

M.Sc. (Prev.) Botany Examination, August/September 2008
(Freshers)

Directorate of Correspondence Course

Paper – 1 : BIOLOGY AND DIVERSITY OF ALGAE, FUNGI,
BRYOPHYTA, PTERIDOPHYTA AND GYMNOSPERMS

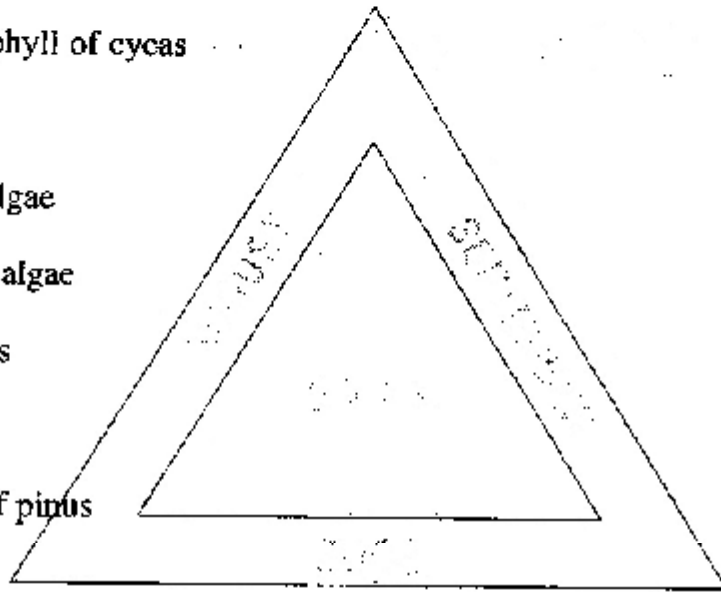
Time : 3 Hours

Max. Marks : 85

I. Answer any SEVEN of the following :

(7×4=28)

- 1) Winged pollen grains
- 2) Megasporophyll of cycas
- 3) Synangium
- 4) Poisonous algae
- 5) Filamentous algae
- 6) Gemma cups
- 7) Diplobionty
- 8) Male cone of pinus
- 9) Perithecium



- 10) Sporophyte of Anthoceros.

II. Answer any THREE of the following :

(3×9=27)

- 11) Write the economic importance of algae.
- 12) Explain the methods of sexual reproduction in Ectocarpus and Polysiphonia.
- 13) Discuss the heterospory and seed habit in pteridophytes.

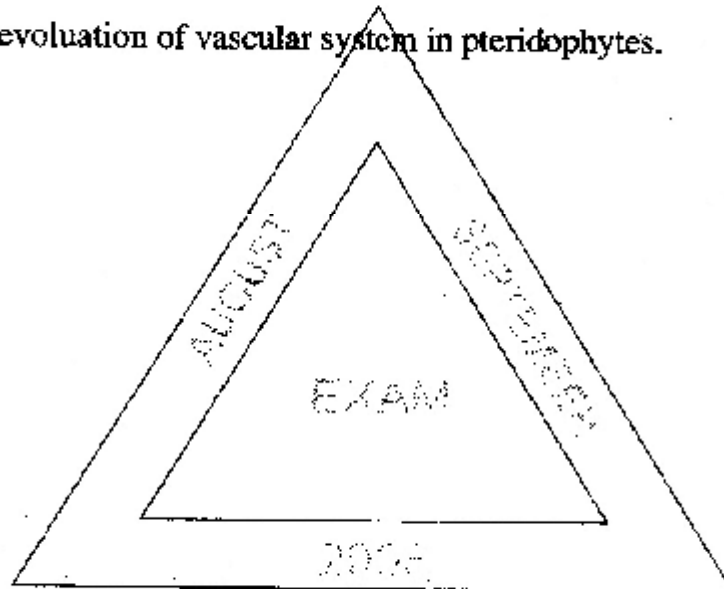
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- 14) Classify lichens and write their significance in ecosystem.
- 15) Give an account of origin and evolution of land plants.

III. Answer any TWO :

(2×15=30)

- 16) Write a comparative account of sexual reproduction in chlorophyceae and xanthophyceae.
- 17) Write on the alternation of generation in chlorophyceae and phaeophyceae.
- 18) Write the salient features of gymnosperms. Add a note on the affinity of the group with angiosperms.
- 19) Discuss the evolution of vascular system in pteridophytes.



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Paper-II- DIVERSITY OF ANGIOSPERMS AND PLANT TAXONOMY

Time : 3 Hours

Max. Marks : 85

I. Answer any SEVEN of the following :

(7×4=28)

1. Engler
2. Polypetalae
3. Lignosae
4. NTFP
5. Ecosystem monitoring
6. Oenothera-type embryo sac
7. Alkaloids
8. Paris code
9. Catkin
10. Staminal column

II. Answer any THREE of the following:

(3×9=27)

11. Relevance of plant taxonomy in conservation of Biodiversity.
12. Merits and demerits of Hutchinson and Takhtajan systems of plant classification.
13. Hot spots of Biodiversity.
14. Economic importance of Rubiaceae and Verbenaceae.
15. Diagnostic features of family Combretaceae.

III. Answer any TWO of the following :

(2×15=30)

16. With merits and demerits describe the Cronquist's system of classification of flowering plants.
17. Write importance of chemotaxomy in plant classification.
18. How to describe a new species ? Explain the principles and strategies.
19. Describe the diagnostic features of family Asteraceae. Add a note on their phylogeny.

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Paper – III : PLANT ECOLOGY AND PLANT GEOGRAPHY

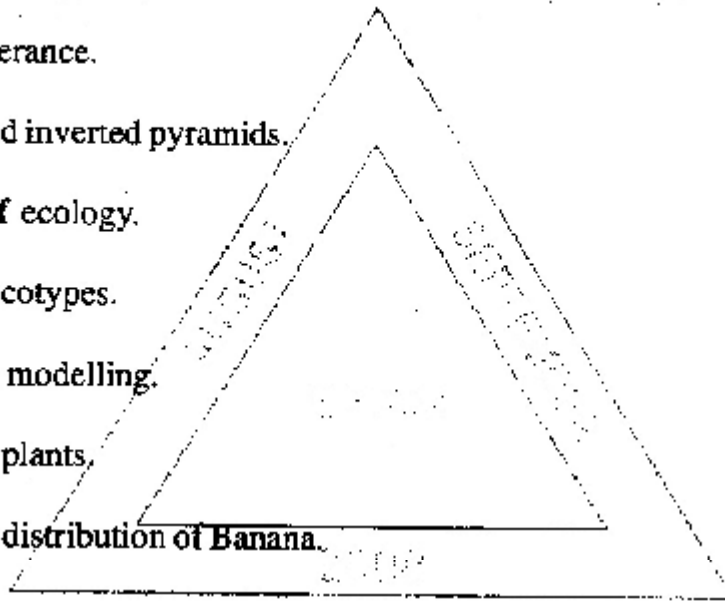
Time : 3 Hours

Max. Marks : 85

- Note :* 1) Answer all the questions.
2) Draw diagrams wherever necessary.

I. Answer any SEVEN of the following : (7×4=28)

- 1) Law of tolerance.
- 2) Upright and inverted pyramids.
- 3) Concept of ecology.
- 4) Kinds of ecotypes.
- 5) Ecosystem modelling.
- 6) C₃ and C₄ plants.
- 7) Origin and distribution of Banana.
- 8) Primary consumers.
- 9) Forest edge habitat.
- 10) Structural characteristics of a plant community.



II. Answer any THREE of the following : (3×9=27)

- 11) Characteristics of a population.
- 12) Functions of ecosystem.

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13) The sedimentary cycles.

14) The theory of continental drift.

15) Plant resources diversity and its utilization.

III. Answer any TWO of the following :

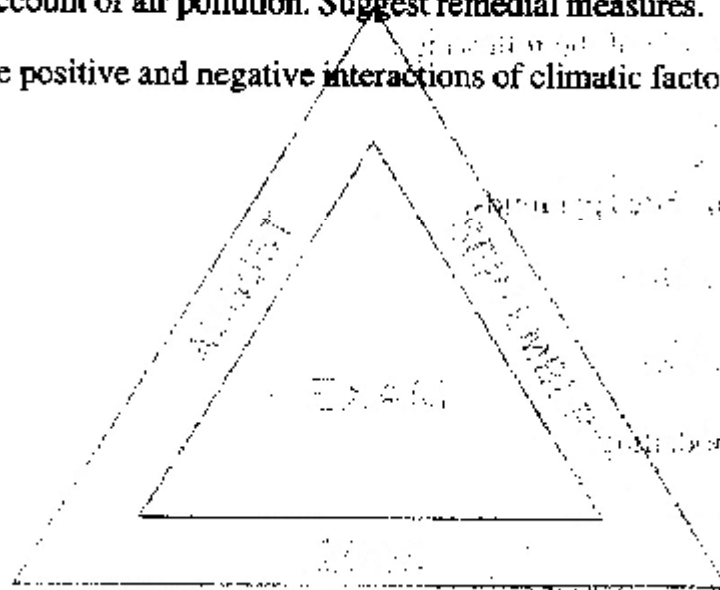
(2x15=30)

16) Describe dispersal of plant and their mechanisms.

17) Describe structure and function of a typical ecosystem.

18) Write an account of air pollution. Suggest remedial measures.

19) Discuss the positive and negative interactions of climatic factors.



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Paper – IV : MICROBIOLOGY

Time: 3 Hours

Max. Marks: 85

I. Answer any SEVEN of the following : (7×4=28)

1. Louis Pasteur
2. Resolving power
3. Axenic culture
4. Phytoplasm
5. Leg-haemoglobin
6. Organic acid producing fungi.
7. Coliforms
8. Rotorod sampler
9. Salmonellosis
10. Robert Koch.

II. Answer any THREE of the following : (3×9=27)

11. Process of pasteurization
12. Bright field and phase contrast microscopy.
13. Algal and fungal biofertilizers.
14. Water-borne diseases
15. Aeroallergens in human health.

III. Answer any TWO of the following : (15×2=30)

16. Discuss in detail the recent developments in the field of microbiology.
17. Give an account of industrial application of microbes and add a note on single cell proteins.
18. Discuss in detail methods of food preservation.
19. Write the systems of classification of bacteria.