

KAMARAJ COLLEGE (Autonomous)

Accredited with A+ Grade by NAAC

(Affiliated to Manonmaniam Sundaranar University, Tirunelveli)

(3 Pages)

Reg. No:.....

Question Code: 26E03504

Course Code: 24PSB041

PG Degree - End Semester Examinations, April 2026

Fourth Semester

M.Sc., BOTANY

Botany for Competitive Examination

(For those who joined in July 2024 onwards)

Time : 3Hours

Maximum : 75 Marks

PART - A (10 × 1 = 10 Marks)

Answer ALL Questions

Choose the correct answer :

- CO:1 1. Which of the following is a major crop disease caused by a
K:1 mycoplasma in India?
(a) Bacterial wilt (b) Little leaf of brinjal
(c) Rust of wheat (d) Powdery mildew
- CO:1 2. Which plant is a major fibre-yielding crop?
K:1 (a) *Oryza sativa* (b) *Gossypium hirsutum*
(c) *Zea mays* (d) *Coffea arabica*
- CO:2 3. Which of the following is used as the source of agar?
K:1 (a) *Chlorella* (b) *Gelidium*
(c) *Spirogyra* (d) *Ulva*
- CO:2 4. Bryophytes are distinguished from pteridophytes by the absence
K:1 of _____
(a) Chlorophyll (b) Vascular tissue
(c) Spores (d) Photosynthesis
- CO:3 5. Which of the following is a giant chromosome?
K:1 (a) Polytene chromosome (b) Lampbrush chromosome
(c) Mitochondrial (d) Both A & B
chromosome

- CO:3 6. The term "cistron" refers to _____
K:1
(a) A segment of DNA coding for a polypeptide
(b) A type of RNA
(c) A ribosome binding site
(d) A mutation type
- CO:4 7. In the C₄ photosynthetic pathway, the primary CO₂ fixation
K:1 occurs in
(a) Mesophyll cells (b) Bundle sheath cells
(c) Guard cells (d) Epidermal cells
- CO:4 8. Who is called as father of Genetics?
K:1
(a) G.J. Mendal (b) C. Linnaeus
(c) J. Watson (d) T.H. Morgan
- CO:5 9. Raunkiaer's life-form classification groups plants based on
K:1 _____
(a) Leaf size (b) Position of perennating buds
(c) Root depth (d) Flowering season
- CO:5 10. The final stable community in ecological succession is called
K:1 _____
(a) Pioneer community (b) Climax community
(c) Seral stage (d) Disturbance phase

PART - B (5 X 5 = 25 Marks)

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

Answer should not exceed 250 words.

- CO:1 11. (a) Elaborate the application of microbes in industry and
K:3 medicine.

(OR)

(b) Examine in detail about sugar yielding plants.

- CO:2 12. (a) List out the general characters of Gymnosperms.
K:3

(OR)

(b) Write a short note on fossilization.

- CO:3 13. (a) Explain the ultra structure of nucleus with a neat diagram.
K:3

(OR)

(b) Write an account of Enzyme classification.

CO:4 14. (a) Illustrate the process of Nitrogen fixation.

K:3 **(OR)**

(b) Discuss about the linkage and crossing over.

CO:5 15. (a) Write in detail about the National parks in Tamil Nadu

K:3 **(OR)**

(b) Write in detail about ecosystem components.

PART - C (5 X 8 = 40 Marks)

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

Answer should not exceed 600 words.

CO:1 16. (a) Describe the structure of bacteria with neat labeled diagram.

K:3

(OR)

(b) Discuss in detail about any two important crop diseases caused by bacteria.

CO:2 17. (a) List out the economic importances of algae.

K:3

(OR)

(b) Explain the natural system of classification in detail with its merits and demerits.

CO:3 18. (a) Analyze the different types of cell divisions in detail.

K:4

(OR)

(b) Examine the structure and properties of proteins.

CO:4 19. (a) Evaluate the significance of the Krebs cycle in cellular metabolism.

K:5

(OR)

(b) Explain in detail about the DNA repair mechanisms.

CO:5 20. (a) Evaluate the process and ecological significance of Ecological succession.

K:5

(OR)

(b) Write an elaborate account of phytogeography.