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

(a) Tobacco

(b) Maize

(c) Teak

(d) Cotton

(e) Indian Sarsaparilla

(f) Myrobalan

(g) Garlic

(h) Cinchona

(i) Coriander

(j) Ground nut. 10×6=60

Roll No. ..... **Total No. of Pages : 4**

1(CCE.M)3

Botany–II

(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 numbers **1** and **5** which are compulsory and any **three** more questions from out of 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 (x) on blank pages of Answer Script.

(xi) No blank page should 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) Thin layer chromatography

   (b) Genetic mapping

   (c) Mitochondria

   (d) Transposition

   (e) Karyotype and Idiogram

   (f) Polyribosomes

   (g) t-RNA

   (h) Diakinesis. 6×10=60

2. (a) Describe the structure and function of Endoplasmic Reticulum and Golgi complex.

   (b) Give a comparative account of Mitosis and Meiosis.

   (c) Write an account on Polytene and Lampbrush Chromosome. 3×20=60

3. (a) Describe the operon model for regulation of gene activity.

   (b) Define the term organic evolution and discuss the indirect evidences from organic evolution.

   (c) Explain the Agrobacterium mediated gene transfer technique. 3×20=60

4. (a) What is fermentation ? How does it differ from aerobic respiration ? Describe the changes that occur during fermentation of a glucose molecule.

   (b) Comment briefly on role of elements essential in plant nutrition.

   (c) Give an account on the mechanism of protein synthesis. Compare it with Prokaryotes and Eukaryotes. 3×20=60

SECTION–B

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

   (a) Photoreceptors

   (b) Imbibition

   (c) The Carrier concept

   (d) Hatch and Slack Cycle

   (e) Lock and Key theory

   (f) Electron transport system

   (g) Nitrogen cycle

   (h) Red data book. 6×10=60

6. (a) Define parthenocarpy. Discuss the types of parthenocarpy and its significance.

   (b) What are growth hormones ? Discuss their role in growth and development of plants.

   (c) Discuss the effect of various factors on the process of photosynthesis. 3×20=60

7. (a) Discuss the types of forest in India and significance of afforestation and social forestry.

   (b) Give a detailed account on food and oil plants.

   (c) What are Biosphere reserves ? Discuss the types and its significance. 3×20=60