

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Fifth Semester Botany Degree Examination, November 2018

**BOT5B05T – Gymnosperms, Palaeobotany, Phytogeography & Evolution**

(2015 Admission onwards)

Max. Time: 3 hours

Max. Marks: 80

**PART A**

**(Answer all the questions)**

1. In *Cycas* pollen tubes are \_\_\_\_\_ in function
2. Male gametophytes of *Pinus* are liberated in \_\_\_\_\_ - celled condition
3. In a Gymnosperm seed endosperm represents \_\_\_\_\_ generation
4. \_\_\_\_\_ era is also known as 'age of seed ferns'
5. Fossils formed by the burial of plants or their parts in sediments are called as \_\_\_\_\_
6. Continental drift theory was put forth by \_\_\_\_\_
7. Methane producing Archaeobacteria are called as \_\_\_\_\_
8. Fluctuation in allelic frequencies in a population over the generations are called as \_\_\_\_\_
9. The mixture of sea water and organic compounds formed during the origin of life is termed as \_\_\_\_\_
10. As per Darwinism major mechanism behind the evolution is \_\_\_\_\_

(10 x 1= 10 marks)

**PART B**

**(Answer all questions)**

11. Comment on secondary growth in *Cycas* stem
12. Discuss Pteridophytic Characters of *Cycas*.
13. What are Brachyblasts?
14. How *Gnetum* differs from other Gymnosperms?
15. What is Infiltration theory?
16. Distinguish between Palaeo-endemics and Neo-endemics.
17. What are land corridors?
18. What are the different types of continuous distributions?
19. Comment on major methods of speciation
20. What are Coacervates?

(10 x 2=20 marks)

### PART C

(Answer any six of the following)

21. Describe and illustrate internal structure of *Pinus* needle
22. Describe the structure of female strobilus and ovule in *Gnetum*
23. Briefly describe Geological time scale.
24. Give an account of Williamsonia.
25. Comment on the great ice age
26. Explain different kinds of species extinctions.
27. Briefly explain the causes of genetic variations.
28. Explain Urey-Miller's experiment on origin of life.

(6 x 5 = 30 marks)

### PART D

(Answer any two of the following)

29. With the help of necessary diagrams explain reproduction in *Cycas*.
30. Describe various Phytogeographical zones of the world.
31. Describe and compare Lamarck's and Darwin's theory on evolution of species.

(2 x 10 = 20 marks)

PAROOK COLLEGE (AUTONOMOUS), KOZHIKODE  
 Fifth Semester Botany Degree Examination, November 2018  
**BOT5B06T – Angiosperm Morphology & Plant Systematics**  
 (2015 Admission onwards)

Max. Time: 3 hours

Max. Marks: 80

**PART - A**Answer *all* questions. Each question carries *one* mark.

1. Who initiated the binomial nomenclature?
2. Write briefly on salient features of gynoecium of Annonaceae.
3. What is *Nomen Nudum*?
4. *Hortus Malabaricus* was printed at ..... in ..... volumes.
5. Acronyms, CAL and CALI stands for .....
6. What are the salient features of stamens in Myrtaceae.
7. What is pneumatophore?
8. What is floral diagram?
9. What is corona?
10. Differentiate scabrous and hispid.

(10 x 1 = 10 Marks)

**PART - B**Answer *all* questions. Each question carries *two* marks

11. What are the major rules for naming of hybrids.
12. Briefly describe the floral features of Euphorbiaceae.
13. Write a brief note on Index Kewensis.
14. Write brief descriptions of major Botanical Gardens in Kerala.
15. What is Numerical Taxonomy?
16. Define Holotype, Syntype, Neotype and Paratype.
17. Write a note on phyllotaxy.
18. What are different types of compound leaves?
19. Define with examples:- imparipinnate, syngenechous, perigyny, tomentose
20. What is thyrsus?

(10 x 2 = 20 Marks)

PART - C

Answer *any six* questions. Each question carries *five* marks

21. Compare the features of Rubiaceae and Apocynaceae.
22. Write a note on Chemotaxonomy. Cite one example.
23. Write a note on APG Classification system.
24. Write an account on Lectotype and Lectotypification.
25. Write a note on the shapes of leaf lamina.
26. What are the major cymose type of inflorescence?
27. Write an account on the salient features of fruits and seeds dispersed by water?
28. Write note on aggregate fruits.

(6 x 5 = 30 Marks)

PART - D

Answer *any two* questions. Each question carries *ten* marks

29. Write an essay on the Bentham and Hooker's system of classification. Discuss its merits and demerits.
30. Describe the preparation of herbarium. Discuss the significance of herbarium.
31. Write an account on the concept of flower is a modified shoot. Discuss its significance in the light of advances in research.

(2 x 10 = 20 Marks)

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(Pages : 2)

Reg. No:.....

Name: .....

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Fifth Semester Botany Degree Examination, November 2018

**BOT5B08T – General & Bioinformatics, Introductory, Biotechnology, Molecular  
Biology**

(2015 Admission onwards)

Max. Time: 3 hours

Max. Marks: 80

**Part-A**

**(Answer all questions)**

1. What does IP stand for in IP Address?
2. Write expansion of BRNet?
3. Genetic variations formed during tissue culture are called \_\_\_\_\_.
4. Part of the plant introduced into nutrient medium for initiating tissue culture is called \_\_\_\_\_.
5. Name a vector used for transfer of DNA into plant cells.
6. Thermal cycler is used in \_\_\_\_\_ reaction.
7. Who provided experimental evidence for semi conservative DNA replication?
8. Operon hypothesis was proposed by \_\_\_\_\_.
9. Mutations which take place without any obvious cause are called \_\_\_\_\_.
10. One gene - one enzyme hypothesis was proposed by \_\_\_\_\_.

(1 x 10= 10 marks)

**Part-B**

**(Answer all questions)**

11. What is Domain Name System?
12. Describe green computing.
13. What is a Meta search engine? Write an example.
14. Write a note on pBR322.
15. What is anther culture? Mention applications of the technique.
16. Write a note on cybridization.
17. What are recons and mutons?
18. What is teminism?
19. What are splitt genes?
20. Explain central dogma in molecular biology.

(10 x 2 = 20 marks)

**Part-C**

(Answer any six of the following)

21. Write notes on a) Rasmol b) Artificial intelligence.
22. Briefly explain southern blotting technique.
23. Explain the process of transcription? Mention role of different RNA polymerases involved in transcription?
24. Briefly explain steps involved in DNA Replication.
25. Describe the structure and types of DNA molecules.
26. Describe molecular docking and computer aided drug design.
27. Explain the method and Applications of *in vitro* secondary metabolite production
28. Explain how biotechnology has been applied in the production of herbicide resistant crop and human growth hormone.

(6 x 5 = 30 marks)

**Part- D**

(Answer any two of the following)

29. Describe different methods used for gene transfer.
30. Explain the various steps in protein synthesis.
31. Write an essay on sequence alignment types and tools used in sequence alignment.

(2 x 10 = 20 marks)

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE  
Fifth Semester Botany (Open Course) Degree Examination, November 2018  
BOT5D02 – Applied Botany  
(2015 Admission onwards)

Max. Time: 2 hours

Max. Marks: 40

Part A

Answer all questions

1. -----and-----are the major grain crops in India
2. ----- is the popular cultivated edible mushroom in India.
3. Pomology is the study of -----
4. Green House is meant for-----.
5. ----- is the scientific name of Gingelly.

(1 x 5 = 5marks)

Part B

Answer all questions

6. What is Somatic embryogenesis?
7. What are macro nutrients?
8. Give the vegetative propagation method of rose plant?
9. Write the Binomial, family and morphology of the useful part  
a) Adhatoda                      b) Pepper
10. What is biological control?

(5 x 2=10 marks)

Part C

Answer any three of the following

11. Describe briefly the sterilization practices for micro propagation?
12. Briefly explain the post harvest strategies of flowers?
13. Give a short account on medicinal plants you studied.
14. Briefly describe the plat propagating structures?
15. Explain the methods of grafting and different types of grafting.

(3 x 5=15 marks)

Part D

Answer any one of the following

16. Write vermicomposting techniques and enumerate its advantages and disadvantages
17. Describe the cultivation practices of orchids and discuss its economic value

(1 x 10=10 marks)