions. Each question carries 10 marks. **3×10=30**

Q. 4. Essay Type (more than 500 words) :

- (i) Discuss classical and alternative pathway of complement activation in detail.
- (ii) Describe various classes of immunoglobulins.

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(iii) Explain the molecular mechanism for generation of antibody diversity.

(iv) Explain HIV and AIDS along with available treatment options.

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