

N.B:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Draw neat and labeled diagram **WHEREVER** necessary.

Q.1 A) Attempt all of the following (MCQ) (06)

- a) DNA is also present in-----
 - i) Vacuole
 - ii) Golgi complex
 - iii) Mitochondria & chloroplast
 - iv) Lysosomes
- b) The source of O₂ in photosynthesis is ----
 - i) Co₂
 - ii) C₆H₁₂O₆
 - iii) H₂O
 - iv) Co₂ & H₂O
- c) Meiosis mean is -----
 - i) Equal division
 - ii) Triple fusion
 - iii) Reductional division
 - iv) None of these
- d) Mitochondira is the site of -----
 - i) Co₂ uptake in photosynthesis
 - ii) O₂ uptake during respiration
 - iii) The cell division
 - iv) The release of energy during respiration
- e) How many ATP molecules are required for the activation of glucose during respiratory process,
 - i) 08
 - ii) 02
 - iii) 04
 - iv) No ATP required
- f) Plastids are present in -----
 - i) Animal cells
 - ii) Plant cells
 - iii) Fungi and animal cells
 - iv) Bacterium

B) Attempt the following: (one sentence / statement / definition) (06)

- a) Give significance of meiosis.
- b) Define nucleolus.
- c) Give function of the chloroplast.
- d) Who describe the first mitochondria.
- e) Give types of chromosomes in plant.
- f) What is apoptosis?

Q.2 Attempt ANY THREE of the following: (12)

- a) Describe ultra structure of nucleus and give its function.
- b) What is cell division? Describe any two stages in meiotic cell division
- c) Give structure and functions of ribosome
- d) Give the functions of cell wall

Q.3 Attempt ANY FOUR of the following: (12)

- a) Comment on "Lysosome are suicidal bag."
- b) Explain different type endoplasmic reticulum.
- c) Describe origin and structure of the golgi complex.
- d) Give historical account of cell and cell theory .
- e) Describe prophase I in meiosis.

Q.4 Attempt ANY TWO of the following: (12)

- a) Explain role of ion channels in cellular transport.
- b) Explain metaphase and anaphase in mitotic cell division.
- c) Describe ultra structure of chloroplast.

Q.5 Attempt ANY TWO of the following: (12)

- a) Comment of glyoxysomes and perioxysomes.
- b) Explain plasma membrane model proposed by Daniel and Dawson.
- c) Give the role of spindle fiber in cell division .