

**1(CCE.M)2**

**Botany-I**

**(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** 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.

- (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. 6×10=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. 3×20=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 C<sub>4</sub> 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. 4×15=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. 3×20=60
7. (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. 3×20=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. 3×20=60