(a) Engler and Prantl

Write short notes on any six of the following :

(d) Citrus canker

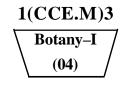
(b) Cybrids

8.

- (e) Slime molds
- (f) Penicillium
- (g) Cyanobacteria
- (h) Heterospory
- (i) Psilotum
- (j) Rhizobium.

6×10=60

## Roll No.



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 numbers 1 and 5 which are compulsory and any three 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.
- (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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- (x) Candidates shall put a cross (x) on blank pages of Answer Script.
- (xi) No blank page be left in between answers to various questions.
- (xii) No programmable Calculator is allowed.
- (xiii) No stencil (with different markings) is allowed.

## SECTION-A

- 1. Write notes on any six of the following :
  - (a) Soil microbe
  - (b) Biocides
  - (c) Smuts
  - (d) Cyanophages
  - (e) Palynology
  - (f) Single cell culture
  - (g) Nucellus
  - (h) Azolla. 6×10=60
- 2. (a) Describe the structure and methods of reproduction in Bacteria.
  - (b) Give a detailed account of plant viral diseases.
  - (c) Discuss the structure and role of 'B' cells and 'T' cells in immune responses and in the production of Antibodies.  $3\times 20=60$
- (a) Discuss the role played by Fungi in Agriculture, Industry and Medicine.
  - (b) Give a detailed account of Stelar evolution in Pteridophytes.
  - (c) Describe the use of Algae as food, medicine and as bioindicators.  $3\times 20=60$

- 4. (a) Describe the life history of Gnetum and mention the features in which it approaches the Angiosperms.
  - (b) Explain the monocot and dicot seed structure.
  - (c) Give an account of Modern trends in Biosystematics.

3×20=60

## **SECTION-B**

- 5. Write short notes on any six of the following :
  - (a) Morphogenesis
  - (b) Floral morphology of a grass
  - (c) Corolloid roots
  - (d) Double fertilization
  - (e) Resupination
  - (f) Elaters

(h)

- (g) Mycoplasma
  - Sporocarp. 6×10=60
- 6. (a) Explain the inflorescence in Euphorbiaceae and tendril, fruits of cucurbitaceae.
  - (b) Give a comparative account of the families Rubiaceae and Rosaceae.
  - (c) Describe the storage organs in Cruciferae and Liliaceae.  $3\times 20=60$
- 7. (a) Describe the methods for isolation and purification of protoplasts.
  - (b) Discuss the role of tissue culture in crop improvement.
  - (c) What is Somaclonal variation ? What is its significance in plant tissue culture ?
    3×20=60

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