BIOLOGY QUESTION PAPER

Time : 2 Hrs. **Max. Marks : 40**

Q.1 : Select and write the most appropriate answer from the given alternatives in each sub-question. **(1 Mark each)**

(i) A DNA molecule measuring 680A°, contains .....
(a) 1360 nucleotides (b) 51 nucleotides
(c) 340 nucleotides (d) 400 nucleotides

(ii) G. M. *Brassica napus* is used to obtain .....
(a) hirudin (b) insulin
(c) vitamins (d) antibiotics

(iii) Cohesion theory of ascent of sap is based on .....
(a) diameter of vessels
(b) physical forces between water molecules
(c) surface tension
(d) pressure of water in roots

(iv) In fully opened stomata, guard cells are .....
(a) Plasmolysed (b) Shrunken
(c) Turgid (d) Flaccid

(v) The endosperm cells in an angiosperimic plant has 18 chromosomes, the number of chromosomes in its root cells will be .....
(a) 12 (b) 6
(c) 18 (d) 24

(vi) In porogamy, the pollen tube enters into the ovule through .....
(a) micropyle (b) integument
(c) chalaza (d) funicle

(vii) Bakane disease in Rice is associated with the discovery of .....
(a) Cytokinins (b) Gibberellins
(c) Auxins (d) Ethylene

(viii) ABA is also known as
(a) Anti-toxin (b) Ant-virulent
(c) Anti-oxidants (d) Anti-gibberellins

Q. 2 (A) Draw labelled diagram of V.S. of Antropous ovule. **(2)**

OR

Explain the concept of endangered species. Give any two examples of endangered plants.

(B) Sketch and label diagram of m-RNA. **(2)**

OR

"Forests play an important role to maintain ecological balance." Comment.

(C) Rearrange the following events leading to the formation of male gametophyte. **(2)**
(1) Formation of microscope.
(2) Formation of pollen tube.
(3) Formation of generative cell and tube cell.
(4) Meiosis division in microscope mother cell.

(D) Write a Short note on 'Cyanobacteria' as a bio-fertilizer. **(2)**

Q. 3 (A) : Draw a chart showing classification of various natural resources with one example of each. **(2)**

(B) Discuss external factors affecting growth of the plant. **(2)**

OR

What is ABA ? Give its effects on plants ?

(C) Discuss root pressure theory of water translocation. **(2)**

(D) Give significance of double fertilization. **(2)**

OR

Explain capillarity theory of ascent sap.

Q. 4 : Attempt Any TWO of the following :

(A) Describe the process of replication of eukaryotic DNA. (4)

(B) Define Gluycolysis. Give its schematic representation and write significance. (4)

(C) Write medicinal uses of *Aloe vera* and *Asparagus racemosus*. (4)

Q. 5 : What is Photophosphorylation ? Explain non-cyclic photophosphorylation with schematic representation. State how it differs from cyclic photophosphorylation. (8)

OR

(A) What is DNA finger printing ? Explain principles of DNA finger printing and write its applications. (4)

(B) Give floral adaptations in anemophily and entomophily. (4)