

Duration : 2 ½ Hrs

Max marks : 60

- Note : 1 Attempt all the questions.
2 All the questions carry equal marks.

- Q 1** Answer the following : **Any two** **12**
(a) Explain role of M2 inhibitors and N inhibitors in anti-influenza treatment.
(b) Diagrammatically explain life cycle of rabies virus.
(c) Write short note on small pox vaccine and eradication of small pox.
(d) Diagrammatically explain two step envelop process during lifecycle of HHV.
- Q 2** Answer the following : **Any two** **12**
(a) Describe Five classes of HIV inhibitors.
(b) List the type of Human Hepatitis Viruses and explain clinical features of any two of them.
(c) Justify: Viral factors contribute in emergence and reemergence of viral diseases.
(d) Write a note on : CWD
- Q 3** Answer the following : **Any two** **12**
(a) Using suitable diagrams compare meiotic and mitotic cell cycles.
(b) Discuss the caspase mediated proteolytic cascade of apoptosis.
(c) Discuss the functions of Gap junctions
(d) Justify: Egg-polarity genes are responsible for organization of the egg in *Drosophila melanogaster*.
- Q 4** Answer the following : **Any two** **12**
(a) Justify: Except identical twins, no two off-spring of the same parents are genetically the same.
(b) Give a brief account of classes of cell surface receptor proteins.
(c) Elaborate on the operation of three component MAP-Kinase signaling module.
(d) Explain in brief: 1) The role of light in regulation of plant development.
2) The triple response.
- Q 5** **Do as directed :** **12**
(a) **Define/ Explain the term : (Any FOUR)** **04**
i Orphan virus
ii B particle
iii Viroids
iv AIDS dementia complex
v Integrins
vi Mitogens
vii Spermatogenesis
viii Signaling Cascade

Turn Over -----

Q 5 (b) Give the significance of: (Any TWO)

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- i L protein from rabies genomic RNA
- ii Reverse transcriptase
- iii Microtubules of the mitotic spindle
- iv PI-3 Kinase activity

Q 5 (c) Give two examples of: (Any FOUR)

04

- i Reassment vessels for influenza virus
- ii Co-receptors for HHV
- iii Human hepatitis virus which have fecal –oral mode of transmission
- iv Enzymes whose levels are tested in lab diagnosis of Viral hepatitis
- v Extra cellular signal molecules that regulate cell size and number
- vi Essential processes by which the embryo is constructed
- vii Water soluble second messenger
- viii Factors affecting the specific effects of plant growth regulators.
