

# **KAMARAJ COLLEGE (Autonomous)**

Accredited with A+ Grade by NAAC

(Affiliated to Manonmaniam Sundaranar University, Tirunelveli)

THOOTHUKUDI – 628 003

**(6 Pages)**

**Reg. No: .....**

**Question. Code No : 25E03503**

**Sub Code : 24PMB023**

**PG Degree - End Semester Examinations, April 2025**

**Second Semester**

**M.Sc. BOTANY**

**Major - Ecology, Phytogeography, Conservation Biology and  
Intellectual Property Rights**

**(For those who joined in July 2024 onwards)**

**Time : 3 Hours**

**Maximum : 75 Marks**

**PART – A (10 × 1 = 10 Marks)**

**Answer ALL Questions**

**Choose the correct answer :**

1. The climax community in ecological succession is
  - (a) The beginning stage of succession
  - (b) A temporary phase

- (c) A stable and mature stage
  - (d) A disturbed community
2. Which of the following is a biotic factor regulating population size?
- (a) Natural disasters
  - (b) Temperature
  - (c) Predation
  - (d) Soil pH
3. Which of the following is a non-renewable energy resource?
- (a) Solar energy
  - (b) Wind energy
  - (c) Coal
  - (d) Biomass
4. The process of converting organic waste into nutrient-rich compost is known as
- (a) Incineration
  - (b) Landfilling
  - (c) Composting
  - (d) Recycling
5. Which of the following is *not* a phytogeographical zone of India?
- (a) Western Himalayas
  - (b) Deccan Plateau
  - (c) Thar Desert
  - (d) Amazon Basin
6. In GIS, the process of converting raster data to vector data is known as
- (a) Digitization
  - (b) Georeferencing
  - (c) Vectorization
  - (d) Interpolation
7. The term "biodiversity hotspot" refers to regions that are

- (a) Rich in species diversity but not under threat
  - (b) Areas with low endemic species
  - (c) Regions with high levels of endemic species under significant threat
  - (d) Areas with high human population density
8. Which of the following is a major threat to biodiversity?
- (a) Habitat loss
  - (b) Sustainable agriculture
  - (c) Ecotourism
  - (d) Afforestation
9. The term of copyright protection for an author in India is
- (a) Life of the author
  - (b) Life of the author plus 50 years
  - (c) Life of the author plus 60 years
  - (d) Life of the author plus 70 years
10. Which international agreement aims to protect intellectual property rights worldwide?
- (a) The Paris Agreement
  - (b) The Geneva Convention
  - (c) The TRIPS Agreement
  - (d) The Kyoto Protocol

**PART - B (5 X 5 = 25 Marks)**

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

**Answer should not exceed 250 words.**

11. (a) Describe population ecology and the concept of population dynamics.

**(OR)**

(b) Describe the different plant life forms based on Raunkiaer's classification.

12. (a) Expound the Gross Primary Productivity (GPP) and Net Primary Productivity (NPP). How do they differ?

**(OR)**

(b) Explain the concept of ecological footprints and their significance in environmental management.

13. (a) Interpret phytogeographical zones and list the major zones of India.

**(OR)**

(b) Explain the principles of remote sensing and its applications in phytogeography.

14. (a) What are biodiversity hotspots? Name any two in India.

**(OR)**

(b) Differentiate *insitu* and *exsitu* conservation methods.

15. (a) Enumerate the Intellectual Property Rights and list its main types.

**(OR)**

(b) Write an account on geographical indication with examples.

**PART - C (5 X 8 = 40 Marks)**

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

**Answer should not exceed 600 words.**

16. (a) Describe the characters and structure of a biological community.

**(OR)**

(b) Elaborate the regulation of population density in ecosystems.

17. (a) Describe the structure and function of food chains and food webs in an ecosystem. How do they facilitate energy flow?

**(OR)**

(b) Analyze the causes and consequences of climate change, and discuss the strategies for mitigation and adaptation.

18. (a) Elucidate the theories explaining discontinuous distribution of plant species.

**(OR)**

(b) Describe the vegetation types of Tamil Nadu and their ecological significance.

19. (a) Discuss the major threats to biodiversity and suggest conservation strategies.

**(OR)**

(b) Elaborate the role of biotechnology in plant conservation.

20. (a) Discuss the evolution of Intellectual Property Rights in India and the impact of international agreements like TRIPS on its legal framework

**(OR)**

(b) Describe the procedure for filing an ordinary patent application in India.