

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Fifth Semester B.Sc Botany Degree Examination, November 2024

BBT5B06 - Gymnosperms, Palaeobotany, Phytogeography & Evolution

(2022 Admission onwards)

Time: 2 hours

Max. Marks : 60

SECTION A

(Answer all questions, each question carries 2 marks. Ceiling: 20 Marks)

1. Explain Coralloid root. What is its significance?
2. What is Pseudo-mesarch condition?
3. Explain Polyembryony.
4. What is 'bars of sanio'?
5. What are incrustations? Mention its significance.
6. What is an Epoch?
7. Write down the major contributions of BSIP.
8. What is Co-acervation?
9. What are Homologous structures?
10. Write a short note on extinction. Explain its reasons.
11. What are Fossil fuels?
12. What are Prions?

SECTION B

(Answer all questions, each question carries 5 marks. Ceiling: 30 Marks)

13. Write a note on the affinities of Gymnosperms with Pteridophytes.
14. Compare the male cones of *Pinus* and *Gnetum*.
15. What are fossils? Explain the mechanism of fossilization.
16. Explain Vicarism.
17. Explain the evolution of Eukaryotic cells.
18. Write a note on Selection.
19. Explain Urey and Miller experiment.

SECTION C

(Answer any one question, each question carries 10 marks. 1 x 10 = 10 Marks)

20. With illustrations, explain the life history of *Cycas*.
21. Explain the Phytogeographical zones in India.

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BBT5B07 - Angiosperm Morphology & Systematics

(2022 Admission onwards)

Time: 2 hours

Max. Marks : 60

SECTION A**(Answer all questions, each question carries 2 marks. Ceiling: 20 Marks)**

1. Briefly describe the types of phyllotaxy. Cite examples.
2. What is caruncle? Cite examples
3. Write a brief note on wind dispersed fruits. Cite examples.
4. Compare the features of petals in Faboideae and Caesalpinioideae.
5. Write a note on Index Herbariorum
6. Write an account on the major contributions of Robert Wight.
7. Write a brief note on monographs and revisions.
8. Write on four salient features of Lamiaceae.
9. What is Author citation? Cite examples.
10. Write a brief note on numerical taxonomy
11. What is a binomial? Cite two examples.
12. Write a brief note on the APG system of classification.

SECTION B**(Answer all questions, each question carries 5 marks. Ceiling: 30 Marks)**

13. Write a note on the symmetry of flowers. Cite suitable examples. Discuss the evolutionary significance of symmetry. [2 + 1 + 2 = 5 marks]
14. Write a note on the concept of 'Flower - as a modified shoot'. What are the evidences in support of this? [3+2 = 5 marks]
15. Write note on the floral features of Poaceae.
16. Write an account on Botanic Gardens and their significance? Cite the salient features of one international and one national Botanic Gardens [2+1+1 = 5 marks]
17. Write the Principles of ICN.
18. Write an account on the different types of keys used in plant identification.
19. Describe the salient features of Orchidaceae.

SECTION C

(Answer any one question, each question carries 10 marks. 1 x 10 = 10 Marks)

20. Write an essay on herbarium, highlighting the following aspects:

- a) history b) role of Linnaeus in its improvement
- c) relevance d) preparation techniques, e) major herbaria in the world

[2 marks x 5 = 10 marks]

21. Write an essay on the types of fruits. Cite suitable examples.

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Fifth Semester B.Sc Botany Degree Examination, November 2024

BBT5B08 - Tissue culture, Horticulture, Economic Botany & Ethnobotany

(2022 Admission onwards)

Time: 2 hours

Max. Marks : 60

SECTION A

(Answer all the questions, each question carries 2 marks. Ceiling : 20 marks)

1. Who is the father of Tissue culture?
2. Differentiate between re-differentiation and de-differentiation
3. What is somatic embryogenesis?
4. Define somatic hybridization, and its application.
5. What is a bioreactor ? Mention one of its applications?
6. Write a note on the different types of landscaping
7. Explain the concept of biopesticides, with an example.
8. What are the different types of soil?
9. What are the advantages and disadvantages of seed propagation?
10. What are the advantages of drip irrigation?
11. Name two oil yielding crops, cite their botanical names and morphology of part used.
12. Write a note on JNTBGRI mode of benefit sharing.

SECTION B

(Answer all the questions, each question carries 5 marks. Ceiling :30 marks)

13. What are the components of nutrient media used in tissue culture ?
14. Write a note on the working of a Laminar Air Flow chamber.
15. Describe the stages of micropropagation
16. How would you describe the advantages and disadvantages of chemical vs organic fertilizers ?
17. Describe the different types of potting mixtures used in horticulture.
18. Describe the medicinally important plant species, with examples and the medicinal constituents present in them.
19. Describe the major tribes of Kerala

SECTION C

(Answer any one question, each question carries 10 marks. 1 x 10 = 10 marks)

20. Describe the various methods employed in tissue culture, citing the applications of each.
21. What are the different modes of vegetative propagation? Briefly describe the different methods and their characteristic features.

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Fifth Semester B.Sc Botany Degree Examination, November 2024

BBT5B09 - Cell Biology and Biochemistry

(2022 Admission onwards)

Time: 2 hours

Max. Marks : 60

SECTION A**(Answer all the questions, each question carries 2 marks. Ceiling: 20 Marks)**

1. What is the role of ribosomes in a cell?
2. Comment on the Fluid mosaic model of plasma membrane.
3. What is telomere? Write a note on its significance.
4. Differentiate between acrocentric and metacentric chromosomes.
5. Write an account on chiasma formation.
6. What are chromosome puffs?
7. Differentiate ribose and deoxyribose sugars.
8. Comment on disaccharides.
9. What is Poly unsaturated fatty acids. ?
10. Write a short note on denaturation and renaturation of proteins.
11. What are isozymes?
12. Differentiate purines and pyrimidines.

SECTION B**(Answer all the questions, each question carries 5 marks. Ceiling: 30 Marks)**

13. Explain the differences between the smooth and rough endoplasmic reticulum in terms of structure and function.
14. Give a brief account on the structure and function of chloroplast.
15. Briefly explain the structure and function of polytene chromosome.
16. Write an account on the stages in Prophase I of Meiosis I.
17. Write an account on secondary metabolites. Mention their ecological significance.
18. Briefly explain the classification of lipids.
19. Write an account on protein? Describe the four levels of protein structure.

SECTION C

(Answer any one question carries 10 marks. 1 x 10 = 10 Marks)

20. What is the function of the nucleus in eukaryotic cells? Write an account on the structure of nuclear envelope, nucleolus and chromatin.
21. Describe the mechanism of enzyme catalysis and discuss the role of coenzymes and cofactors in enzyme function.

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Fifth Semester B.Sc Botany Degree Examination, November 2024

(Open Course)

BBT5D02 - Applied Botany

(2022 Admission onwards)

Time: 2 hours

Max. Marks : 60

PART A**Answer the following question each questions carries 2 Marks**

1. What is hardening?
2. Write on grafting, what are the types?
3. What do you mean by seed dormancy?
4. Write any method to correct soil p^H .
5. Comment on surface irrigation.
6. Write on spray type irrigation.
7. What is spawn?
8. What is Vermicompost?
9. What are mycorrhiza?
10. Briefly explain vegetable gardening.
11. Write the binomial, family and morphology of useful part of any two cereals.
12. Write the binomial, family and morphology of useful part of any two Fibre yielding plants

(Ceiling-20 Marks)**PART B****Answer the following question each questions carries 5 Marks**

13. Distinguish between direct and indirect organogenesis.
14. Explain different types of soil?
15. Distinguish between depotting and repotting.
16. What are the necessary requirements for orchid cultivation? Explain its advantages.
17. Discuss the role of rhizobium association in leguminous plants.
18. Explain various techniques involved in vermicomposting.
19. Explain the various medicinal plants you studied with special reference its botanical name, family and their useful parts. ,

(Ceiling-30 Marks)

PART C

Answer any of the following question each questions carries 10 Marks

20. Describe the types of vegetative propagation methods such as budding, layering and grafting.
21. Explain various organic and inorganic fertilizers with special reference to its merits and demerits.

(1 x 10 = 10 Marks)