



गोविन्द गुरु जनजातीय विश्वविद्यालय बाँसवाड़ा

चयन आधारित क्रेडिट व्यवस्था की पाठ्यचर्या के अंतर्गत अधिस्नातक पाठ्यक्रम

(Choice Based Credit System)

विषय नाम : BOTANY (PRACTICAL)

प्रश्न पत्र सूची

द्वितीय सेमेस्टर

क्रम	पेपर कोड	प्रकार	प्रश्न पत्र निर्धारण	पेपर नाम	क्रेडिट
1		विषय केन्द्रित अनिवार्य कोर्स (PRACTICAL PAPER 1)	1	Exercise-1 Major	30
2		विषय केन्द्रित अनिवार्य कोर्स (PRACTICAL PAPER 1)	1	Exercise-2 Minor	20
3		विषय केन्द्रित अनिवार्य कोर्स (PRACTICAL PAPER 1)	1	Spot Test (1-6)	18
4		विषय केन्द्रित अनिवार्य कोर्स (PRACTICAL PAPER 1)	1	Record	12
5		विषय केन्द्रित अनिवार्य कोर्स (PRACTICAL PAPER 1)	1	Viva Voce	20
				Total	100

द्वितीय सेमेस्टर

क्रम	पेपर कोड	प्रकार	प्रश्न पत्र निर्धारण	पेपर नाम	क्रेडिट
1		विषय केन्द्रित अनिवार्य कोर्स (PRACTICAL PAPER 1)	1	Exercise-1 Major Exercise based on Plant Anatomy	15
2		विषय केन्द्रित अनिवार्य कोर्स (PRACTICAL PAPER 1)	1	Exercise-2 Minor Exercise based on Plant Anatomy	10
3		विषय केन्द्रित अनिवार्य कोर्स (PRACTICAL PAPER 1)	1	Exercise-3 Major Exercise based on Reproductive Biology	15
4		विषय केन्द्रित अनिवार्य कोर्स (PRACTICAL PAPER 1)	1	Exercise-4 Minor Exercise based on Reproductive Biology	10
5		विषय केन्द्रित अनिवार्य कोर्स (PRACTICAL PAPER 1)	1	Spot Test (1-6)	18
6		विषय केन्द्रित अनिवार्य कोर्स (PRACTICAL PAPER 1)	1	Record	12
7		विषय केन्द्रित अनिवार्य कोर्स (PRACTICAL PAPER 1)	1	Vice-Voce	20
			Total		100

द्वितीय सेमेस्टर

क्रम	पेपर कोड	प्रकार	प्रश्न पत्र निर्धारण	पेपर नाम	क्रेडिट
1		विषय केन्द्रित अनिवार्य कोर्स (PRACTICAL PAPER 1)	1	Exercise-1 Major Exercise	20
2		विषय केन्द्रित अनिवार्य कोर्स (PRACTICAL PAPER 1)	1	Exercise-2	10
3		विषय केन्द्रित अनिवार्य कोर्स (PRACTICAL PAPER 1)	1	Exercise-3	10
4		विषय केन्द्रित अनिवार्य कोर्स (PRACTICAL PAPER 1)	1	Exercise-4	10
5		विषय केन्द्रित अनिवार्य कोर्स (PRACTICAL PAPER 1)	1	Spot Test (1-6)	18
6		विषय केन्द्रित अनिवार्य कोर्स (PRACTICAL PAPER 1)	1	Record	12
7		विषय केन्द्रित अनिवार्य कोर्स (PRACTICAL PAPER 1)	1	Viva Voce	20
				Total	100

द्वितीय सेमेस्टर

क्रम	पेपर कोड	प्रकार	प्रश्न पत्र निर्धारण	पेपर नाम	क्रेडिट
1		विषय केन्द्रित अनिवार्य कोर्स (PRACTICAL PAPER 1)	1	Exercise-1 Major Exercise based on Plant Systematics	20
2		विषय केन्द्रित अनिवार्य कोर्स (PRACTICAL PAPER 1)	1	Exercise-2 Minor Exercise based on Plant Systematics	10
3		विषय केन्द्रित अनिवार्य कोर्स (PRACTICAL PAPER 1)	1	Exercise-3 Exercise based on Economic Botany	10
4		विषय केन्द्रित अनिवार्य कोर्स (PRACTICAL PAPER 1)	1	Exercise-4 Exercise based on Ethnobotany	10
5		विषय केन्द्रित अनिवार्य कोर्स (PRACTICAL PAPER 1)	1	Spot Test (1-6)	18
6		विषय केन्द्रित अनिवार्य कोर्स (PRACTICAL PAPER 1)	1	Record	12
7		विषय केन्द्रित अनिवार्य कोर्स (PRACTICAL PAPER 1)	1	Viva Voce	20
				Total	100

Abbreviations

- ❖ DCC:Discipline Centric Compulsory
- ❖ DSE: Discipline-Specific Elective
- ❖ GE:Generic Elective
- ❖ OJT:On Job Training
- ❖ CEE:Community Enhancement Experience
- ❖ RCC:Research Centric Course
- ❖ DPR: Dissertation/Project/Field Report
- ❖ SEM:Course Seminar



GOVIND GURU TRIBAL UNIVERSITY BANSWARA

M.Sc.

Two Year Post Graduate Course

Semester II

BOTANY

PRACTICAL

PAPER - 1

Fundamentals of Molecular Biology

A. Practicals:

1. Isolation of genomic DNA and its visualization on Agarose gel.
2. Quantification of DNA.
3. Cot-curve preparation for given DNA sample.
4. Polymerase chain reaction.
5. Demonstration of preparation of reaction mixture for amplification of gene of interest from isolated genomic DNA
6. Horizontal gel electrophoresis for separation of amplified PCR products for marker studies.
7. Demonstration of primer designing for amplification of gene of interest
8. Perform BLAST for given nucleotide sequence
9. Sequence retrieval from databases.



GOVIND GURU TRIBAL UNIVERSITY BANSWARA

M.Sc.

Two Year Post Graduate Course

Semester II

BOTANY

PRACTICAL

PAPER - 2

Structural and Reproductive Plant Biology

A. Practicals:

1. Anatomical study of the following materials:

Stem: Boerhaavia, Achyranthes, Bignonia, Chenopodium, Leptadaenia, Nyctanthes, Salvadora, Dracaena, Triticum, Mirabilis, Aristolochia, Amaranthus, Chenopodium.

Root: Tinospora, Ficus.

Floral anatomy: Buds of Opuntia, Calotropis, Hibiscus.

Nodal Anatomy: Nerium

2. Study of microsporogenesis in sections of anthers of different stages.

3. Study of wall layers of anther.

4. Pollen germination using hanging drop method.

5. Emasculation, bagging and hand pollination to study pollen germination.

6. Study of Polyembryony using Citrus

7. Embryological Slides :

1. Placentation : Types

2. Ovules : Types

3. Pollinium (wholemound).



GOVIND GURU TRIBAL UNIVERSITY BANSWARA

M.Sc.

Two Year Post Graduate Course

Semester II

BOTANY

PRACTICAL

PAPER - 3

Plant Physiology

A. Practicals:

1. Estimation of Lipids.
2. Separation of Chlorophyll by paper chromatography.
3. Tests of Phenols, steroid alkaloid and terpenoids.
4. Effect of temperature on membrane permeability of beet root.
5. Study of Stomata :Examine the structure of stomata under a microscope, opening and closing.
6. Effect of Light Intensity on Photosynthesis:Measurement of rate of photosynthesis under various light intensities.
7. Study of C3, C4, and CAM Pathways : Comparison of anatomy of leaves from C3, C4, and CAM plants.
8. Study of Respirometer, R. Q etc.
9. Study of Heat Shock Proteins:Observation the expression of heat shock proteins under heat stress.
10. Study of effect of Osmotic Stress on Plant Cells.
11. Study on Lipid Composition Analysis in Different Plant Tissues.



GOVIND GURU TRIBAL UNIVERSITY BANSWARA

M.Sc.

Two Year Post Graduate Course

Semester II

BOTANY

PRACTICAL

Paper - IV

Plant Systematics and Resource Utilization

A. Practicals:

1. Description of specimens from representative, locally available families.
Ranunculaceae, Leguminosae, Portulacaceae, Fabaceae, Solanaceae, Asteraceae, Cucurbitaceae, Lamiaceae, Euphorbiaceae, Liliaceae, Poaceae, Cyperaceae.
2. Description of given angiospermic plant in technical language, identification up to family, Floral formula, floral diagram
 - I. Brassicaceae :Brassica
 - II. Malvaceae :Gossypium
 - III. Asclepediaceae :Calotropis
 - IV. Euphorbiaceae :Euphorbia
 - V. Lamiaceae :Ocimum, Coriandrum
 - VI. Fabaceae :Pisum, Cassia, Mimosa
 - VII. Cucurbitaceae :Citrullus
 - VIII. Asteraceae :Tridax
 - IX. Solanaceae :Cestrum
 - X. Poaceae :Triticum
3. Demonstration of Principle of Priority.
4. Demonstration of rejection of names according to ICBN.
5. Ethnobotany: Study on the ethnic groups in Rajasthan with special reference to south Rajasthan.
6. Identification and documentation of selected medicinal plants used in local area.
7. Study of some locally available economically important plants.