

B. Explain the following terms in brief: (Any Two)

- i. Methylene blue. iii. Functions of stains.
- ii. Shift up and Shift down experiments. iv. Starvation proteins

C. Answer the following questions in short: (Any One)

- i. Flagella of DNA ii. Dimensions of microscope prepared by Leewenhoek.

Q IV] 1.(A) Define: (Any One)

- i. Metaphase I
- ii. Microtubules.

1. (B) Name the following: (any Three)

- i. Protein present in nucleopore is known as (porin/protein/tubulin)
- ii. Other name of meiosis II cell division is (equational/reductional/terminal)
- iii. Microtubules bind at the of centromere in chromosome. (primary constriction/secondary constriction/parallel constriction)
- iv. Microtubules are made up of protein. (porine/tubulin/microporin)
- v. cell always remain in G₀ phase. (nerve cell/blood cell/sieve plate)
- vi. During mitosis chromatids of a chromosome move to the opposite pole. (sister/nonsister/homologous.)

2.(A) Answer the following: (Any One)

- i. Why animals cannot digest cellulose?
- ii. What is specifically reabsorbed and secreted by distal tubule?

2.(B) Answer the following: (Any Three)

- i. Trypsin acts on the peptide linkage adjacent to (Lys & Arg/Lys & Trp/Trp & Arg)
- ii. Secretin stimulates pancreatic cell to produce in order to neutralize HCL. (CCK/H₂CO₃/zymogen)
- iii. CCK is produced in the upper part of the (gall bladder/pancreas/serosa cell)
- iv. Juxtaglomerular nephrons are present in part of kidney. (cortex/medulla/pelvis)
- v. The activity of pancreatic lipase is inhibited by (bile/colipase/HCl)
- vi. HCL is secreted by cell of gastric gland of stomach. (serosa cell/mucosa cell/beta langerhans cell)

3.(A.) Define: (Any One)

- i. Unbalanced growth. ii. Generation time.

3.(B) Answer the following: (Any Three)

- i. Enlist 1 type of gels employed in microbial growth.
- ii. Enlist one method employed to study microorganisms.
- iii. Which kind of microscope is used in the laboratory for studying simple cellular structures.
- iv. Name one scientist who studied microorganisms in the 16th century.
- v. Give one example of medium employed for the microbial culture.
- vi. Give examples of microorganisms which are rod shaped.

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