KAMARAJ COLLEGE (Autonomous)

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(Affiliated to Manonmaniam Sundaranar University, Tirunelveli)

(3 Pages) **Reg. No:……**

Question Code: 26E00908 **Course Code : 24UFBO11/25UFBO11**

UG Degree - End Semester Examinations, April 2026

First Semester

B.Sc., BOTANY

Basics of Botany

(For those who joined in July 2024 and June 2025 onwards)

Time : 3Hours **Maximum : 75 Marks**

PART – A (10 × 1 = 10 Marks)

Answer ALL Questions

Choose the correct answer :

CO:1 K:1 1. Why Bryophytes are called "amphibians of the plant kingdom"?

(a) They live in water (b) They need water for reproduction

(c) They resemble frogs (d) All the above

CO:1 K:1 2. Select the plant group that shows the phenomenon of double fertilization

(a) Bryophytes (b) Angiosperms

(c) Gymnosperms (d) Pteridophytes

CO:2 K:2 3. Which of the following cell organelles is responsible for extracting energy from carbohydrates to form ATP?

(a) Mitochondrion (b) Lysosome

(c) Chloroplast (d) Golgi bodies

CO:2 K:2 4. Which of the following is not found within the nucleus?

(a) Chromatin (b) Nuclear pores

(c) Mitochondria (d) Nucleolus

CO:3 K:1 5. Name of the part of the plant that gets modified in to a phylloclade

(a) Stem (b) Root

(c) Leaf (d) Flower

CO:3 K:1 6. Recall the fruit type of coconut

(a) Berry (b) Drupe

(c) Capsule (d) None of the above

CO:4 K:1 7. Who is known as the Father of Genetics?

(a) Erich Tschemark (b) Carl Correns

(c) Gregor Johann Mendel (d) Hugo de Vries

CO:4 K:1 8. Name the cross by which law of independent assortment inferred.

(a) Dihybrid cross (b) Monohybrid cross

(c) Test cross (d) Back cross

CO:5 K:1 9. Recall the process that allows water to move through a semipermeable membrane from a dilute to a concentrated solution

(a) Osmosis (b) Imbibition

(c) Diffusion (d) Translocation

CO:5 K:1 10. Which of the following is an example of Imbibition?

(a) Swelling of seeds (b) Root pressure

(c) Transpiration pull (d) Capillarity

PART – B (5 X 5 = 25 Marks)

Answer ALL Questions choosing either (a) or (b).

Answer should not exceed 250 words.

CO:1 K:4 11. (a) List out the salient features of Algae.

(OR)

(b) List out the salient features of Pteridophytes.

CO:2 K:4 12. (a) Analyse the major features of prokaryotic cell with a labelled diagram.

(OR)

(b) Analyze the structure and functions of chloroplast with labelled diagram.

CO:3 K:4 13. (a) Examine the various modifications of roots with a labelled diagram.

(OR)

(b) Analyze the formation and features of aggregate fruits.

CO:4 K:4 14. (a) Assume you are performing a test cross-explain the expected results and their genetic interpretation.

(OR)

(b) Analyze the Mendel's law of independent assortment.

CO:5 15. (a) Explain the concept and significance of osmosis.

K:4

(OR)

(b) Analyze the salient features of transpiration pull theory.

PART – C (5 X 8 = 40 Marks)

Answer ALL Questions choosing either (a) or (b).

Answer should not exceed 500 words.

CO:1 16. (a) Explain the characteristics of gymnosperms.

K:3

(OR)

(b) Explain the characteristics of angiosperms.

CO:2 17. (a) Compare the structure of prokaryotes and eukaryotes cells.

K:4

(OR)

(b) Describe the structure and functions of mitochondria.

CO:3 18. (a) Compile the different types of inflorescence with suitable illustrations.

K:6

(OR)

(b) Discuss in detail about simple fruits.

CO:4 19. (a) Explain Mendel's dihybrid cross experiment with suitable example.

K:4

(OR)

(b) Assess the monohybrid cross with suitable example.

CO:5 20. (a) Discuss the types of plasmolysis.

K:6

(OR)

(b) Compile the process of translocation of solutes in plants.