3/4/54

Shri. S.H. Kelkar College of Arts, Commerce and Science, Devgad
Semester - IV March 2023

S.Y. B.SC Botany Paper – II
USBO402

100 mark
Duration – 3 hours

Date: / /

N.B. : (1) All questions are compulsory.
(2) Figures to the right indicate full marks.
(3) Draw neat and labeled diagrams wherever necessary.

(10)

Q. 1 A) Choose the correct options from the following.

i) A strip of cambium present between xylem and phloem is called _____.
(a) intrafascicular cambium (b) fascicular cambium
(c) medullary cambium (d) secondary cambium

ii) _____ is also known as cork cambium.
(a) Phelloderm (b) phellem (c) phellogen (d) periderm

iii) _____ appears as a scar or small protrusions on the surface of stem.
(a) Periderm (b) Growth rings (c) Tylosis (d) Lenticels

iv) _____is the energy currency of the cell.
(a) Glucose (b) DNA (c) ATP (d) Enzymes

v) _____is the process by which energy in organic molecules is released by oxidation.
(a) Respiration (b) Photosynthesis (c) Photoperiodism (d) Vernalization

vi) _____is the flowering hormone.
(a) Florigen (b) Vernalin (c) Phytochrome (d) Florilin

vii) _____ oxidizes nitrite to nitrate.
(a) *Nitrobacter* (b) *Azotobacter* (c) *Aspergillus* (d) *Nostoc*

viii) The basic unit of vegetation is called _____.
(a) species (b) plant community (c) variety (d) population

ix) Plants classified on the basis of types and kinds of perennating organs is called _____
(a) Physiognomy (b) life forms (c) pioneer colonizer (d) ecesis

x) The number of individuals of a species is called _____.
(a) density (b) frequency (c) relative frequency (d) abundance

(10)

B) Answer the following in one or two sentence.
i) What is spring wood?
ii) Name different layers of periderm.
iii) Define aerobic respiration.
iv) What is the net gain of ATPs in TCA cycle.
v) What are biogeochemical cycles?

Q. 2 Answer the any two of the following. (20)

i) Discuss normal secondary growth in dicot stem.

ii) Give a detailed account of periderm formation. Add a note on Growth rings

iii) Write a detailed note on sclerenchyma as mechanical tissue.

iv) With the help of a labelled diagram, explain different types of vascular bundles studied by you.

Q. 3 Answer the any two of the following. (20)

i) Describe the different steps involved in glycolysis and add a note on its energetics.

ii) Describe the different steps involved in TCA cycle and add a note on its energetics.

iii) Explain different Steps involved in photorespiration.

iv) Explain the structure and function of phytochromes and add a note on its physico-chemical properties

Q. 4 Answer the any two of the following. (20)

i) What are ecological factors? Explain any three climatic factors.

ii) What is community ecology? Give the details of qualitative characters.

iii) What is carbon cycle? Explain in detail carbon cycle.

iv) Describe qualitative characters of plant community.

Q.5 Write short notes on any four. (20)

i) Tylosis

ii) Annual ring

iii) Significance of vernalization.

iv) Oxidative phosphorylation.

v) Stratification

vi) Types of soil

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