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PG CBCS

M.Sc. Semester-IV Examination, 2022

BOTANY

PAPER: BOT 403B (SPL PAPER)

(MOLECULAR BIOLOGY & BIOTECHNOLOGYSYSTEMATICS)

Full Marks: 40

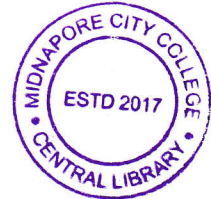
Time: 3 Hours

The figures in the right-hand margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable.

GROUP-A1. Answer any four questions of the following:

2×4=8

- Define somatic hybridization and its utility?
- What is the significance of T_m value?
- What is ribozyme? Cite an example.
- Write the full form of RFLP and RAPD.
- Differentiate between probe and primer.
- Define somaclonal variation and its significance.
- What is microsatellite?
- Mention the mechanism of blue white selection for p^{UC18} .

GROUP-B2. Answer any four questions of the following:

4×4=16

- Write a short note on BT resistance through transgenesis.
- Schematically represent the protocol of protoplast culture and mention its application.
- Give a short note on gene gun method for DNA transformation.
- Give a short note on Pedigree selection.
- Write a brief note on mitochondrial genome.
- Define anticodon. Mention the structure of tRNA. 1+3
- Describe the 'Cointegrate' and 'binary' vectors of plants transplantation. 2+2
- What are microsatellites. Mention its significance. 2+2

GROUP-C3. Answer any two questions of the following:

8×2=16

- Represent the structure of Ti plasmid and mention the mechanism of T DNA transfer. 4+4
- Define suspension culture and its significance. Schematically represent the protocol of batch culture. 4+4
- Mention the function of S_n RNA and micro-RNA. 4+4
- Write a short note on (any two): 4+4
 - Base excision repair;
 - Molecular farming
