## 2. (a) Disting 61-61/8-87 and allopolyploids. Aerily 11 Paper 11. Comment on the significance of polyploidy.

(b) Explain, with example, the phenomenon of

regulation 200: salah Marks : 200 notationer

The figures in the right-hand margin indicate marks.

Candidates should attempt Q. No. 1 from

Section – A and Q. No. 5 from Section – B

which are compulsory and any three of
the remaining questions, selecting
at least one from each Section.

## SECTION - A service

- 1. Write explanatory notes on any **two** of the following:  $20 \times 2 = 40$ 
  - (a) Ultrastructure and functions of endoplasmic reticulum
- (b) Sex linked inheritance
  - (c) Role of RNA in evolution

LB - 8/2

(Turn over)

- (a) Distinguish between auto and allopolyploids. Mention the possible ways in which
  polyploidy can occur in plants. Comment on
  the significance of polyploidy.
  - (b) Explain, with example, the phenomenon of regulation of gene expression with reference to induction and repression of enzyme synthesis.
- (a) Give a brief account of the mechanism of protein synthesis in eukaryotic cells.

Candidates should attempt Q. No. 1 from

- (b) What are the major changes that take place during fruit ripening? Explain the molecular basis of fruit ripening. Elucidate the role of ethylene in fruit ripening.
- 4. (a) What is meant by ecosystem management?
   Discuss, with example, the different methods of ecosystem conservation.
  - (b) Describe the formation of root nodules in leguminous plants. Explain the role of leghaemoglobin in N<sub>2</sub>-fixation. Comment on the genes regulating N<sub>2</sub>-fixation.

## (a) Define Marchine Describe the

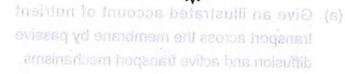
- 5. Answer any two of the following: 20×2 = 40
  - (a) What are secondary metabolites? Describe the importance of secondary metabolites in plants.
  - (b) Give an account of the different methods used in gene mapping.
  - (c) What is Phytoremediation ? Describe, with example, the role of phytoremediation in the control of heavy metal pollution.
- (a) Give an illustrated account of nutrient transport across the membrane by passive diffusion and active transport mechanisms.

20

- (b) What is Photophosphorylation? Compare and contrast between cyclic and non-cyclic photophosphorylation.
- (a) Describe the major biotic and abiotic factors influencing plant life, growth and productivity.
  - (b) Explain the causes and consequences of global warming. Describe the possible ways to control global warming.20

LB - 8/2 (3) (Turn over)

- 8. (a) Define Micropropagation. Describe the common well methods wused for micropropagation of plants. What are the advantages and disadvantages of micropropagation?
- (b) Classify the types of forests in India. Give an account of the characteristic features of each of the forest types.



- (b) What is Photophosphorylation ? Compare and contrast between cyclic and non-cyclic photophosphorylation.
- Describe the major biotic and abiotic factors influencing plant life, growth and productivity.
- (b) Explain the causes and consequences of global warming. Describe the possible ways
   (control global warming)