

Duration **03 Hours**

Total marks assigned to the paper **100 M**

Marks assigned to each question should be stated against each question.

**Instructions to the candidates, if any:-**

**N.B.**

1. All questions are compulsory.
2. Internal choices have been given.
3. Figures to the right indicate marks.

Q.1. A. Fill in the blanks (**any three**) –

**03M**

- 1) Blood grouping is an example of \_\_\_\_\_ reaction.  
a) Flocculation    b) Precipitation    c) Agglutination
- 2) The split products of C2 are \_\_\_\_\_.  
a) C2a, C2b    b) C2b, C2c    c) C2x, C2y
- 3) Antibodies that aggregate soluble antigens are \_\_\_\_\_.  
a) Globulins    b) Agglutinins    c) Precipitins
- 4) Proteins of the complement system are mainly synthesized by \_\_\_\_\_.  
a) Muscle    b) Kidney    c) Liver
- 5) VDRL is an example of \_\_\_\_\_ reaction.  
a) Precipitation    b) Agglutination    c) Flocculation
- 6) \_\_\_\_\_ is an example of fluorescent dye.  
a) Rhodamine    b) Congo red    c) Eosin

B. Define and explain (**any one**) –

**03M**

- 1) Anaphylaxis
- 2) Radio Immunoassay

C. Write short notes on (**any one**) –

**06M**

- 1) Schematic representation of Classical pathway
- 2) Types immunoprecipitation reactions

D. Discuss the following (**any one**) –

**08M**

- 1) Alternate pathway of complement activation and MAC formation
- 2) Principle of ELISA and immunofluorescence

Q.2. A. Fill in the blanks (**any three**) –

**03M**

- 1) Tissues that are genetically similar are said to be \_\_\_\_\_.  
a) Histocompatible    b) Immunopotent  
c) Histo incompatible
- 2) HLA Complex is also referred to as \_\_\_\_\_ in humans.  
a) Ag-Ab    b) H-2    c) MHC

- 3) Class II MHC presents the processed Antigen to \_\_\_\_\_ cells.  
a) T<sub>c</sub>                                      b) T<sub>H</sub>                                      c) Macrophage
- 4) The degree of immune response to a graft varies with \_\_\_\_\_.  
a) Site of graft                      b) Type of graft                      c) Section of graft
- 5) An inappropriate response of the immune system against self component is termed as \_\_\_\_\_.  
a) Nonreactivity    b) Cross-reactivity    c) Autoimmunity
- 6) An example of systematic auto immune disease is \_\_\_\_\_.  
a) Graves disease                      b) Myasthenia Gravis  
c) Rheumatoid arthritis

B. Define and explain (**any one**) – **03M**  
1) Organ specific auto immune disease  
2) Isograft

C. Write a note on (**any one**) – **06M**  
1) Myasthenia gravis  
2) Structure of Class MHC-I

D. Attempt the following (**any one**) – **08M**  
1) Define MHC polymorphism and explain the organization of MHC class II genes  
2) Explain the two step mechanism of allograft rejection.

- Q.3. A. Fill in the blanks (**any three**) – **03M**
- 1) Education is a method of \_\_\_\_\_ of AIDS.  
a) Control    b) Collation                      c) Concentration
  - 2) \_\_\_\_\_ proteins shut down the normal cellular metabolism of host cell after infection.  
a) Sequential                      b) Non – regulatory                      c) Regulatory
  - 3) In extracellular stage, virus is called as \_\_\_\_\_.  
a) Viriod                      b) Virion                      c) Both 'a' and 'b'
  - 4) HIV is the standard acronym for Human \_\_\_\_\_ deficiency virus.  
a) Immune                      b) Intrinsic                      c) Integrated
  - 5) The enzyme reverse \_\_\_\_\_ is significant in AIDS  
a) Transferase                      b) Transcriptase                      c) Translocase
  - 6) The protein subunits present in the viral capsid are called as \_\_\_\_\_.  
a) Capsomeres                      b) Sarcomeres                      c) Papliomeres



- B. Define and explain (**any one**) – **03M**
- 1) Vaccinia virus
  - 2) Persistent Generalised Lymphadenopathy

- C. Write short notes on (**any one**) – **06M**
- 1) Replication of a virus
  - 2) Genetic profile of AIDS virus

- D. Elaborate on (**any one**) – **08M**
- 1) Pathogenesis of AIDS
  - 2) Mechanism of replication in Influenza virus

- Q.4. A. Fill in the blanks (**any three**) – **03M**

- 1) Alzheimer's disease is a common form of \_\_\_\_\_.  
a) dementia                      b) ageing                      c) both a & b
- 2) In diabetes mellitus \_\_\_\_\_ is a general symptom.  
a) Hypoglycemia      b) Hyperglycemia      c) Both 'a' and 'b'
- 3) During ageing, a subject is generally \_\_\_\_\_ susceptible to disease.  
a) Less                      b) More                      c) Neither 'a' and 'b'
- 4) Ageing is characterised by changes in \_\_\_\_\_ functions.  
a) hormonal                      b) hearing                      c) both a & b
- 5) Alzheimer's disease is accumulation of \_\_\_\_\_ plaques between nerve cells  
a) amyloid                      b) amyelin                      c) both a & b
- 6) ADH stands for Anti \_\_\_\_\_ Hormone  
a) Diuretic                      b) Diabetic                      c) Dietetic

- B. Explain the following (**any one**) – **03M**
- 1) Endocrine disorder
  - 2) Ageing

- C. Write short notes on (**any one**) – **06M**
- 1) Molecular changes during ageing
  - 2) Types of diabetes insipidus

- D. Discuss in detail the following (**any one**) – **08M**
- 1) Theoretical concepts of ageing
  - 2) The significance of following in diabetes mellitus:  
i) Insulin      ii) Glucose tolerance test

- Q.5. A. Elaborate on **any one** of the following – **04M**
- 1) Affinity
  - 2) Important functions of complement system
- B. Discuss in detail (**any one**) – **04M**
- 1) Autograft
  - 2) MHC gene haplotype
- C. Write a note on **any one** of the following – **04M**
- 1) Polio virus
  - 2) Symptoms of AIDS
- D. Elaborate on **any one** of the following – **04M**
- 1) Types of Diabetes mellitus
  - 2) Causes of Alzheimer's disease
- E. Write True or False (**any four**) – **04M**
- 1) The activation of classical pathway requires Ag-Ab complex.
  - 2) Xenograft exhibits the least genetic disparity.
  - 3) Neuraminidase receptors vaccinia virus has the complementary structure only on epithelial cells of respiratory tract.
  - 4) Complement components are synthesized in zymogen state.
  - 5) Neurofibrillary tangles is very significant in Alzheimer's disease.
  - 6) Avidity of an antibody is a better measure of its binding capacity.