DAY — 08 SEAT NUMBER

2008	III	08	1100	J - 76	(E)

BIOLOGY PAPER - I (56)
(GENERAL BIOLOGY AND BOTANY)
(REVISED COURSE)

Time : 2 Hrs. (3 Pages) Max. Marks : 40

Note : (i) All questions are compulsory.
(ii) Figures to the right indicate full marks.
(iii) Draw neat labelled diagrams wherever necessary.
(iv) All questions carry equal marks.
(v) Answer to every question must be written on a new page.

Q. 1. Select and write the most appropriate answer from the given alternatives in each sub-question : [8]

(i) The Gene, which was used to produce insect resistant cotton plant, was taken from – (1)

(a) Anabaena azollae (b) Agrobacterium tumefaciens
(c) Bacillus anthracis (d) Bacillus thuringensis

(ii) Longer free end of t-RNA has unpaired – (1)

(a) GGA (b) CCA
(c) UAG (d) AUG

(iii) In C-4 pathway, in which of the following cells metabolic CO_2 is fixed – (1)

(a) Bundle sheath cells (b) Mesophyll cells
(c) Epidermal cells (d) Cortical cells

(iv) The 'cytochrome' which donates de-energised electron to oxygen is – (1)

(a) Cytochrome - a (b) Cytochrome - b

(c) Cytochrome - a_3 (d) Cytochrome - c

(v) To produce 500 pollen grains, how many Microspore Mother Cells are required? (1)

(a) 500 (b) 125

(c) 250 (d) 1000

(vi) In monocots grafting is not possible, because they lack – (1)

(a) Cambium (b) Ground tissue

(c) Vascular bundles (d) Sclerenchyma cells

(vii) Epigeal germination of seed is exhibited by – (1)

(a) Wheat (b) Castor

(c) Rhizophora (d) Maize

(viii) A genetically dwarf pea plant can be converted into a tall pea plant by the use of – (1)

(a) Cytokinins (b) Auxins

(c) Abscissic acid (d) Gibberellic acid

Q. 2. Answer the following Questions :

(A) Explain in brief the process of nitrogen fixation by Rhizobium. (2) **[8]**

OR

Explain the role of meristems in growth.

(B) Give schematic representation of Cyclic photophosphorylation. (2)

OR

Give reasons for a species to become endangered.

(C) Draw a labelled diagram showing opened stomata. (2)

(D) Give economic importance of mushrooms. (2)

Q. 3. Answer the following questions : [8]

(A) Explain various methods of breaking seed dormancy. (2)

(B) Draw labelled diagram showing mechanism of DNA replication. (2)

OR

Give medicinal importance of 'Azadirachta Indica'.

(C) Sketch and label typical Angiospermic pollen grain. (2)

(D) Explain the concept of Endemic species.
Give any two examples of plants endemic to India. (2)

OR

What are the causes of deforestation? (2)

Q. 4. Attempt any TWO of the following : [8]

(A) Distinguish between DNA and RNA. (4)

(B) Describe C_3 pathway. (4)

(C) What is Anaerobic respiration? (4)
Explain mechanism of Anaerobic respiration.

Q. 5. Answer the following : [8]

With the help of a neat and labelled diagram describe the structure of Anatropous ovule as seen in V. S. Add a note on the functions of its various parts. (8)

OR

(A) Describe cohesion theory of Ascent of Sap and give its objections. (4)

(B) Explain the formation of Androgenic haploids and also explain the formation of Somatic hybrids. (4)

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