

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) Tc
 - b) T_H
 - 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) Papiomeres

- 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.