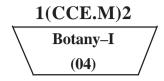
Total No. of Printed Pages: 3 Roll No.



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 nos. 1 and 5 which are compulsory and any **three** 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 (×) on blank pages of Answer Script.
- (xi) No blank page be left in between answer to various questions.
- (xii) No programmable Calculator is allowed.
- (xiii) No stencil (with different markings) is allowed.

SECTION-A

- 1. Write short notes on any six of the following:
 - (a) Plant quarantine
 - (b) Mycoplasma
 - (c) Lichens
 - (d) Petrification
 - (e) Double fertilization
 - (f) Polyembryony
 - (g) Somatic hybridization
 - (h) Kranz anatomy.

 $6 \times 10 = 60$

- 2. (a) Explain various modes of reproduction in Algae.
 - (b) Explain the application of microbiology in industry.
 - (c) Describe with evidences the role of chemotaxonomy in Angiosperms. $3\times20=60$
- 3. (a) Describe the origin and evolution of Angiosperm.
 - (b) Evolution of sexual reproduction in algae.
 - (c) Somaclonal variations and their application. 3×20=60
- 4. (a) Describe soral evolution in filicales.
 - (b) Describe the process of C₄ pathway.
 - (c) Give distribution of Gymnosperms in India. 3×20=60

SECTION-B

- 5. Write detailed notes on any **four** of the following:
 - (a) Role of botanical gardens in teaching and research
 - (b) Totipotency
 - (c) Experimental embryology
 - (d) Manoxylic wood
 - (e) Gynoecium in Rosaceae.

 $4 \times 15 = 60$

- 6. (a) Enlist the various types of stomata. Give their structure and classification.
 - (b) Floral evolution in monocots from Orchidaceae to Poaceae.
 - (c) Explain the methods of embryo rescue and its important achievements. $3\times20=60$
- (a) Give the outline of Engler and Prantle's system of classification.
 Mention its merits and demerits.
 - (b) Explain the role of Bryophytes from evolution point of view.
 - (c) Explain why Asteraceae is advanced in Dicotyledons.

 $3 \times 20 = 60$

- 8. (a) Mention the botanical source, plant parts used and economic uses of any **five** of the following:
 - (i) Gum

(ii) Fibre

(iii) Spice

(iv) Edible oil

(v) Timber

- (vi) Resin
- (b) Explain the role of palynology in Agriculture.
- (c) Explain various types of fossils.

 $3 \times 20 = 60$