

DHANAMANJURI UNIVERSITY

JUNE – 2021

Name of Programme : B.Sc. Botany
Semester : 2nd
Paper Code : CBO-105
Paper Title : Mycology and Phytopathology
Full Marks : 50

*The figures in the margin indicate full marks for the questions.
Answer all questions.*

1. What are the two ecological roles of fungi? 2
 2. What do you know about medical mycology? 3
 3. "Lichens are the best example of Symbiosis". Justify this statement. 5
 4. Give an outline classification of fungi as proposed by Ainsworth. 10
- Or
- Describe the structure and reproduction of *Synchytrium*. 10
5. What are Ascomycotina? Describe the modes of ascus development in this group. 10
- Or
- Write an account of the life history of *Phytophthora*. 10
6. What is plasmodium? Describe different types of plasmodia of Slime molds. 10
 7. Describe the principal methods used to control plant diseases. 10

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Name of Programme : B.Sc. Botany**Semester : 2nd****Paper Code : CBO-107****Paper Title : Archegoniate****Full Marks : 50**

*The figures in the margin indicate full marks for the questions.
Answer all questions.*

1. With the help of word diagram, explain the alternation of generation in bryophytes. 4+6=10

OR

Write the general characteristics of bryophytes. 10

2. With a neat labelled diagram, describe the structure of thallus in *Marchantia*. 4+6=10

OR

Give a detailed account of the economic importance of bryophytes studied by you. 10

3. Give an account of the general characteristics of pteridophytes. 10

OR

Describe the structure of *Cooksonia* and *Rhynia* with the help of labelled diagrams. Point out the features of differences in the two species of *Rhynia*. 3+3+4=10

4. Draw a neat labelled diagram of the transverse section of *Equisetum* stem. Give three points each of hydrophytic and xerophytic character. 4+3+3=10

OR

What is heterospory? Give one example of a heterosporous pteridophyte. How does heterospory lead to seed habit? 3+1+6=10

5. Give a well-illustrated account of the anatomy of the leaf of *Cycas* and comment upon the features of special interest. 4+6=10

OR

With a neat labelled diagram, describe the structure and morphological nature of male cone of *Pinus*. 4+6=10

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JUNE – 2021

Name of Programme : B.Sc. Botany
Semester : 2nd semester (Back) examination
Paper Code : BOT-102
Paper Title : Gymnosperms, Palaeobotany, Angiosperm Taxonomy, Applied Botany & Ethnobotany, Plant Anatomy, Embryology & Palynology
Full Marks : 50

*The figures in the margin indicate full marks for the questions.
Answer all questions.*

1. Describe in detail the process of pollination and fertilization in *Cycas* and *Pinus*. 5+5=10
OR
Write the economic importance of gymnosperms. 10
2. Discuss the phyletic principles in which Hutchinson's system of classification is based. 10
OR
Bring out the differences between Brassicaceae and Solanaceae by citing two plants from each family as examples. 8+2 = 10
3. Write an account on the origin of crop plants as proposed by N.I. Vavilov. 10
OR
Describe in detail the processing of green tea. 10
4. Distinguish between pine wood and teak wood on the basis of wood characteristics and its uses. 5+3=10
OR
Describe with neat labelled diagrams the various types of vascular bundles found in plants. 10
5. Explain in detail the process of double fertilization and its significance in plant life. 4+6=10
OR
With neat labelled diagrams, discuss the development of male gametophyte in angiosperms. 10

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JUNE – 2021

Name of Programme : B.Sc. Botany
Semester : 2nd semester
Paper Code : DBO-103
Paper Title : Plant Ecology and Taxonomy
Full Marks : 50

The figures in the margin indicate full marks for the questions.

Section A (Plant Ecology)

(Answer Question No. 1 and any one question from the remaining three questions)

1. Write very short notes on any five of the following: 3x5 = 15
 - a. Restoration Ecology
 - b. Ecotoxicology
 - c. Endemism
 - d. Lithosere
 - e. Limiting factors
 - f. Phenology
 - g. Ecotone
 - h. Energy Flow in the Ecosystem
 - i. Soil Profile
2. What is biological spectrum? Name any three phytosociological methods for studying plant community. Briefly describe Raunkiaer's plant life forms. 2+3+5 = 10
3. By giving examples, briefly describe different types of hydrophytes with their ecological adaptations. 10
4. With a neat labelled diagram, describe the nitrogen cycle. Why pyramid of energy is always upright? 8+2 = 10

Section A (Plant Ecology)

(Answer Question No. 1 and any one question from the remaining three questions)

1. Write very short notes on any five of the following: 3x5 = 15
 - a. Monograph
 - b. Electronic Floras
 - c. Vasculum
 - d. OTUs
 - e. Principle of priority
 - f. DNA barcoding
 - g. Cytotaxonomy
 - h. Phenetics
 - i. Cluster Analysis in Taxonomy
2. Give six roles of herbarium. By giving examples, describe indented and bracketed dichotomous taxonomic keys. 6+4 = 10
3. Differentiate between artificial, natural and phylogenetic system of classification. What is APG system of classification? Write the salient features of Bentham and Hooker's system of classification. 4+1+5 = 10
4. With a neat labelled diagram, describe the nitrogen cycle. Why pyramid of energy is always upright? 8+2 = 10
5. What are the six principles of ICM? What is the basic unit of taxonomy? Write any three differences between cladogram and phenogram. 6+1+3 = 10
