

2025

M.Sc. 3rd Semester Examination
BOTANY

**(Cytogenetics, Molecular Biology and
Biotechnology)**

Paper : BOT - 309C

(Cytogenetics)

(Practical)

(New Syllabus)

Full Marks : 25

Time : Three Hours

The figures in the margin indicate full marks.

Group - A

Perform the *tick marked* problem of the following : 12

1. Work out the **Sample A**, displaying cells at any two stages of reductional division and any other two stages of equational division of meiosis. Draw and describe all the shown stage. 3×4
2. Make a squash preparation of **Sample B**. Display a mitotic metaphase plate ideal for karyotyping. Carry out the karyotypic analysis commenting on the symmetric/asymmetric nature of it. 4+8

P.T.O.

(2)

3. Work out the **Sample C** to find out four different types of mitotic abnormalities. Draw, describe the divisional phases highlighting the nature of their respective abnormalities. 3×4

Group - B

Perform the *tick marked* item of the following : 8

4. Perform the pollen tube germination test with the **Sample D** under the treatment of different concentrations of the supplied solution of known concentration. Compare the performance under different concentrations with respect to the speed and frequency of germination.
5. Conduct the viability test of the pollen grains of the **Sample E**.
6. Laboratory note book 2
7. Viva-voce 3
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