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(Pages : 2)

Name.....

Reg. No.....

THIRD SEMESTER M.Sc. DEGREE (REGULAR/SUPPLEMENTARY) EXAMINATION, NOVEMBER 2021

(CBCSS)

Botany

BOT 3C 09—BIOTECHNOLOGY AND BIOINFORMATICS

(2019 Admission onwards)

Time : Three Hours

Maximum : 30 Weightage

General Instructions

1. *In cases where choices are provided, students can attend* **all** *questions in each section.*
2. *The minimum number of questions to be attended from the Section / Part shall remain the same.*
3. *The instruction if any, to attend a minimum number of questions from each sub section / sub part / sub division may be ignored.*
4. *There will be an overall ceiling for each Section / Part that is equivalent to the maximum weightage of the Section / Part.*

Part A

I. Write short notes on any *four* questions (Each answer not to exceed 5 sentences) :

1 What is bioreactor ? Name different types of bioreactors used in plant cell culture.

2 Define organogenesis. Add a note on direct and indirect organogenesis.

3 What is FISH ? Write applications of FISH.

4 Write principle of antisense RNA technology.

5 What is Open Archive Initiative ?

6 What is comparative genomics ?

7 What is BLAST and CLUSTAL-W ?

(4 × 2 = 8 weightage)

II. Answer any *four* of the following (Each answer not exceed 250 words) :

8 Define somaclonal variation. What is its significance ?

9 Give a comparative account on RAPD and RFLP.

10 What are cloning vectors ? Give an example. Add a note on different components of a

11 Give a brief account on Human genome project.

12 Explain biosafety protocols of recDNA research lab.

13 What is Rasmol, TrEMBOL, and CATH ?

14 Explain different approaches to EST analysis.

III. Answer any *two* questions. (Each answer not to exceed 500 words) : (4 × 3 = 12 weig

15 Discuss principle, techniques and applications of plant tissue culture.

16 What is recombinant DNA technology ? Elaborate on various steps involved in recomb DNA technology.

17 Discuss current status and achievements of transgenic research in plants.

18 Give an account on multiple alignment technique.

(2 × 5 = 10 weig