2 ½ Hours **Total Marks: 75**

1. **All** questions are **compulsory.**
2. **All questions** carry **equal** marks.
3. Draw **neat, labelled diagrams** wherever necessary.

Q.1 A) Name the following:(any three) **03**

1 Type of Intermediate filament.
2 Drug affecting Microtubule.
3 MTOCs.
4 The movement of cargo from cell body to synapse.
5 Tubulin subunits arranged along the parallel axis of Microtubule.
6 When the relative position of individual subunits within each filament is continually moving.

B) Answer in brief: (any two) **12**

1. Explain the types of Microtubules involved in Mitosis.
2. Explain Dynamic Instability and the role of GTP cap.
3. Expain the structure and composition of Microfilaments.
4. Explain the types of Actin binding proteins.

Q. 2A) Explain the following terms: (any three) **03**

1 Isotonic.
2 Antiport.
3 Pumps.
4 ECM.
5 Channels.
6 Gap junctions.

B) Give an account of: (any two) **12**

1. Role of Lipids in membrane fluidity.
2. Principles of membrane transport.
3. Role of cell coat in cell recognition.
4. Fluid mosaic model.

Q. 3A) Do as directed: (any three) **03**

1 Name one suppurative infection caused by *S.aureus.*
2 Explain the term A/E histopathology.
3 Fill in the blank- Anti-HIV therapy is currently given as a cocktail of several antiviral drugs termed _____.
4 Name the definitive host of malarial parasite.
5 Write True or False: *Salmonella* produce colourless colonies on Mac Conkey's agar due to their inability to ferment lactose.
6 Define Traveler's diarrhoea.

B) Attempt the following: (any two) **12**

1. Give a detailed account on the different toxins that contribute to the virulence of *S.aureus.*
2. Elaborate on the lifecycle *of Plasmodium species.*
3. How would you diagnose a case of HIV?
4. Explain the pathogenesis of *Salmonella typhi.*

Q. 4 A) Explain the following terms: (any three) **03**

1 Plus stranded DNA.
2 Prophage.
3 Icosahedral symmetry.
4 Lysogenic conversion.
5 Capsomers.
6 Neoplasia.

Q.4 B) Give an account of the following: (any two) **12**

1. Different methods to enumerate viruses.
2. Reproduction of plant viruses.
3. General structure of a virus.
4. Life cycle of T_4 phage.

Q. 5 Write short notes on the following: (any three) **15**

1 Microvilli.
2 Assembly of Intermediate Filaments.
3 Immunoprophylaxis of TB.
4 Cutaneous mycoses.
5 Classification of virus.
6 Viroids.

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