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Total Pages : 3

Roll No.

MBOT-601

Cell Biology and Genetics

M.Sc. Botany (MSCBOT)

3rd Semester Examination, 2023 (June)

Time : 2 Hours]

[Max. Marks : 35

Note : This paper is of Thirty Five (35) marks divided into two (02) Sections A and B. Attempt the questions contained in these sections according to the detailed instructions given therein. Candidates should limit their answer to the questions on the given answer sheet. No additional (B) answer sheet will be issued.

SECTION–A

(Long Answer Type Questions)

Note : Section 'A' contains Five (05) long answer type questions of Nine and Half (9½) marks each. Learners are required to answer any Two (02) questions only.

(2×9½=19)

- 1.** Draw a well labelled diagram of typical light microscope. Also discuss its main parts, working mechanism and uses in detail.

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2. Discuss the ultrastructure and functions of mitochondria.
3. What do you understand by DNA folding? Explain the various models of DNA folding.
4. Describe the process of DNA replication in detail.
5. What are chromosomal aberrations? Discuss its types in detail.

SECTION-B

(Short Answer Type Questions)

Note : Section 'B' contains Eight (08) short answer type questions of Four (04) marks each. Learners are required to answer any Four (04) questions only. (4×4=16)

1. What do you understand by magnification and resolution of microscope?
2. Which cell organelle is called the "kitchen of the cell"? Discuss its biogenesis in plants.
3. What do you understand by heterochromatin?
4. Supernumerary chromosomes.

5. What do you understand by dihybrid cross?
 6. Describe various causes of gene mutation.
 7. Briefly explain the apoptosis.
 8. Describe the process of conjugation in bacteria.
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