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

F.Y. B.SC Botany Paper – II — 100 mark
USBO202 — Duration – 3 hours

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

Q. 1 A) Choose the correct options from the following. **(10)**

(a) Water secreting glands in the tissue are known as _____.
a) Hydathodes b) Tyloses c) Cork d)Bulliform

(b) Cells surrounding the guard cells are called _____.
a) Accessory b) Subsidiary c) Motor d)Bulliform

(c) Pith is usually composed of _____.
a) Aerenchyma b) Collenchyma c) Parenchyma d) Sclerenchyma

(d) Which of the following is the most abundant protein in leaves?
a) chlorophy II a/b binding protein b) ATP synthase
c) Ribulose – 1,5-bisphosphate carboxylase d) Globulins

(e) The dark reactions take place in the _____.
a)Grana b) stroma c) Cell wall d) lumen of thylakoid

(f) ---------- are products of photosynthesis are called as Assimilatory powers.
a) RUDP & RUMP b) H2O & O2 c) ATP & NADPH d) PGA & PGAL

(g) Conversion of pyruvate into PEP by use of ATP in C4 pathway occurs in
a) mesophyll cell's cytoplasm b) mesophyll cell's chloroplast
c) bundle sheath cell's cytoplasm d) bundle sheath cell's chloroplast

(h) ---------- is found in dried rhizome of *Ginger*.
a) Zingiberene b) Eugenol c) Camphen d) Vasicine

(i) ---------- is found in leaves of *Adulsa*.
a) Zingiberene b) Eugenol c) Camphen d) Vasicine

(j) ---------- is found in leaves of *Aloe*.
a) Zingiberene b) Eugenol c) Aloin d) Vasicine

B) Answer the following in one sentence. **(10)**

(a) What are complex tissues?
(b) What is photophosphorylation?
(c) What is plastidome?
(d) Give the examples of plant pigments as a secondary metabolites.
(e) Give the examples of drugs as a secondary metabolites

Q. 2. Answer any two from the following. **(20)**

(a) Explain the primary structures observed in transverse section of Dicot stem.
(b) Write a detailed note on epidermal tissue system.
(c) Describe the non-vascular permanent tissue system in plants.
(d) Give a detailed account of trichomes as epidermal appendages.

Q. 3. Answer any two from the following. **(20)**

(a) Describe the HSK pathway of carbon fixation in C4 plants.
(b) Describe the process of cyclic photophosphorylation in detail.
(c) Describe the various pigments involved in the process of photosynthesis in green plants.
(d) Differentiate between photosystem I and photosystem II and give the significance of photosynthesis.

Q. 4. Answer any two from the following. **(20)**

(a) Give an account on botanical name, family, active constituents and uses of *Sandal wood* and *Haldi.*
(b) What are Secondary metabolites? Add a note on different functions of secondary metabolites.
(c) What is Grandma's pouch? Give botanical name, family, active constituents and uses of *Aloe* and *ginger.*
(d) What is medicinal botany? Add a note on primary metabolites.

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

(a) Sketch and label T.S. of Monocot leaf
(b) Dicot Stomata.
(c) Schematic representation of Non-cyclic photophosphorylation
(d) Role of Rubisco
(e) Medicinal uses of *Tulsi.*
(f) Medicinal uses of *Adulsa* .