**Roll No. .....** **Total No. of Pages : 3**

# 1(CCEM)0

## Botany

## (04)

## Paper—II

Time : Three Hours] [Maximum Marks : 300

**Note** :— (i) Answers must be written in English.

(ii) The number of marks carried by each question are indicated at the end of the question.

(iii) Part/Parts of the same question must be answered together and should not be interposed between answers to other questions.

(iv) The answer to each question or part thereof should begin on a fresh page.

(v) Your answers should be precise and coherent.

(vi) Candidates should attempt Question No. **1** and **5** which are compulsory and any **three** out of the remaining questions, selecting at least **one** question from each Section.

(vii) Provide diagrams in the answer-book wherever necessary.

(viii) If you encounter any typographical error, please read it as it appears in the text-book.

### SECTION–A

1. Write short notes on any **six** of the following :

   (a) Gel shift assey

   (b) Lamp brush chromosome

   (c) Eukaryotic cell

   (d) Lysosomes

   (e) Numerical variation in chromosome

(f) Coupling and repulsion

(g) Incomplete dominance

(h) Anaphase. 10×6=60

2. (a) Write an essay on Meiosis.

(b) Describe shape, size, structure and chemistry of chromosome.

(c) Give an account of the structure of nucleus. Discuss the function of different components of nucleus. 20×3=60

3. (a) Give an account of Gene Mutations.

(b) What is DNA finger – printing ? Describe various applications.

(c) Describe the experiment conducted by Stern to demonstrate the cytological basis of crossing over. 3×20=60

4. (a) Describe in detail Hatch-Slack pathway and compare it with $C_3$ pathway.

(b) Describe the aerobic break down of pyrunic acid.

(c) Write an essay on protein synthesis. 3×20=60

**SECTION—B**

5. Write notes on any **six** of the following :

(a) Deforestation

(b) Biological clock

(c) Guttation

(d) Greenhouse effect

(e) Senescence

(f) Transcription

(g) Pyramid of Number

(h) Agroforestry 6×10=60



6. (a) Write an essay on Biotechnology and its application in various fields.

(b) What is seed germination ? Explain the role of different factors which influence the germination of seeds.

(c) What is parthenocarpy ? Explain fruit ripening. 3×20=60

7. (a) Discuss the concept of Biosphere.

(b) Give an account of endangered plants.

(c) Define the term succession and describe Hydrach succession. 3×20=60

8. Write the Botanical names, systematic position and economic importance of the following :

(a) Ginger

(b) Cloves

(c) Quinine

(d) Coffee

(e) Cashew nut

(f) Safflower

(g) Ocimum

(h) Rubber

(i) Ground nut

(j) Maize 10×6=60