

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. [8]

- (i) Which of the following is an endangered species, in India? (1)
(a) *Rauwolfia serpentina* (b) *Zizyphus jujuba*
(c) *Delonix regia* (d) *Mangifera indica*
- (ii) Which of the following plants belongs to family "Meliaceae"? (1)
(a) *Adhatoda vasica* (b) *Ocimum sanctum*
(c) *Asparagus racemosus* (d) *Azadirachta indica*
- (iii) One of the following plants does not follow HSK pathway. (1)
(a) Coconut (b) Maize (c) Sugarcane (d) *Amaranthus*
- (iv) The correct sequence from periphery to the centre of angiospermic ovule is (1)
(a) Integuments, nucellus, embryo sac, secondary nucleus
(b) Integuments, embryo sac, secondary nucleus, nucellus
(c) Integuments, embryo sac, nucellus, secondary nucleus
(d) Integuments, secondary nucleus, embryo sac, nucellus
- (v) Which type of natural resource the water is? (1)
(a) Exhaustible renewable (b) Exhaustible non-renewable
(c) Inexhaustible (d) Artificial non-renewable
- (vi) The process of casing is related with (1)
(a) Tissue culture (b) Anther culture
(c) Mushroom culture (d) Silviculture
- (vii) Acetylation is connecting link between..... (1)
(a) Glycolysis and ETS (b) Glycolysis and Krebs's cycle
(c) Glycolysis and Calvin's cycle (d) Krebs's cycle and ETS
- (viii) Bryophyllum reproduces vegetatively by means of (1)
(a) Seed (b) Stem (c) Leaf (d) Root

Q. 2 (A) Explain the process of plasmolysis. (2) [8]

OR

Distinguish between self pollination and cross pollination.

(B) Write the medicinal uses of *Ocimum sanctum* and *Adhatoda vasica*. (2)

OR

Write a note on somatic hybridization.

(C) Explain the phases of plant growth curve. (2)

(D) Sketch and label - structure of pollen grain. (2)

Q. 3 (A) Sketch and label - ultra structure of mitochondrion. (2) [8]

(B) Suggest measures for the protection of endangered species. (2)

OR

Describe the hazards of deforestation.

(C) Write a note on Biopatent. (2)

(D) Give the importance of mushroom cultivation. (2)

OR

Give adaptations for anemophily.

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

(A) Explain the biosynthetic phase of photosynthesis. (4)

(B) Give physiological effects of auxins and abscisic acid. (4)

(C) Describe the structure of root hair. Explain the absorption and movement of water from soil to xylem of root. (4)

Q. 5 Describe the structure and replication of eukaryotic DNA. (8) [8]

OR

(A) Describe the development of embryo in Angiosperms. (4)

(B) Explain Krebs's cycle. (4)