CGD

2006

BOTANY - I (Optional) 000168

Standard : Degree **Total Marks : 200**

Nature : Conventional **Duration : 3 Hours**

Note :

(i) *Answers must be written in **English** only.*

(ii) *Question **No. 1** is **Compulsory.** Of the remaining questions, attempt **any four** selecting one question from **each section.***

(iii) *Figures to the **RIGHT** indicate marks of the respective question.*

(iv) *Number of optional questions upto the prescribed number in the order in which they have been solved will only be assessed. Excess answers will not be assessed.*

(v) *Credit will be given for orderly, concise and effective writing.*

(vi) *Draw neat and clear diagrams wherever necessary.*

(vii) *Candidate should not write roll number, any name (including their own), signature, address or any indication of their identity anywhere inside the answer book otherwise he will be penalised.*

Marks

1. Answer ***any Four*** of the following questions :

(a) How Cyanophycean algae and bacteria help in the protection of soil fertility ? Explain. **10**

(b) What is the role of specific microbes in modern Agri-biotechnology ? **10**

(c) Describe in brief Embryo development in Angiosperms. **10**

(d) How the paleobotany aspect is utilised in various exploration processes ? **10**

(e) What do you mean by Polyembryony ? Explain its role in plant tissue culture techniques. **10**

P.T.O.

Marks

SECTION - A

2. Answer the following sub-questions : ***(Draw necessary diagrams)***

   (a) Write a brief-account on structure of Eukaryotic cell. **20**

   (b) Write a brief account of Saccharomyces - an industrially important unit giving its economic importance. **20**

3. Answer the following sub-questions : ***(Draw necessary diagrams)***

   (a) Compare and contrast in life cycles of *Ectocarpus* and *Batrachospermum.* **20**

   (b) Life cycle of Lichens – as a 'model of symbiotic phenomenon'. Explain. **20**

SECTION - B

4. Answer the following sub-questions :

   (a) Illustrate complete structure of sporophyte in *Anthoceros.* **10**

   (b) Alternation of gametophyte with sporophyte in *Equisetum.* **10**

   (c) What are Plasmids ? Comment on its reproduction process. **10**

   (d) Role of molecular biology in resistance against plant diseases. Explain. **10**

5. Answer the following sub-questions : ***(Draw necessary diagrams)***

   (a) Give a comparative account of gametophytes of *Marchantia* with *Funaria.* **10**

   (b) Salient features of *Sphenopsida.* **10**

   (c) How the microbes are utilised in the production of modern pesticides ? **10**

   (d) Write an essay on microbes involved in controlling pollution of water. **10**

SECTION - C

6. Answer the following sub-questions : ***(Draw necessary diagrams)***

   (a) Evaluate diversification in Anatomical and Reproductive characters in Gymnosperms. **10**

   (b) Explain the basis of Taxonomic characters variation in Engler and Prantl with that of Bentham and Hooker's system of classification. **15**

   (c) What are C_4 plants ? How they differ from other plants ? **15**

Marks

7. Answer the following sub-questions : ***(Draw necessary diagrams)***

(a) Describe Reproductive organs in *Pinus*. **10**

(b) Compare floral characters of family Asclepediaceae with family Verbenaceae. **15**

(c) Write in brief Endosperm development in Angiosperms. **15**

SECTION - D

8. Answer the following sub-questions : ***(Add figures wherever necessary)***

(a) Write in brief : Bennetitales as a group. **10**

(b) How the latex and rubber are used in modern civilisation ? **15**

(c) Ethanobotany as a 'gift from nature' to modern medicines. Explain. **15**

9. Answer the following sub-questions :

(a) What do you know about 'Carbon dating' ? How it supplements during Coal exploration process ? **10**

(b) What are the major sources of food and fodder in Tribal areas ? **15**

(c) 'Bio. fuels' - a ray of hope in developing world to combat energy crisis. Explain. **15**

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