



K24U 0018

Reg. No. : .....

Name : .....

VI Semester B.Sc. Degree (CBCSS – OBE – Regular/Supplementary/  
Improvement) Examination, April 2024  
(2019 to 2021 Admissions)

CORE COURSE IN BOTANY/PLANT SCIENCE  
6B13BOT/PLS : Evolution and Palaeobotany

Time : 3 Hours

Max. Marks : 40

PART – A

Objective type questions. Answer **all**.

(4×1=4)

1. What type of speciation occurs when a physical barrier separates a population, leading to the formation of two distinct species ?
  - a) Allopatric speciation
  - b) Sympatric speciation
  - c) Parapatric speciation
  - d) Peripatric speciation
2. The factor responsible for random changes in gene frequencies in small populations is
  - a) Mutation
  - b) Genetic drift
  - c) Natural selection
  - d) Gene flow
3. What does microevolution primarily focus on ?
  - a) Changes in species over long periods
  - b) Large-scale adaptations
  - c) Genetic variations within populations
  - d) Convergent evolution patterns
4. Which group is known as the vascular cryptogams ?
  - a) Gymnosperms
  - b) Angiosperms
  - c) Pteridophytes
  - d) Bryophytes

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PART – B

Short essay questions. Answer **any eight**.

(8×2=16)

5. Explain the endosymbiotic theory.
6. Give the significance of Dryopithecus.
7. Explain atavism.
8. Explain LUCA.
9. Discuss the significance of polyploidy in evolution.
10. What is genetic diversity ?
11. Describe the morphology of *Rhynia* sporophyte.
12. Enlist the differences between apes and man.
13. Explain polyphyly and monophyly.
14. What are petrifications ?
15. Explain species concept.
16. Explain co-evolution with an example.

PART – C

Essay questions. Answer **any four**.

(4×3=12)

17. Differentiate convergent and divergent evolution.
18. Describe the anatomical evidences of evolution.
19. Explain Oparin's hypothesis.
20. Explain Hardy-Weinberg law.
21. How do cladograms depict evolutionary relationships among organisms ?
22. Write an account on crop domestication and loss of genetic diversity.

PART – D

Long essay questions. Answer **any one**.

(1×8=8)

23. Explain the geological time scale with special emphasis to plant evolution of each era.
24. Discuss Lamarckism.
25. Give a detailed account on the factors that affect gene frequencies in a population.