

Duration: 3 Hours

Maximum Marks: 100

Instructions to the candidates:- Please check that you have got the correct question paper.

1. All the questions are compulsory. Choice is internal.
2. Figures to the right indicate full marks. All questions carry equal marks.
3. From question Nos. 5, attempt any ONE question of a & b, c & d, e & f, g & h.
4. Draw flowcharts /diagrams wherever necessary.

Q1 A) Fill in the blanks

4

i)



_____ type of association is depicted between the antigen and the antibody

- ii) Agglutination reactions are _____ as compared to precipitation reactions
- iii) Complement components are _____ to heat
- iv) Coombs test is used to detect _____.

Q1 B) Write a note on ANY ONE

4

- i) Blood typing
- ii) Effects of complement activation

Q1 C) Answer ANY TWO

12

- i) Compare and contrast : Agglutination and Precipitation
- ii) Justify: ELISA has diverse application
- iii) Explain the formation of membrane attack complex through antigen-antibody interaction

Q2 A) Fill in the blanks

4

- i) MHC Class ____ is present on phagocytes
- ii) _____ is a type of APC
- iii) A graft between different species is termed _____ graft
- iv) _____ is a systemic autoimmune disease.

Q2 B) Write a note on ANY ONE

4

- i) Self-restriction of T cells
- ii) Types of grafts

Q2 C) Answer ANY TWO **12**

- i) Compare and contrast : MHC Class –I and MHC Class -II
- ii) Describe the autoimmune disorder and explain the immunological basis of the same
 - a) Multiple Sclerosis
 - b) Myasthenia gravis
- iii) Describe the sensitisation stage of graft rejection

Q3 A) Fill in the blanks: **4**

- i) A positive strand RNA genome can function as the _____
- ii) Ebola virus has a _____ genome
- iii) _____ enzyme is present in HIV
- iv) Small pox vaccine was made using _____ virus.

Q3 B) Create a note on the structure of ANY ONE virus **4**

- i) Polio Virus
- ii) HIV

Q3 C) Attempt any TWO **12**

- i) Elaborate on the causes leading to AIDS. Add a note on the symptoms associated with the disease
- ii) What are the advantages that a virus having a segmented genome has over the other viruses? Diagrammatically represent the structure of such a virus.
- iii) Suggest to Hetal the various management modalities developed for AIDS.

Q4 A) Fill in the blanks **4**

- i) Cells stop dividing after a undergoing a fixed number of divisions. This is known as _____.
- ii) Insulin is secreted by the _____.
- iii) _____ is a disorder of defective growth hormone.
- iv) Thyroxine is also known as _____.

Q4 B) State true or false giving valid scientific reasoning for ANY ONE **4**

- i) Diabetes insipidus is not associated with insulin secretion
- ii) Activity of telomerase is not affected in ageing

Q4 C) Attempt any TWO **12**

- i) Describe disorders associated with hypersecretion of the following hormones- (i) Thyroid (ii) Cortisol
- ii) Discuss the molecular changes associated with ageing
- iii) Compare and contrast : Alzheimer's and Parkinson's diseases

Q5 A) Define and explain:

8

a) RIA

OR

b) Complement system

c) Autoimmunity

OR

d) Polymorphism

e) Reverse transcriptase

OR

f) Virion

g) Tau protein

OR

h) Lipofuscin

Q5 B) State True or False with justification

12

i) More the titre, higher is the infection

ii) C1 is not involved in classical pathway of complement activation

iii) Peptide binding cleft in MHC class II is made of only alpha chain

iv) LDH is found to decrease with age

v) Chicken pox is caused by vaccinia virus

vi) HIV positive and AIDS are synonymous terms
