1B5N23422 (Pages : 1) Reg. No:.....

Name: .....

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Fifth Semester B.Sc Botany Degree Examination, November 2023

BBT5B06 – Gymnosperms, Paleobotany, Phytogeography & Evolution

(2019 Admission onwards)

Time: 2 hours Max. Marks: 60

SECTION A

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

1. Enumerate the xerophyticadaptations of *Pinus* leaves.
2. Distinguish between manoxylic and pycnoxylic wood.
3. Describe Geological time scale.
4. Explain age and area hypothesis.
5. What is continental drift?
6. Write a brief note on evolution of prokaryotic cell.
7. Explain the Modern concept of evolution.
8. Mention the contributions of the Indian Palaeobotanists.
9. What are the causes and consequences of glaciation?
10. Describe the coralloid root of *Cycas*.
11. Explain the morphology of *Gnetum* sporophyte.
12. What is genetic drift? Explain.

SECTION B

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

13. Explain Oparin's concept of origin of life.
14. Give a brief account of phytogeographical zones of India.
15. Explain the theory of land bridges.
16. Give a detailed description of affinities of Gymnosperms to Pteridophytes.
17. Explain speciation.
18. Describe *Rhynia*.
19. Explain the economic importance of Gymnosperms.

SECTION C

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

20. Write an essay on the evidences of organic evolution.
21. Describe the various patterns of plant distribution.

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Fifth Semester B.Sc Botany Degree Examination, November 2023

BBT5B07 – Angiosperm Morphology & Systematics

(2019 Admission onwards)

Time: 2 hours Max. Marks: 60

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

1. Explain the types of compound leaves found in angiosperms.
2. Discuss the contributions of JS Gamble to the field of Indian taxonomy.
3. Explain any four types of calyx modifications with examples.
4. Explain the floral characters of Lamiaceae.
5. Differentiate between holotype and isotype.
6. Give an account of any two major botanical gardens in Kerala
7. A flower can be considered as a modified shoot. Justify the statement.
8. Give the binomial of any four economically important plants of Myrtaceae
9. List out the primitive features of Annonaceae.
10. Comment on various levels of cohesion shown by the stamens in angiosperms.
11. Give an account of adnation exhibited by members of Solanaceae
12. Give an account of biological species concept.

SECTION B

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

13. Give an account of the various types of simple dry fruits with examples.
14. Differentiate between effective and valid publication.
15. Discuss the merits and demerits of Bentham & Hooker's system of classification.
16. Explain the types of flowers according to the relative position of ovary and other floral parts with examples.
17. Discuss taxonomical features of Cucurbitaceae.
18. What is chemotaxonomy? Explain the principles. How is it helpful in taxonomic research?
19. Give an account of ICN principles.

SECTION C

(Answer any one question, each question carries 10 marks. 1x10 = 10 Marks)

20. Give an account of various types of inflorescences produced by angiosperms citing suitable examples.

21. Discuss the salient features of the family Orchidaceae focusing on its unique features. Analyze the reasons for considering it as the most advanced family. Add a note on its economic importance

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Fifth Semester B.Sc Botany Degree Examination, November 2023

BBT5B08 – Tissue Culture, Horticulture, Economic Botany, Ethnobotany

(2019 Admission onwards)

Time: 2 hours Max. Marks: 60

SECTION A

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

1. Explain any two significances of meristem culture.
2. Differentiate between de-differentiation and re-differentiation.
3. What do you mean by Somaclonal variation?
4. Define Synthetic seeds. Write any two advantageous of synthetic seeds
5. What is immoboilization?
6. Write notes on Biopesticides. Give examples.
7. What is hardening?
8. What do you mean by Olericulture?
9. Discuss different potting mixtures.
10. Define vermicomposting.
11. Write the binomial, family and morphology of useful part of *Rubber*.
12. Comment on the ethnobotanical significances of *Trichopus zeylanicus*

SECTION B

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

13. Briefly explain the components of culture media.
14. What is micropropagation. Discuss its advantages and disadvantages.
15. What is the difference between anther and pollen culture? Which one is advantageous?
16. Write note on post-harvest management of Vegetables.
17. Explain mushroom cultivation.
18. Define Spices. Add notes on economic importance of any 3 Spices.
19. What do you mean by Ethnobotany? Add notes on any four major tribes of Kerala.

SECTION C

(Answer any one question. Each question carries 10 marks. 1X10= 10 Marks)

20. Explain the aseptic techniques and sterilization methods in tissue culture.
21. Discuss different vegetative propagation methods.

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Fifth Semester B.Sc Botany Degree Examination, November 2023

BBT5B09 – Cell Biology & Biochemistry

(2019 Admission onwards)

Time: 2 hours Max. Marks: 60

SECTION A

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

1. What are lysosomes?
2. Describe the features of lampbrush chromosomes.
3. What is kinetochore?
4. Enumerate the functions of nucleolus.
5. What is the significance of pachytene stage in meiosis?
6. Mention the genetic effects of duplications.
7. What are zwitterions?.
8. What are chaperons? Mention their function.
9. Describe sphingolipids.
10. What are glycosidic bonds?
11. Differentiate between co factors and coenzymes, mentioning examples.
12. What are isoenzymes?Give example

SECTION B

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

13. What is cell cycles? Explain the stages in interphase.
14. Differentiate between euchromatin and heterochromatin.
15. Describe the structural organization of proteins.
16. Explain the different types of compound lipids.
17. Explain the structure and function of endoplasmic reticulum.
18. What is inversion? Mention its genetic effects.
19. What are secondary metabolites? Explain their role in plants.

SECTION C

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

20. Give an account of mitotic cell division in plants with the help of suitable diagrams.
21. Explain the mechanism of enzyme action. Add notes on enzyme regulation.

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Fifth Semester B.Sc Botany Degree Examination, November 2023

(Open Course)

BBT5D02 – Applied Botany

(2019 Admission onwards)

Time: 2 hours Max. Marks: 60

SECTION A

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

1. Define layering. Name two types of layering.
2. What is the composition of commonly used potting mixtures?
3. What is significance of meristem culture?
4. Differentiate between organic manure and chemical fertilizers, with reference to its merits and demerits
5. What are the commonly used earthworms for vermi composting technique
6. What are the two major fibre yielding plants of economic use?
7. What is *Azolla*? How does it help in plant cultivation.
8. Briefly outline the art of making bonsai
9. Write the Binomial and family of the two spices you have studied.
10. What is the relevance of NPK? Name two chemical fertilizers rich in Nitrogen
11. Define callus. Mention one of its importance in tissue culture.
12. What is 'Humus'? Give its significance.

SECTION B

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

13. Write an account on vegetable gardens, citing the common vegetables that can be cultivated
14. What is micropropagation? List its advantages.
15. Describe the difference plant protection methods.
16. Distinguish between depotting and repotting, and describe the different types of pots
17. Give the binomial, family and morphology of the useful parts of two oil yielding plants
18. Describe the procedure for cultivation of oyster mushroom.
19. What are biofertilizers, explain any two biofertilizers used.

SECTION C

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

20. Give an account on the various plant propagation methods, with a note on their advantages and disadvantages
21. Discuss various types of irrigation and their significance