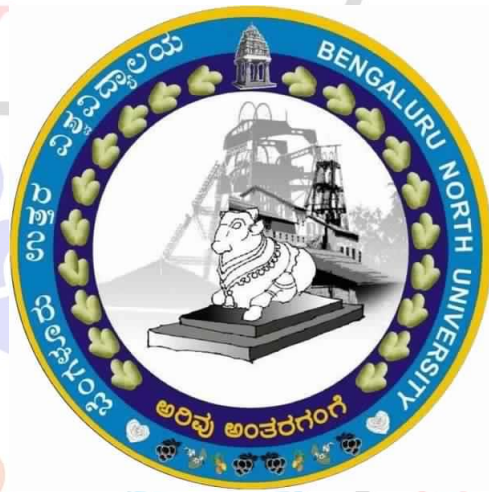
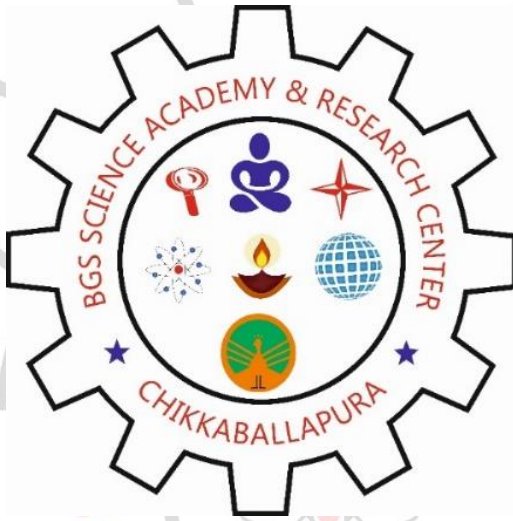


|| Jai Sri Gurudev ||
Sri Adichunchanagiri Shikshana Trust

BGS Science Academy and Research Center

(Affiliated to Bengaluru North University)
Jnanagangothri Campus, Agalagurki, Chikkaballapura-562103.



DEPARTMENT OF BOTANY

SYLLABUS

B.Sc., BOTANY

**QUESTION PAPER FORMAT
THEORY EXAMINATION**

Marks for each question	Number of question to be		Total Marks
	Answered	Out of	
A. 2	10	12	20
B. 5	4	6	20
C. 10	3	5	30
	Total		70

BENGALURU NORTH UNIVERSITY

**B.Sc., Degree Examination
(Undergraduate Credit Based Semester Scheme)**

**BOTANY
ALL PAPER**

Time: 3 hours

Max. Marks: 70

- A. Explain / Define any ten of the following in **two** or **three** sentences: (10x2=20)
- B. Write critical notes on any **four** of the following (4x5=20)
- C. Give a comprehensive account on any **three** of the following (3x10=30)

INTERNAL ASSESSMENT

1. THEORY- 30 MARKS –

Class Attendance = 5 (>51%-1, >61%- 2, >71%-3, >81%-4 >90%-5, Long Absent- 0)

Assignment= 5 (Certificate, content sheet-0.5, Introduction 0.5, description-0.5, pictures or diagrams-1, summary-0.5, references-0.5, correct writing without plagiarism-1 and in time submission -0.5, Absent- 0)

Seminar = 5 (Presentation: Excellent-5, Good-4, Average-3, Satisfactory-2, Absent- 0)

Project = 5 (Correct and in time submission-5, Good-4, Average-3, Satisfactory-2, Absent- 0)

Test = 2 (5 marks each= >85%-5, >70%-4, >55%-3, >35%2, <35%-1, Absent- 0)

2. PRACTICAL- 15 MARKS –

Continues Assessment = 5 (Attendance- 2.5, performance in lab- 2.5)

Submissions or Maintenance of Plants in the college for lab purpose (2.5) and Regular Record submission (2.5)= 5,

Test = 5 (>85%-5, >70%-4, >55%-3, >35%2, <35%-1, Absent- 0)

II SEMESTER

PAPER II: DIVERSITY OF NON-VASCULAR PLANTS – PART - II MYCOLOGY, PLANT PATHOLOGY, BRYOPHYTES AND PLANT ANATOMY 52hrs

UNIT I: MYCOLOGY 13hrs

Introduction: General characters, occurrence, thallus organization, reproduction and classification. Structure, reproduction and life history of *Albugo*, *Peziza*, *Puccinia* and *Cercospora*.

Economic importance: Role of fungi in Medicine, Agriculture and Industry

Lichens: General account, Structure and reproduction. Ecological and Economic importance.

Mycorrhiza: General account

Saccharomyces - A model genetic organism.

UNIT II: PLANT PATHOLOGY 13hrs

General account of symptoms, pathogen etiology, mode of Infection, Management of fungal diseases: Koleroga, Coffee rust, Grain smut of *Sorghum*, Blast disease of Rice, Red rot of Sugarcane.

A brief account of Biopesticides: Neem, *Trichoderma* and *Bacillus thuringiensis*

UNIT III: BRYOPHYTA 13hrs

General characters. Study of distribution, structure, reproduction, classification and alternation of generation in *Marchantia*, *Anthoceros* and *Funaria*

UNIT IV: PLANT ANATOMY 13hrs

Meristematic Tissues: Structure, function, classification, Organization of Apical Meristems: Tunica-carpus theory and Histogen theory.

Secretary Cells and Tissues: Structure, Classification and significance.

Simple and permanent tissues

Vascular tissues: A brief account

Secondary growth: Dicot stem

Anomalous Secondary growth: A general account (*Dracaena* and *Boerhaavia*)

PRACTICAL PAPER – II

DIVERSITY OF NON-VASCULAR PLANTS MYCOLOGY, PLANT PATHOLOGY, BRYOPHYTES AND PLANT ANATOMY Total units - 13 Units

- I. Identification and classification of fungi members included in the theory 3 Units
- II. Demonstration of mushroom cultivation, Study of lichens, Study of Mycorrhiza 2 Units
- III. Study of plant diseases- Koleroga, Coffee rust, Grain smut of *Sorghum*, Blast disease of Rice, Red rot of Sugarcane. 2 Units
- IV. Study of forms of Bryophytes- *Marchantia*, *Anthoceros* and *Funaria* 3 units
- V. Normal and Anomalous secondary growth in Stem ex. *Tridax*, *Dracaena* stem and *Boerhaavia* stem. 2 Units
- VI. Field visit to study pathogen and host interaction 1 Units
- VII. Report of Field visit: Project report of mushroom cultivation / Application of Bio fertilizers

PRACTICAL QUESTION PAPER - II DIVERSITY OF NON-VASCULAR PLANTS MYCOLOGY, PLANT PATHOLOGY, BRYOPHYTES AND PLANT ANATOMY

Time: 3 hours **Max. Marks: 35**

1. Identify the specimens **A, B & C** with labelled diagrams and reasons 3x3=9
2. Prepare a temporary Safranin-stained T.S of the material **D** Sketch, label and Identify with reasons, leave the preparation for evaluation 4
3. Write critical notes on **E** 2
4. Identify the Slides **F, G, H & I** with labelled diagrams and reasons 4x3=12
5. Record and submission. 5+3=8

SCHEME OF VALUATION

1. Two specimens from Fungi and one from Bryophyta (Identification -1- mark, Labelled diagram with reasons 2 marks)
2. Any one of the following may be given-stem of *Tridax*, *Dracaena* or *Boerhaavia* (Staining and mounting- 2 marks, sketch and labelling- 1 mark, Identification with reasons- 1 mark)
3. One diseased plant/Lichens/Mycorrhiza (Identification-1 mark & critical points 1 mark)
4. Two from Bryophytes, One from Fungi and One from Anatomy (Identification & Classification -2- mark, labelled diagrams with reasons-2 marks)
5. Record & Submission: 3 Herbarium sheets from Plant pathology (marks 5+3)

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