



Total No. of Printed Pages : 3

Roll No. ....

1(CCE.M)2

Botany-II

(04)

Time : Three Hours]

[Maximum Marks : 300

**INSTRUCTIONS**

- (i) Answers must be written in English.
- (ii) The number of marks carried by each question is indicated at the end of the question.
- (iii) The answer to each question or part thereof should begin on a fresh page.
- (iv) Your answer should be precise and coherent.
- (v) The part/parts of the same question must be answered together and should not be interposed between answers to other questions.
- (vi) Candidates should attempt question nos. **1** and **5** which are compulsory and any **three** questions more out of the remaining questions, selecting at least **one** question from each section.
- (vii) If you encounter any typographical error, please read it as it appears in the text-book.

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(viii) Candidates are in their own interest advised to go through the General Instructions on the back side of the title page of the Answer Script for strict adherence.

(ix) No continuation sheets shall be provided to any candidate under any circumstances.

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1

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(x) Candidates shall put a cross (×) on blank pages of Answer Script.

markings) is allowed.

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(xi) No blank page be left in between answer to various questions.

1. Write notes on any **three** in about 200 words each :

(xii) No programmable Calculator is allowed.

(a) Describe the ultrastructure of Eukaryotic cell.

(b) Polytene chromosomes.

(xiii) No stencil (with different

(c) Meiosis as segregational division.

(d) Polyploidy and its role in Agriculture



2. (a) Give structure of nucleic acids. (a) DNA fingerprinting  
(b) What are the objectives of plant breeding ? Distinguish between Pedigree method and Bulk method. (b) Role of RNA in evolution
3. (a) What is mutation ? Give its biological significance.  
(b) Explain the process of organic evolution citing notable evidences.
4. (a) Describe the development and use of molecular markers in plant breeding.  
(b) What is Test of significance ? Explain the role of z-test, t-test and chi-square test.
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5. Write detailed notes on any **six** of the following :



- (c) CAM pathway as metabolic adaptation
- (d) Dormancy of seeds
- (e) Plant indicators and Bio-ores
- (f) IUCN categories
- (g) Growth substances
- (h) IPR and Biopatents.
6. (a) Explain the process of Lipid metabolism with special reference of glyoxylate pathway.
- (b) Explain the process of anaerobic respiration. Add a note on fermentation.
- (c) Give an account of plant movement.
7. (a) Explain the structure and function of extracellular matrix.
- (b) Explain the flow of energy in ecosystem.
- (c) What is agroforestry? Explain its role in sustainable development.
- 3×20=60
8. (a) Give botanical sources of rubber. Explain the process of manufacture of rubber.
- (b) What is biodiversity? Explain the steps involved in conservation of biodiversity.
- (c) What are botanical sources of essential oils? Describe various

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processes of extraction of essential oils.

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