BIOLOGY QUESTION PAPER

TIME DURATION:2 Hrs ***MAXIMUM MARKS: 40***

Note : (i) All questions are compulsory.

(ii) Neat and labelled diagrams must be drawn wherever necessary.

(iii) Figures to the right indicate full marks.

(iv) 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) In non-cyclic electron transport system the path of electron is ..... . (1)

(a) PS - $\longrightarrow$ PS - II $\longrightarrow$ NADP

(b) PS II $\longrightarrow$ PS I $\longrightarrow$ NADP

(c) NADP $\longrightarrow$ PS - II $\longrightarrow$ PS - I

(d) NADP $\longrightarrow$ PS - I $\longrightarrow$ PS - II

(ii) Which one of the following is an endangered species? (1)

(a) Azadirachta indica

(b) Rosa indica

(c) Rauwolfia serpentina

(d) Mangifera indica

(iii) Disease free plants are obtained by utilising ..... (1)

(a) apical meristem

(b) anther

(c) protoplast

(d) xylem

(iv) Versatile anther is an adaptation for ..... . (1)

(a) ornithophily

(b) entomophily

(c) anemophily

(d) chiropterophily

(v) How many turns of Calvin cycle are required for formation of one molecule of glucose? (1)

(a) 2

(b) 4

(c) 6

(d) 8

(vi) Planting of trees on barren land is called ..... . (1)

(a) afforestation

(b) reforestation

(c) deforestation

(d) agroforestry

(vii) The diameter of stock is more than scion in ..... . (1)

(a) tongue grafting

(b) wedge grafting

(c) crown grafting

(d) approach grafting

(viii) Rice has been genetically modified to produce ..... . (1)

(a) lipid

(b) protein

(c) carbohydrate

(d) vitamin A

Q. 2. (A) Distinguish between light reaction and dark reaction. (2) **[8]**

OR

Give the advantages of transpiration.

(B) Give medicinal uses of Asparagus racemosus. (2)

OR

Write a note on heterocyst.

(C) Give the applications of cytokinins. (2)

(D) Sketch and label hair-pin model of t-RNA. (2)

Q. 3. (A) Write a note on spawning. (2) **[8]**

(B) Why is it necessary to conserve endangered species? (2)

OR

Define natural exhaustible resources. Mention different types with suitable examples.

(C) Give functions of : (2)

(i) Tapetum

(ii) Suspensor

(D) Give the causes of seed dormancy. (2)

OR

Write a note on short-day plants.

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

(A) Define tissue culture. Describe production of disease-free plants and secondary metabolites. (4)

(B) Explain Cohesion theory of translocation of water. Give the objections raised against it. (4)

(C) What is glycolysis? Sketch the pathway showing different stages in glycolysis. (4)

Q. 5. Give the adaptations for pollination in anemophilous and hydrophilous flowers. Add a note on advantages and disadvantages of cross pollination. (8) **[8]**

OR

(A) Describe Watson and Crick's model of DNA. (4)

(B) Give schematic representation of Krebs' cycle. (4)