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Total Pages : 3

Roll No.

MSCBOT-604

Molecular Biology and Biotechnology

M.Sc. Botany (MSCBOT)-21

3rd Semester Examination, 2022 (Dec.)

Time : 2 Hours]

Max. Marks : 70

Note : This paper is of Seventy (70) marks divided into two (02) Sections A and B. Attempt the questions contained in these sections according to the detailed instructions given therein.

SECTION–A

(Long Answer Type Questions)

Note : Section 'A' contains Five (05) long answer type questions of Nineteen (19) marks each. Learners are required to answer any Two (02) questions only.

(2×19=38)

1. What do you understand by Intellectual property rights? Elaborate about patent and copyright?

2. With suitable examples describe about application of plant tissue culture?
3. Describe about regulation of gene expression in prokaryotes?
4. With well labelled diagram explain chemical structure and types of DNA?
5. Write short notes on
 - (a) Mitochondrial DNA
 - (b) RNA synthesis

SECTION-B

(Short Answer Type Questions)

Note : Section 'B' contains Eight (08) short answer type questions of Eight (08) marks each. Learners are required to answer any Four (04) questions only. (4×8=32)

1. Explain about the concept of somatic hybridization?
2. How does direct and indirect methods of gene transfer differ?
3. Enlist different applications of biotechnology?
4. Mention experimental study conducted to demonstrate DNA as genetic material?

5. Define the terms– Totipotency, cryopreservation, biotechnology, secondary metabolite.
 6. Differentiate between DNA and RNA?
 7. Outline the mechanism of androgenesis?
 8. Write a short note on scope of Biotechnology.
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