

First Semester B.Sc. (Botany)

Paper Code: BOTDSCT1.1

Teaching Hours: 4 Hrs / Week

Total hours: 60

Paper Title: Biodiversity (Microbes, Algae, Fungi and Archegoniate)

Marks: Th-80+IA-20

Credits: 3

Unit1:

- **Viruses** : Discovery, general structure, replication (general account), DNA virus (T-phage); Lytic and lysogenic cycle, RNA virus (TMV); Economic importance;
- **Bacteria**: Discovery, General characteristics and cell structure; Reproduction – vegetative, asexual and recombination (conjugation, transformation and transduction); Economic importance.
- **Viral Plant Diseases**: TMV. Vein clearing, Dwarfing, Yellowing and BBTV disease.
- **Bacterial Plant Disease**: Citrus canker, Bacterial blight and Crown gall disease.

15 hours

Unit2:

- **Algae**: General characteristics; Ecology and distribution; Range of thallus organization and reproduction; Classification of algae by smith; Morphology and life-cycles of the following: *Nostoc*, *Oedogonium*, *Vaucheria*, *Volvox*, *Ectocarpus* & *Batrachospermum*. Economic importance of algae.
- **Fungi**: Introduction- General characteristics, ecology and significance, range of thallus organization, cell wall composition, nutrition, reproduction and classification; True Fungi- General characteristics, ecology and significance, life cycle of *Rhizopus* (Zygomycota), *Penicillium* (Ascomycota), *cercospora* (Deutoromycota), *Puccinia*, *Agaricus* (Basidiomycota);
- **Fungal Diseases**: Late blight of potato, White rust of *Albugo candida*., Black rust of *Puccinia*, Powdery mildew and Early Blight of Tomato.
 - **Symbiotic Associations-Lichens**: General account, reproduction and significance;
 - Mycorrhiza**: ectomycorrhiza and endomycorrhiza and their significance

15 hours.

Unit 3:

- **Introduction to Archegoniate**: Unifying features of archegoniates, Transition to land habit, Alternation of generations.
- **Bryophytes**: General characteristics, adaptations to land habit, Classification, Range of thallus organization. Classification (up to family), morphology, anatomy and reproduction of *Riccia*, *Marchantia*, *Anthoceros* and *Funaria* (Developmental details not to be included). Ecology and economic importance of bryophytes with special mention of *Sphagnum*.

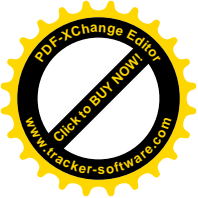
15 hours

Unit 4:

- **Pteridophytes**: General characteristics, classification, Early land plants (*lepidodendron*, *Lepidocarpon*, *Calamites*). Classification (up family), morphology, anatomy and reproduction of *Selaginella*, *Equisetum* and *Pteris*. (Developmental details not to be included). Heterospory and seed habit, stelar evolution. Ecological and economical importance of Pteridophytes.
- **Gymnosperms**: General characteristics, classification. Classification (up to family), morphology, anatomy and reproduction of *Cycas*, *Gnetum* and *Pinus*. (Developmental details not to be included). Ecological and economical importance.

15 hours





Practical

Paper Code: BOTDSCTP1.1 Paper Title: Biodiversity (Microbes, Algae, Fungi and Archegoniate)

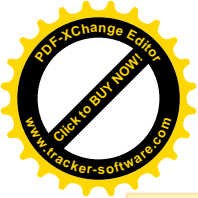
Teaching Hours: 3 Hrs / Week

Marks: Th-40+IA-10

Credits: 1

1. EMs/Models of viruses – T-Phage and TMV, Line drawing/Photograph of Lytic and Lysogenic Cycle.
2. Types of Bacteria from temporary/permanent slides/photographs; EM bacterium; Binary Fission; Conjugation; Structure of root nodule.
3. Gram staining
4. Study of vegetative and reproductive structures of *Volvox*, *Nostoc*, (electron micrographs), *Oedogonium*, *Vaucheria*, *Ectocarpus* and *Batrachospermum* through temporary preparations and permanent slides.
5. *Rhizopus* and *Penicillium*: Asexual stage from temporary mounts and sexual structures through permanent slides.
6. *Cercospora Specimens*/photographs and tease mounts.
7. *Puccinia*: Herbarium specimens of Black Stem Rust of Wheat and infected Barberry leaves; section/tease mounts of spores on Wheat and permanent slides of both the hosts.
8. *Agaricus*: Specimens of button stage and full grown mushroom; Sectioning of gills of *Agaricus*.
9. Lichens: Study of growth forms of lichens (crustose, foliose and fruticose)
10. Mycorrhiza: ectomycorrhiza and endomycorrhiza (Photographs)
11. *Marchantia*-morphology of thallus, w.m. rhizoids and scales, v.s. thallus through gemma cup, w.m. gemmae (all temporary slides), v.s. antheridiophore, archegoniophore, L.S. sporophyte (all permanent slides).
12. *Funaria*- morphology, w.m. leaf, rhizoids, operculum, peristome, annulus, spores (temporary slides); permanent slides showing antheridial and archegonial heads, L. S. capsule and protonema.
13. *Selaginella*- morphology, w.m. leaf with ligule, T.S. stem, w.m. strobilus, w.m. microsporophyll and megasporophyll (temporary slides), L.S. strobilus (permanent slide).
14. *Equisetum*- morphology, T.S. internode, L.S. strobilus, T.S. strobilus, w.m. sporangiophore, w.m. spores (wet and dry) (temporary slides); T.s rhizome (permanent slide).
15. *Pteris*- morphology, T.S. rachis, v.s. sporophyll, w.m. sporangium, w.m. spores (temporary slides), T.S. rhizome, w.m. prothallus with sex organs and young sporophyte (permanent slide).
16. *Cycas*-morphology (coralloid roots, bulbil, leaf), T.S. coralloid root, T.S. rachis, v.s. leaflet, v.s. microsporophyll, w.m. spores (temporary slides), L.S. ovule, T.S. root (permanent slide).
17. *Pinus*- morphology (long and dwarf shoots, w.m. dwarf shoot, male and female), w.m. dwarf shoot, T.S. needle, T.S. stem, L.S./T.S. male cone, w.m. microsporophyll, w.m. microspores (temporary slides), L S. female cone, T. L.S. & R. L.S. stem (permanent slide).
18. Study tour two days compulsory.





Second Semester B.Sc. (Botany)

Paper Code: BOTDSCT2.1

Teaching Hours: 4 Hrs / Week

Teaching hours: 60

Paper Title: Plant Ecology and Diversity of angiosperms

Marks: Th-80+IA-20

Credits: 3

Unit1:

- **Atmosphere:** Atmosphere gaseous composition and Atmospheric layers.
- **Ecological factors:** Soil, weathering, composition, pedogenesis and soil profile. Water: States of water in the environment, precipitation types. Light and temperature: Variation Optimal and limiting factors; Shelford law of tolerance. Adaptation of hydrophytes and xerophytes.

15 hours

Unit 2:

- **Plant Succession:** Characters; Ecotone and edge effect; Succession; Hydrosere and Xerosere.
- **Ecosystem:** Structure; energy flow trophic organisation; Food chains and food webs, Ecological pyramids production and productivity; Biogeochemical cycles; carbon, nitrogen and Phosphorous cycles.
- **Phytogeography:** Principle, biogeographical zones; Endemism.

15 hours

Unit3

- **Morphology of Angiosperms:** Root, Stem, leaf and its modifications: inflorescence, flower and fruit.

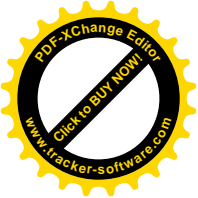
15 hours

Unit4:

- **Plant Taxonomy:** Introduction, Identification Functions of Herbarium, important herbaria and botanical gardens of the world and India; Documentation: Flora, Keys: single access and multi-access
- **Classification**
Types of classification-artificial, natural and phylogenetic. Bentham and Hooker (upto series), Engler and Prantl (upto series).
- **Taxonomic hierarchy**
Ranks, categories and taxonomic groups, Taxonomic evidences from palynology, cytology, phytochemistry and molecular data.
- **Botanical nomenclature**
Principles and rules (ICN); ranks and names; binominal system, typification, author citation, valid publication, rejection of names, principle of priority and its limitations.

15 hours





Practical

Paper Code: BOTDSCP2.1
Teaching Hours: 3 Hrs / Week

Paper Title: Plant Ecology and Diversity of angiosperms
Marks: Th-40+IA-10
Credits: 1

1. Study of instruments used to measure microclimatic variables: Soil thermometer, maximum and minimum thermometer, anemometer, psychrometer /hygrometer, rain gauge and lux meter.
2. Determination of pH, and analysis of two fertile soil samples for carbonates, chlorides, nitrates, sulphates, organic matter and base deficiency by rapid field test.
3. (a) Study of morphological adaptations of hydrophytes (Submerged, Free floating, Amphibious and Rooted floating) and xerophytes (succulent and non succulent).
(b) Study of biotic interactions of the following: Stem parasite (*Cuscuta*), Root parasite (Orobanche), Epiphytes, Predation (Insectivorous plants)
4. Morphology of Angiosperms: Root, Stem, leaf and its modifications: Inflorescence, Flower and Fruit.
5. Study of vegetative and floral characters of the following families (Description, V.S. flower, section of ovary, floral diagram/s, floral formula/e and systematic position according to Bentham & Hooker's system of classification): Polypetalae: Magnoliaceae, Malvaceae, Rutaceae, Brassicaceae. Gamopetalae—Rubiaceae, Asteraceae, Apocynaceae, Asclepiadaceae. Apetalae-Euphorbiaceae. Monocot- Poaceae
6. Mounting of a properly dried and pressed specimen of any wild plant with herbarium Label (Herbarium any 10 to be submitted in the record book).
7. Study tour for minimum 3 days compulsory.

Suggested Readings

1. Kormondy, E.J. (1996). Concepts of Ecology. Prentice Hall, U.S.A. 4th edition.
2. Sharma, P.D. (2010) Ecology and Environment. Rastogi Publications, Meerut, India. 8th edition.
3. Simpson, M.G. (2006). *Plant Systematics*. Elsevier Academic Press, San Diego, CA, U.S.A.
4. Singh, G. (2012). *Plant Systematics: Theory and Practice*. Oxford & IBH Pvt. Ltd., New Delhi. 3rd edition.





DEPARTMENT OF BOTANY

Ref.:

Date: 27.01.2021

Report on Study Tour/Field Visit for the year 2020-21

Name of the Department	Botany						
Name of the Event Organized	One day visit						
Title of the Event	Budhalmukh						
Date of the Event Organized	19.08.2021						
Name of the faculty accompanied	Smt. S.S.Sunnal Smt. Amruta Mangavate						
Participants	II semester Botany students						
No. of Participants	Total	26	Teachers	2	Students	24	Others
Objectives of the Event	To Study Environment To Study natural disattribution of plants and taxonomy.						
Outcome of the Event	Students were able to see the distribution of plants						

Photo Gallery



[Signature]
HOD

HEAD
Department of Botany
G. I. Bagewadi College, Nipani.

[Signature]
IQAC Coordinator
Co-ordinator IQAC
K. L. E. Society's
G. I. Bagewadi College, Nipani.

[Signature]
PRINCIPAL
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G.I. Bagewadi Arts, Science &
Commerce College, NIPANI.





K.L.E. Society's
G.L.Bagewadi Arts, Science and Commerce College, Nipani-591237

Accredited at 'A' level by NAAC with CGPA 3.35

(Affiliated to Rani Channamma University, Belagavi, Karnataka, India)

Website: www.klegibnnpn.edu.in

E-mail: klegib_npn@yahoo.co.in / klegibnbotany@gmail.com

Ph.: 08338-220116

Ref:E/E/Studytour/Permission

Date: 18.08.2021

DEPARTMENT OF BOTANY

To,

The Principal,
KLES G I Bagewadi College
Nipani.

Sub: Seeking permission to conduct study tour reg.

Respected Sir,

With respect to above mentioned subject, as per the RCU Belagavi Botany semester Syllabus, there is study tour to study Ecology and taxonomy for II semester. In this respect the department of Botany has decided to conduct one day study tour on 19th August 2021 at Budalmukh. Hence, we request your kind permission to conduct the study tour.

Thanking You,

Yours Sincerely

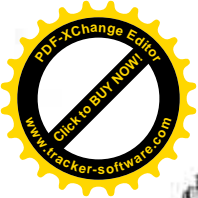
HOD

Head

Department of Botany
K.L.E's G. I. B. College, Nipani,

Principal,

G. I. Bagewadi Arts, Science &
Commerce College, NIPANI.



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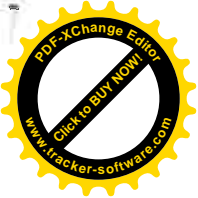
DEPARTMENT OF BOTANY INDEMINITY FORM

19/8/21

We, the under signed BSc. II sem students of G. I. Bagewadi College, Nipani willing to participate in the study tour, undertake and abide our self with following conditions.

1. We will obey the orders of our teachers during the tour period.
2. We undertake that neither our parents nor we will claim the compensation from the authorities of the college, staff, University or from the Government in respect of any loss or injury resulting even in death which we may suffer during the study tour period.


Sl. No.	Student Name	Phone	Signature
1.	Shraddha R. M	7259172019	Shraddha
2.	Sneha B. K	9008989815	Sneha
3.	Deeksha S. Patil	6363216641	Deeksha
4.	Gayatri J. Chaudhary	9449017958	Gayatri
5.	Abhijit A. Shidhanur	8951491045	Abhijit
6.	Mayuri Kachare	8702465820	Mayuri
7.	Pooja P. Budake	909108212998	Pooja
8.	Yogita P. Jadhav	9980843775	Yogita
9.	Supriya M. Dhare	9682166517	Supriya
10.	Akanksha S. Yadav	8296069950	Akanksha
11.	Nikhita Chhalage	6361334189	Nikhita
12.	Harsha A. Kante	7337676668	Harsha
13.	Akshata Dodmani	9663803721	Akshata
14.	Kirti Chhalawadi	8618131304	Kirti
15.	Vishalcha Bhowd	7619250562	Vishalcha
16.	Tejas T. Asoode	7760718778	Tejas
17.	Prajwal S. Nargal	8421055854	Prajwal
18.	Nihal R. Jarnadar	9019871982	Nihal
19.	Lakhan R. Mali	895193484	Lakhan
20.	Utkarsh S. Salunkhe	9008021670	Utkarsh
21.	Vishnavi B. K	9353005573	V.B.K
22.	Manjiva A. Maniyar	9353453933	Manjiva



Sl. No.	Student Name	Phone	Signature
22	Damini B. Rathou	8585918049	
23	Shivshankar Patti	9108904997	
24	Aadarsh Patti	8861041269	
25			
26			
27			
28			
29			
30			


HEAD
Department of Botany
G. I. Bagewadi College, Nipani


Co-ordinator IOAC
K. L. E. Society's
G. I. Bagewadi College, Nipani


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Commerce College, NIPANI.



RANI CHANNAMMA UNIVERSIT BELAGAVI

WEL-COME

**TO THE COURSE STRUCTRE AND SYLLABUS OF UNDERGRADU
PROGRAMMES – B.Sc**

III Semester





Group – II

OPTIONAL / COMPULSORY SUBJECT FOR THE DEGREE IN SCIENCE SUBJECT

Science Subjects: (any three subject of equal importance to be chosen as per the grouping given by Rani Channamma University, Belagavi)

DETAILED SYLLABUS OF FOLLOWING PAPERS WITH PRACTICAL

1. BOTANY (optional)

B.Sc. III Semester (w.e.f: 2018 – 19) and onwards.

Subject: BOTANY (optional)

Paper:- Diversity of Cryptogams (Algae, Fungi, Bryophytes, Pteridophytes, Gymnosperms).

Unit I: Algae

General characters, Pigmentation, Classification by Fritsch (up to class level). Distribution, thallus structure, reproduction and life cycle of Nostoc, Volvox, Oedogonium, Sargassum and Batrachosperm. Economic importance.

Unit II: Fungi

General characters, Classification (Alexopoulos's system). Distribution, Structure, Reproduction and life cycle of Albugo, Rhizopus, Penicillium and Puccinia. Economic importance of fungi. General account of lichens.

Unit III: Plant Pathology

General account of Bacteria and Viruses. Introduction and general symptoms of plant diseases. Symptoms, Pathogens and control measures of Late blight of potato, White rust of crucifers, Tikka disease of ground nut.

Unit IV: Bryophytes

General characters, Classification (Smith). Structure, reproduction and schematic life cycle of Riccia, Anthoceros and Funaria. (Developmental details are not expected). Evolution of sporophytes.

Unit V: Pteridophytes

General characters and classification. Distribution, Structure (External and Internal) and Reproduction of Psilotum, Selaginella, Equisetum and Nephrolepis (Developmental details are not expected). Stelar evolution. Heterospory and seed habit

Unit VI: Gymnosperms

General characters and classification. Distribution, Structure (External and Internal) and Reproduction of Cycas, Pinus and Gnetum (Developmental details are not expected).

Unit VII: Paleobotany

Geological time scale, fossilization-molds, Impression, Petrification and cast. Study of fossils - Calamitis, Lepidodendron, Lygenopteris.





B.Sc. III Semester PRACTICALS

Total number of hours per week: 04, Internal Assessment=10 Marks, Max Marks: 40 M

1. Vegetative and reproductive structures of Nostoc, Volvox and Oedogonium.
2. Vegetative and reproductive structures of Sargassum and Batrachospermum
3. Vegetative, reproductive structures and disease symptoms of Albugo, Rhizopus, Penicillium.
4. Vegetative, reproductive structures and disease symptoms of Puccinia. Lichen
5. Study of Vegetative and Reproductive structures of Riccia, Anthoceros and Funaria
6. Study of Vegetative and Reproductive structures of Psilotum and Selaginella.
7. Study of Vegetative and Reproductive structures of Equisetum and Nephrolepis
8. Study of Vegetative and Reproductive structures of Cycas, Pinus and Gnetum
9. Disease symptoms and control measures of Late blight of potato, Black rust of wheat, Tikka disease of ground nut.

10. Paleobotany- Study of fossils Lepidodendron, Calamitis, Lygenopteris.

11. Field visits.

Suggested Readings:

- Smith G.M. 1971 vol 1 Algae and fungi. Tata McGraw HILL Publishing company New Delhi
 Sharma O.P. 1992 Text book of thallophytes McGraw Hill Publication
 Sharma P.D. 1991 The fungi Rastogi and Co Meerut
 Dubey H.C. 1990 An Introduction to Fungi Vikas Publishing House Pvt Ltd New Delhi
 Clifton, A 1958 Introduction to Bacteria McGraw Hill and Co New York
 Basu A.N. 1993 Essentials of plant viruses, vectors plant diseases New Age International New Delhi.
 Chopra G.L. A text book of algae Rastogi and co Meerut
 Rangaswami G 1998 Diseases of crop plants in India. Prentice Hall of India New Delhi.
 Sunderrajan S 1997 College Botany Vol 1. S. Chand and Co Ltd New Delhi
 Alexopoulos, 1992 An Introduction to Mycology. New Age International. New Delhi
 Vashista B.R. 1978 Fungi. S. Chand and co. Ltd. New Delhi

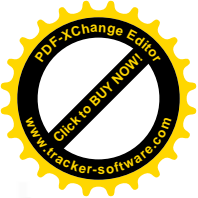
B.Sc. III Semester Botany Practical Examination

Time: 4 Hours

Max M

Q1: Identify and classify specimens A, B, C giving reasons.	09
Q2: Identify and explain the internal structures of specimen D and E with the neat labelled diagrams (Show the preparation to the examiner)	10
Q 3: Identify & describe the salient features in the slides/ specimens E, F, G, H, I and J	12
Q4: Identify & describe the salient features in the fossil specimen K.	03
Journal	04
Field visit report	03





Group – II

OPTIONAL / COMPULSORY SUBJECT FOR THE DEGREE IN SCIENCE SUBJECTS

RANI CHANNAMMA UNIVERSITY, BELAGAVI.

B.Sc. IV Semester (w.e.f: 2018 – 19) and onwards.

Subject: BOTANY (optional)

Paper: Diversity of Angiosperms and their systematics, Economic botany and Medicinal botany

52 hrs.

Unit I: Morphology of Angiosperms:

07 hrs.

Study of stems and its modifications, Leaf- types, stipules, Phyllotaxy and their modifications. Study of Inflorescences, flowers (Floral formula and Floral diagram to be included) and fruits.

Unit II: Angiosperm systematics:

10 hrs.

Botanical nomenclature- principles and rules, taxonomic ranks, type concept and principle of priority. Botanical survey of India. Classification of Angiosperms: Systems proposed by Bentham and Hooker, Engler Prantl. Their salient features, merits and demerits. Brief account of APG classification.

Contributions of Cytology (Cytotaxonomy), Phytochemistry (Chemotaxonomy) and Taximetrics (Numerical taxonomy) to taxonomy.

Unit III: Diversity of flowering plants as illustrated by members of the following families:

20hrs

Annonaceae, Brassicaceae, Malvaceae, Rutaceae, Rhamnaceae, Fabaceae, Myrtaceae, Combretaceae, Cucurbitaceae, Apiceae, Rubiaceae, Asteraceae, Apocyanaceae, Asclepiadaceae, Convolvulaceae, Solanaceae, Acanthaceae, Verbenaceae, Lamiaceae, Amaranthaceae, Euphorbiaceae, Orchidaceae, Liliaceae, Arecaceae and Poaceae.

Unit IV: Economic Botany:

10 hrs

Origin & Distribution, Family, Botanical name and utility of following plants-

Food plants: Rice, Wheat, Maize, Pulses (Bengal gram, Pigeon pea) and Sugarcane

Fibres: Cotton, Jute.

Oil yielding plants: Ground nut, Sunflower, Palm oil, Sandalwood and Citronella oils

Paper & pulp: Bamboo & Eucalyptus

Spices: Ginger, Clove, Cinnamon, Asafoetida and Cardamom

Beverages: Tea & Coffee

Rubber: Hevea sp.

Unit V: Medicinal botany:

05hrs

Common medicinal plants in primary health care: -

Tippateega (*Tinosporacordifolia*), Tulsi (*Oscimum sanctum*) Kalabanda (*Aloe-vera*)

Turmeric (*Curcuma longa*) Ashwagandha (*Withaniasomnifera*) and Sarpagandha

(*Rauwolfiaserpentina*)





Objectives:-

1. Morphology of Root, Stem, Leaf and their modifications.
2. Study of Inflorescence and its types.
3. Study of Flower-I- Descriptive terms, Thalamus, Calyx, Corolla and Aestivation.
4. Study of Flower-II –Androecium and Gynoecium. Floral formula and Floral diagram.
5. Study of Fruit types.
6. Study of any 18 families representing from polypetalae, gamopetalae, apatalae and monocots available in the locality.
8. Economic botany and Study of Medicinal Plants (as per syllabus) available in the locality.
9. Study Tour for minimum Two days to study the Flora (Taxonomy).

Suggested readings:

1. Davis, P.H. and Heywood, V.H. 1963. Principles of angiosperm taxonomy. Oliver and boyd, London.
2. Heywood, V.H. and moore, D.M. (EDS) 1984. Current concepts in plant taxonomy academic press, London
3. Jeffery, C. 1982. An introduction to plant taxonomy. Cambridge university press, cambridge, London.
4. Jones, S.B. Jr and luchsinger, A.E. 1986. Plant systematics (2nd edition). McGraw Hill book co, newyork.
5. Radford, A.E. 1986. Fundamentals of plant systematics. Harper and Row, newyork.
6. Singh, G. 1999. Plant systematics; theory and practice. Oxford and IBH, newdelhi.
7. Atace, C.A. 1989. Plant taxonomy and bio systematics (2nd edition). Edward Arnold, London.
8. Dutta, S.C. 1988. systematic botany. walleyeastern, newdelhi.
9. Jaques, H.E. 1999, Plant families- how to know them. IBS, newdelhi.
10. Lawrence, G.H.M. 1951. Taxonomy of vascular plants. Macmillan, newdelhi.
11. Stewart, W.M 1983. Paleobotony and the evolution of plants, cambridge university press, cambridge.
12. Joshi S.G .medicinal plants oxford and IBH newdelhi.
13. Kokate and Gokeale _pharmacognacy. Neralipublication, newdelhi.
14. Lad v Ayurveda- the scince of self-healing- motilalbanarasidas, newdelhi.
15. Lewis W.H. and M.P, F Elwin Lewis 1976, medical Botony plants affecting maris health. A wileyinterscience publication, Jhonwilley and sons newyork.
16. College botany vol 1 by Gangulee, Das and Datta. New central book agency, Calcutta.
17. Systematic botany by R.N Sutaria.
18. Taxonomy of Angiosperms by B.P. Pandey.
19. Kocchar, S.L. 1998. Economic Botany in Tropics. 2nd edition, Macmillian Ltd, New Delhi .
20. Sambamurthy, A.V.S.S and subramanyam, N.S. 1989. A Text Book of Economic Botany, Wiley Eastern Ltd. New Delhi .
21. Sharma, O.P. 1996. Hill's Economic Botany. Tata McGraw Hill Co., Ltd., New Delhi.
22. Simpson, B.B. and Conner-Ogorzaly, M. 1986. Economic Botany-plants in our world. McGraw Hill, New York.
23. Hill. A.F. 1989. Economic Botany. Tata McGraw-Hill, New York.
24. Herbs Cultivation and Medicinal Uses- H. Panda – NIIR Publication, New Delhi.
25. Chopra R.N., Badhuvar R.L. & Ghosh G. (1965) - Poisons Plant of India.



DEPARTMENT OF BOTANY

Ref.:

Date: 27.08.2021

Report on Study Tour/Field Visit for the year 2020-21

Name of the Department	Botany							
Name of the Event Organized	One day tour							
Title of the Event	Budhalmukh							
Date of the Event Organized	15.08.2021							
Name of the faculty accompanied	Smt. S.B.Patil Smt. S.S.Sunnal Dr.Smt.S. P.Shiragave							
Participants	IV semester Botany students							
No. of Participants	Total	19	Teachers	3	Students	16	Others	-
Objectives of the Event	1. To study the plants in natural habitats. 2. To understand the Distribution of Plants.							
Outcome of the Event	1. Students were able observe plants in natural habitats 2. Students understood the Distribution of Plants							
Photo Gallery								
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HOD
HEAD
 Department of Botany
 G. I. Bagewadi College, Nipani.

IQAC Coordinator
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K.L.E. Society's
G.I. Bagewadi Arts, Science and Commerce College, Nipani-591237

Accredited at 'A' level by NAAC with CGPA 3.35

(Affiliated to Rani Channamma University, Belagavi, Karnataka, India)

Website: www.klegibnpn.edu.in

E-mail: klegib_npn@yahoo.co.in / klegibnbotany@gmail.com

Ph.: 08338-220116

Ref: E/E/Studytour/Permission

Date: 12.08.2021

DEPARTMENT OF BOTANY

To,

The Principal,
KLES G I Bagewadi College
Nipani.

Sub: Seeking permission to conduct study tour reg.

Respected Sir,

With respect to above mentioned subject, as per the RCU Belagavi Botany semester Syllabus, there is study tour to study taxonomy for IV semester. In this respect the department of Botany has decided to conduct one day study tour on 15th August 2021 at Budalmukh. Hence, we request your kind permission to conduct the study tour.

Thanking You,

Yours Sincerely

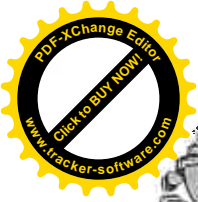
HOD

Head

Department of Botany
KLE's G. I. B. College, Nipani.

Principal,

G. I. Bagewadi Arts, Science &
Commerce College, NIPANI.



K.L.E. Society's
G.L. Bagewadi Arts, Science and Commerce College, Nipani-591237

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Ph.: 08338-220116

DEPARTMENT OF BOTANY

INDEMINITY FORM

We, the under signed BSc. IV sem students of G. I. Bagewadi College, Nipani willing to participate in the study tour, undertake and abide our self with following conditions.

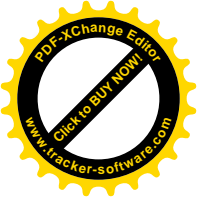
1. We will obey the orders of our teachers during the tour period.
2. We undertake that neither our parents nor we will claim the compensation from the authorities of the college, staff, University or from the Government in respect of any loss or injury resulting even in death which we may suffer during the study tour period.

Sl. No.	Student Name	Phone	Signature
1.	Aishwary4 S. Patil	7620334367	<i>[Signature]</i>
2.	Aakanksha G. Badadatti	8088003898	<i>[Signature]</i>
3.	Ashwini. M. Pedar	6361837089	<i>[Signature]</i>
4.	Rohini C. Jadhav	9353768772	<i>[Signature]</i>
5.	Gayatri p. chavan	8088829213	<i>[Signature]</i>
6.	Laxmi. R. Patil	9880478407	<i>[Signature]</i>
7.	Akshata C. Hirekar	9171631930	<i>[Signature]</i>
8.	Ankita N Patil	9008707554	<i>[Signature]</i>
9.	Ritu. S. Patil	8660608655	<i>[Signature]</i>
10.	Shruti Solapurwae	8088707291	<i>[Signature]</i>
11.	Anvita. Kumbhar	9844092197	<i>[Signature]</i>
12.	Pratiksha B. Kumbhar	8296051181	<i>[Signature]</i>
13.	subhoelhana T. Kumbhar	9980229753	<i>[Signature]</i>
14.	shital. S. Patil	8970553991	<i>[Signature]</i>
15.	Padmaja R.D	9972207434	<i>[Signature]</i>
16.	Vinashree K. Kale	9591781475	<i>[Signature]</i>
17.			
18.			
19.			
20.			

[Signature]
HEAD
 Department of Botany
 G. I. Bagewadi College, Nipani.

[Signature]
Co-ordinator IOAC
 K. L. E. Society's
 G. I. Bagewadi College, Nipani.

[Signature]
PRINCIPAL
 G. I. Bagewadi Arts, Science &
 Commerce College, NIPANI.



B.Sc. V Semester (w.e.f. 2019 – 20)
Botany Paper - I

Paper-I: Plant Breeding, Tissue Culture and Horticultural Practices.
Hrs

50

Unit I: Plant Breeding: History and objectives. Introduction, Selection (Pure line, Mass Selection), Hybridization- inter specific and inter generic. Mutational & Polyploidy breeding. Germ plasm and its maintenance. Pollen Bank, Quarantine method.

10 Hrs.

Unit II: Plant Tissue Culture: Scope and Significance. Basic Aspects and Cellular totipotency (Shoot tip, Embryo and Haploid culture techniques). Differentiation and morphogenesis.

10 Hrs.

Unit III: Introduction to Horticulture, Nursery management and importance.

Methods of propagation – vegetative – rhizome, bulb, corm and sucker (natural). Artificial- Cutting, layering, grafting and budding. Bonsai – methods and importance. Nursery management: Introduction, types of nurseries and cultural practices. Seed (propagule) collection, storage and treatment. Manures, fertilizers and pesticides. Methods of irrigation – drip, sprinkler and flood

12 Hrs.

Unit IV: Green House Technology – Introduction, advantages and limitations. Types of Green Houses- Green House structure, principle. Greenhouse technology as applied to ornamental, vegetable and fruit plants.

08 Hrs.

Unit V: Harvest Technology and Weed Management: Harvest Technology: Flower and fruit plants management. Artificial ripening, maturity indices, methods of picking. Post-harvest technology and management of fruits: grading, processing, storage and packing. Weed Management: Introduction and significance. Invasive weeds – concept and causes of their dominance. Weed control – physical, chemical and biological methods.

10 Hrs.

Practicals:

1. Study of methods of propagation with help of tubers, bulbs rhizomes, corms suckers, runner and offset.
2. Study of propagation by cutting, layering, grafting and budding.
3. Methods of emasculation and bagging for cross-pollination.
4. Morphology and anatomy of dry and wet stigma.
5. Morphology and anatomy of solid and hollow styles.
6. Study of pollination types.
7. Demonstration of tissue culture techniques.
8. Visit to nursery - poly house /Green house and tissue culture lab.
9. Preparation of MS media for culture. 10. Bonsai techniques.





DEPARTMENT OF BOTANY

Ref.:

Date: 27.01.2021

Report on Study Tour/Field Visit for the year 2020-21

Name of the Department	Botany								
Name of the Event Organized	One day visit								
Title of the Event	Visit to Prasad Nursery								
Date of the Event Organized	23.1.2021								
Name of the faculty accompanied	Smt. S.B.Patil Smt. S.S.Sunnal Dr.Smt.S. P. Shiragave								
Participants	V semester Botany students								
No. of Participants	<table border="1"> <tr> <td>Total</td> <td>58</td> <td>Teachers</td> <td>3</td> <td>Students</td> <td>55</td> <td>Others</td> <td></td> </tr> </table>	Total	58	Teachers	3	Students	55	Others	
Total	58	Teachers	3	Students	55	Others			
Objectives of the Event	To Study nursery techniques. To Study natural Vegetation.								
Outcome of the Event	Students were able to see the organization of garden plants and learnt green house and shade house technology								

Photo Gallery



Patil
HOD

HEAD

Department of Botany
G. I. Bagewadi College, Nipani.

Prasad

IQAC Coordinator

Co-ordinator IQAC

K. L. E. Society's

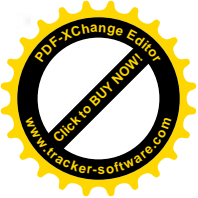
G. I. Bagewadi College, Nipani.

Prasad

PRINCIPAL

PRINCIPAL

G.I. Bagewadi Arts, Science &
Commerce College, NIPANI.



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E-mail: klegib_npn@yahoo.co.in/ klegibnbotany@gmail.com

Ph.: 08338-220116

DEPARTMENT OF BOTANY

Date: 20.01.2021

To,
The Manager
Plant Nursery
Kognoli
Karnataka

Sub- Request for Permission to visit your Nursery

Respected sir,

As per the RCU B.Sc. Vth sem syllabus, there is a compulsory visit to Plant Nursery and study the Nursery Management Practices. So the Department of Botany of K.L.E.S G.I.Bagewadi College decided to give a visit to your Nursery on 23.01.2021 with Vth Semester Botany students and faculty members. We request your kind permission for the same.

Thanking you,

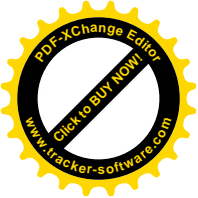
Yours Faithfully,


HOD
Head

Department of Botany
K.L.E's G. I. B. College, Nipani.


PRINCIPAL

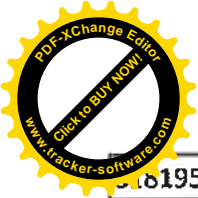
Principal,
G. I. Bagewadi Arts, Science &
Commerce College, NIPANI.



K.L.E.Society's
G.I.Bagewadi Arts, Science and Commerce College, Nipani
Department of Botany
List of students visiting to Prasad Nursery, Kognoli

Reg. No	R.No	Name	Mobile No	Signature
S1819404	1	Adesh Patil		<i>A. D. Patil</i>
S1819405	2	Afreen Parakute	-	-
S1819406	3	Aishwarya Kurundawade		<i>Aishwarya</i>
S1819411	4	Akshata A. Kulkarni		<i>AKK</i>
S1819413	5	Akshata A. Vasawade		<i>AV</i>
S1819417	6	Aniket R. Sadalage	-	-
S1819419	7	Anita B. Ingale		<i>A. Ingale</i>
S1819420	8	Anjali S. Patil		<i>AP</i>
S1819426	9	Arpita A. Kulkarni		<i>Arpita</i>
S1819433	10	Bhagyashri S. Ghatage		<i>Bhagyashri</i>
S1819439	11	Dhanashri Patil		<i>Dhanashri</i>
S1819443	12	Gouri M Rajannavar		<i>Gouri</i>
S1819456	13	Kiran B. Irole		<i>Kiran</i>
S1819457	14	Kiran K Karibalappagol		<i>Kiran Karibalappagol</i>
S1819459	15	Komal S. Latakar	-	-
S1819464	16	Mahesh S.Gavade		<i>Mahesh</i>
S1819466	17	Mahesh A. Kadapure	-	-
S1819467	18	Maheshchandra Dhange		<i>Mahesh</i>
S1819468	19	Mansi Gurav		<i>Mansi</i>
S1819470	20	Manjula Bhawe		<i>Manjula</i>
S1819473	21	Manjushree Sattigeri		<i>Manjushree</i>
S1819476	22	Megha Maruti Kambale		<i>Megha</i>
S1819483	23	Nikeeta A. Patil		<i>Nikeeta</i>
S1819487	24	Nisha Y Chinchane		<i>Nisha</i>
S1819489	25	Omkar B Kore		<i>Omkar</i>
S1819493	26	Pavan Bilage		<i>Pavan</i>
S1819519	27	Rakesh Sutar		<i>Rakesh</i>
S1819520	28	Rashmi Popat Sidanale		<i>Rashmi</i>
S1819524	29	Ritu S. Billkar		<i>Ritu</i>
S1819529	30	Rudra R. Magadum		<i>Rudra</i>
S1819531	31	Rukmini B Talwar		<i>Rukmini</i>
S1819534	32	Rutuja D Chougule		<i>Rutuja</i>
S1819535	33	Rutuja B. Desai		<i>Rutuja</i>
S1819538	34	Rutuja S. Pawar		<i>Rutuja</i>
S1819539	35	Rutuja V.Shinde		<i>Rutuja</i>
S1819542	36	Sagar Bagadi		<i>Sagar</i>
S1819543	36	Sahil S. Patil		<i>Sahil</i>
S1819544	38	Sakshata S. Jatrare		<i>Sakshata</i>





S1819547	39	Sana Gadampalli		S.M. Godhankar
S1819548	40	Sana A.Mulla		S.M. Godhankar
S1819555	41	Seema S. Kunnure		Seema Kunnure
S1819557	42	Shashidhar N Gurav	-	-
S1819558	43	Shefali P Magdum	-	-
S1819568	44	Shridhar S. Hawaldar		Shridhar S. Hawaldar
S1819572	45	Shruti Kamate		Kamate
S1819578	46	Shrutika A.Kamate		Kamate
S1819579	47	Shrutika D Tele		Shrutika D Tele
S1819584	48	Shubhangi S. Bhojapatil	-	-
S1819590	49	Sneha B Ambi		Sneha B Ambi
S1819591	50	Sneha A. Ingale		Sneha A. Ingale
S1819592	51	Sneha S. Murabatte		Sneha S. Murabatte
S1819593	52	Sneha S. Patil		Sneha S. Patil
S1819599	53	Soumya Magdum		Soumya Magdum
S1819601	54	Sourabh Vaigude		Sourabh Vaigude
S1819602	55	Srushti S. Halagadagi		Srushti S. Halagadagi
S1819603	56	Suchita Sapagale		S. C. Sapagale
S1819605	57	Sukanya S. Singanavar		Sukanya S. Singanavar
S1819611	58	Sushma Mathapati		Sushma Mathapati
S1819612	59	Trupti A. Kamalakar		Trupti A. Kamalakar
S1819614	60	Vaishnavi More		Vaishnavi More
S1819617	61	Varsha R. Kore		Varsha R. Kore
S1890002	62	Abhishek Narayankar		Abhishek Narayankar

Faculty members:

1 Smt. S.B.Patil

2 Smt. Dr. S.P.Shiragave

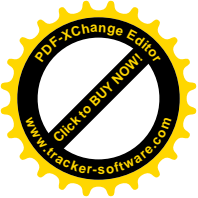
3 Smt. S.S.Sunnal


HEAD
Department of Botany
G. I. Bagewadi College, Nipani.


Co-ordinator IQAC
K. L. E. Society's
G. I. Bagewadi College, Nipani.


PRINCIPAL
G.I. Bagewadi Arts, Science &
Commerce College, NIPANI.





RANI CHANNAMMA UNIVERSITY, BELAGAVI.

Semester V (w.e.f. 2019-20)

Botany Paper – II

Paper-II: Ecology, Environmental Biology and Phytogeography

50 hrs

Unit I: Plant and environment: Atmosphere (gaseous composition), water (properties of water cycle), light (global radiation, photo synthetically active radiation), temperature, soil (development, soil profiles, physico-chemical properties), and biota. Morphological, anatomical and physiological responses of plants to water (hydrophytes, xerophytes and epiphytes), temperature (thermoperiodicity and vernalization), light (photoperiodism, heliophytes and sciophytes) and salinity. **12 Hrs.**

Unit II: Population ecology and Ecosystems: Growth curves; ecotypes; ecads, Ecological succession hydrach and xerarch. Structure of Ecosystems (Pond and Forest): abiotic and biotic components; food chain, food web, ecological pyramids, energy flow. **10 Hrs.**

Unit III: Phytogeography: Botanical regions of world, Vegetation types of Karnataka and India. **06 Hrs.**

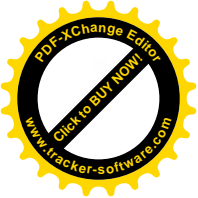
Unit IV: Conservation of Natural resources: Different types of natural resources and their conservation, Forest and Forest Management: Forest and its ecological significance, deforestation, forest management and social forestry. Natural depletion of vegetation endangered and threatened economic plants of India and red data book. Wild life management in India, Indian board of wild life, national park and sanctuary. Energy resources: conventional and non-conventional sources of energy. Biodiversity: significance, types, depletion, conservation of biodiversity. **12 Hrs.**

Unit V: Pollution: Introduction, causes, effects and control measures of Water pollution, Air pollution, Soil pollution, Acid rain, Global warming, and Ozone depletion. Sewage water and waste water types. Methods of effluent treatment of industrial waste water, sludge disposal and its care related to environment. **10 Hrs.**

Practical:

1. Study of frequency and density of herbaceous plants by quadrat method.
2. To determine moisture content and water holding capacity of different types of soils.
3. To estimate the alkalinity of water samples.
4. Ecological instruments.
5. Morphology and anatomical adaptations in three hydrophytes.
6. Morphology and anatomical adaptations in xerophytes: One succulent and one non succulent, one epiphyte and one halophyte.
7. Waste water analysis, physical chemical parameter, pH, turbidity, TDS, BOD, COD, temperature and any other inorganic elements.
8. Visit to effluent treatment plant to study recycling of waste water near by industry and study the effect of industrial pollution nearby water bodies (Biomagnification & Eutrophication).





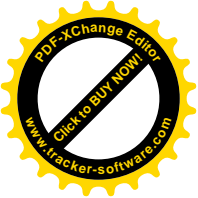
9. Assignment of Project related to practical number eight.

10. Study Tour of minimum two days to study forest types and ecological groups.

Books for Reference:

1. Sharma P.D. (1993)-Ecology and Environment – Rastogi Publication, New Delhi.
2. Mishra R. - Ecology Work Book- Oxford and IBH, New Delhi.
3. Agarwal K.C. (1993) - Environmental Biology- Agro Botanical Publishers, Jodhapur.
4. Mishra K.C. (1992) – Manual of Plant Ecology – Oxford & IBH Publication, New delhi.
5. Kochar P.L. (1980) – Plant Ecology – S. Nagin & Co., Jalandhar. 6. Kormandi E.J. (1984) – Concept of Ecology- Printice Hall Ind., New Delhi.
7. Asthana R.K. (1998) – Environmental Problems and Solution- S.Chand& Co. Pvt, Ltd., New Delhi.
8. Verma P.S., V.K. Agarwal (1983) – Environmental Biology - S.Chand& Co. Pvt, Ltd., New Delhi.
9. Subramanyam N.S. A.V.S.S. Samburthy (2000)- Ecology- Narosa Publishing House, New Delhi.
10. Sharma O.P. (1993) – Ecology & Environmental Biology- Rastogi Publication, Meerut.
11. Nebel B.J. (1990) – Environmental Science – Printice Hall Indu. Pvt. Ltd. New Delhi.
12. Trivedi R.K. Etal (1987) – Practical Ecology – Anmol Publication, Jodhapur.
13. Rao K.S. (1971) - Fundamentals of Ecology – W.B. Saunders co. Philadelphia.
14. Shukla R.S. &Chandel P.S. (2000) – Plant Ecology – S.Chand& Co. Pvt. Ltd., New delhi.
15. Odum, E.P 1983. Basic Ecology, Saunders, Philadelphia.
16. Mackenzie, A et al. 1999. Instant Notes in Ecology. Viva Books Pvt.Ltd Delhi.
17. For laboratory exercises
 - a. Krebs, C.J. 1989. Ecological Methodology. Harper and Row, New York.
 - b. Ludwig, J.A. and Reynolds, J.F. 1988. Statistical Ecology. Wiley. New York.
 - c. Moore, P.W. and Chapman, S.B. 1986. Methods in plant Ecology. Blackwell scientific publications.





RANI CHANNAMMA UNIVERSITY, BELAGAVI
Semester-V Botany Practical II (Ecology, Environmental Biology and Phytogeography.)
Time: 4 Hours Max Marks: 40

- Q.1. Give the external and internal features of ecological adaptations with neat labelled diagrams of specimen- A and mention the habitat to which it belongs.
08 Marks
- Q.2. Determine the moisture content & water holding capacity of sample 'B'.
05 Marks
- Q.3. Analyse sewage & waste water sample- C (pH, turbidity, TDS,).
06 Marks
- Q.4. a. Identify and describe the features of ecological interest in slide D.
03 Marks
 b. Describe the use and working mechanism of ecological instrument E.
03 Marks

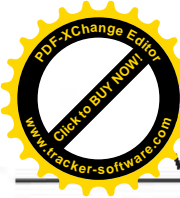
- Submission of Project (Industrial visit)
05 Marks
- Submission of Study tour report (Viva voce on Ecology/vegetation types studied during tour & project)
05 Marks
- Journal
05 Marks

Rani Channamma University, Belagavi. B.Sc V Semester Practical Examination

Subject: Botany Paper- II Instructions to Examiners. Time: 4Hours Max Marks: 40

- | | |
|--|-----------|
| Q.1. Ecology specimen –A
marks
(External and internal ecological adaptations- 5 marks, diagram-2 marks, mentioning habitat- 1mark) | 08 |
| Q.2. Moisture content /water holding capacity of sample –B
marks
(Performing experiment and procedure-3 marks, calculation and result-2marks). | 05 |
| Q.3. Analysis of sewage and waste water sample -C.
marks
(PH-2marks, turbidity-2marks, TDS-2marks). | 06 |
| Q.4. a-Ecological slide- D.
marks.
(Identification -1mark, description -2 marks) | 03 |

- | | |
|---|----------------|
| b- Ecological instrument-E
(Identification-1mark, working mechanism and use -2marks) | 03marks |
| Submission of project
marks. | 05 |



DEPARTMENT OF BOTANY

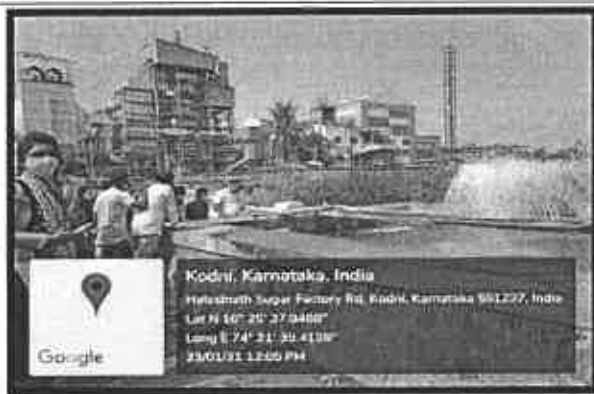
Ref.: E/E/Study tour

Date: 25.01.2021

Report on Study Tour/Field Visit for the year 2020-21

Name of the Department	Botany
Name of the Event Organized	One day visit
Title of the Event	Visit to Halsidhanath Sugar Factory
Date of the Event Organized	23.01.2021
Name of the faculty accompanied	Smt. S.B.Patil Smt. S.S.Sunnal Dr.Smt.S. P.Shiragave
Participants	V semester Botany students
No. of Participants	Total 58 Teachers 3 Students 55 Others
Name of the Expert with Designation	Sri. Suhas. Nepari Engineer
Contact Number & Address of the Expert	Shri Halsidhanath Sugar Factory
Objectives of the Event	To study the water effluents treatment.
Outcome of the Event	Students understood the various methods of water effluents treatment.

Photo Gallery



[Signature]

HOD
HEAD

Department of Botany
G. I. Bagewadi College, Nipani.

[Signature]

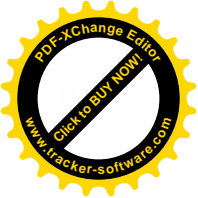
IQAC Coordinator

Co-ordinator IQAC
K. L. E. Society's
G. I. Bagewadi College, Nipani.

[Signature]

PRINCIPAL
PRINCIPAL

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Website: www.klegibnnpn.edu.in

E-mail: klegib_npn@yahoo.co.in / klegibnbotany@gmail.com

Ph.: 08338-220116

DEPARTMENT OF BOTANY

Date: 20.01.2021

To,
The Managing Director
Halasidhanath Sugar Factory
Nipani
Karnataka

Sub- Request for Permission to visit your Sugar Factory

Respected sir,

As per the RCU B.Sc. Vth sem syllabus, there is a compulsory visit to effluent treatment and study the pollution in surrounding area. So the Department of Botany of K.L.E.S G.I. Bagewadi College decided to give a visit to your Halasidhanath Sugar Factory on 23.01.2021 at 11.00am with Vth Semester Botany students and faculty members. We request your kind permission for the same.

Thanking you,

Yours Faithfully,

HOD
Head

Department of Botany
K.L.E.'s G. I. B. College, Nipani.

PRINCIPAL
Principal,

G. I. Bagewadi Arts, Science &
Commerce College, NIPANI.





K.L.E.Society's
G.I.Bagewadi Arts, Science and Commerce College, Nipani
Department of Botany
List of students visiting to Halasidhanath Sugar Factory

Reg. No	R.No	Name	Mobile No	Signature
S1819404	1	Adesh Patil	8618716423	Adesh Patil
S1819405	2	Afreen Parakute		
S1819406	3	Aishwarya Kurundawade	9108689603	Aishwarya Kurundawade
S1819411	4	Akshata A. Kulkarni	7411014085	Akshata A. Kulkarni
S1819413	5	Akshata A. Vasawade	7338066908	Akshata A. Vasawade
S1819417	6	Aniket R. Sadalage		
S1819419	7	Anita B. Ingale	7676097374	Anita B. Ingale
S1819420	8	Anjali S. Patil	6364626913	Anjali S. Patil
S1819426	9	Arpita A. Kulkarni	9482691423	Arpita A. Kulkarni
S1819433	10	Bhagyashri S. Ghatage		Bhagyashri S. Ghatage
S1819439	11	Dhanashri Patil	9105086550	Dhanashri Patil
S1819443	12	Gouri M Rajannavar	8951603153	Gouri M Rajannavar
S1819456	13	Kiran B. Irole	9941878136	Kiran B. Irole
S1819457	14	Kiran K Karibalappagol	9108501673	Kiran K Karibalappagol
S1819459	15	Komal S. Latakar		
S1819464	16	Mahesh S.Gavade	8495068309	Mahesh S.Gavade
S1819466	17	Mahesh A. Kadapure		
S1819467	18	Maheshchandra Dhange	6362697080	Maheshchandra Dhange
S1819468	19	Mansi S. Gurav	9190285099	Mansi S. Gurav
S1819470	20	Manjula Bhawe	9731767308	Manjula Bhawe
S1819473	21	Manjushree Sattigeri	6363567676	Manjushree Sattigeri
S1819476	22	Megha Maruti Kambale	8971060984	Megha Maruti Kambale
S1819483	23	Nikeeta A. Patil	9741767683	Nikeeta A. Patil
S1819487	24	Nisha Y Chinchane	9741990761	Nisha Y Chinchane
S1819489	25	Omkar B Kore	7028838729	Omkar B Kore
S1819493	26	Pavan Bilage	9845076461	Pavan Bilage
S1819519	27	Rakesh Sutar	9108805655	Rakesh Sutar
S1819520	28	Rashmi Popat Sidanale	7619276182	Rashmi Popat Sidanale
S1819524	29	Ritu S. Billkar		Ritu S. Billkar
S1819529	30	Rudra R. Magadum	8296079959	Rudra R. Magadum
S1819531	31	Rukmini B Talwar	8105967220	Rukmini B Talwar
S1819534	32	Rutuja D Chougule	9901084292	Rutuja D Chougule
S1819535	33	Rutuja B. Desai	9019621640	Rutuja B. Desai
S1819538	34	Rutuja S. Pawar	6362666619	Rutuja S. Pawar
S1819539	35	Rutuja V.Shinde	6362764302	Rutuja V.Shinde
S1819542	36	Sagar Bagadi	8431990179	Sagar Bagadi
S1819543	36	Sahil S. Patil	9611707548	Sahil S. Patil
S1819544	38	Sakshata S. Jatrata	8722429126	Sakshata S. Jatrata





S1819547	39	Sana Gadampalli	9591508742	Sana
S1819548	40	Sana A.Mulla	9481817386	A.Mulla
S1819555	41	Seema S. Kunnure	9577293040	Seema
S1819557	42	Shashidhar N Gurav		
S1819558	43	Shefali P Magdum		
S1819568	44	Shridhar S. Hawaldar	8105875161	Shridhar
S1819572	45	Shruti Kamate	6362549974	Kamate
S1819578	46	Shrutika A.Kamate	6366718974	Shrutika
S1819579	47	Shrutika D Tele	8618043251	Shrutika
S1819584	48	Shubhangi S. Bhojepatil		
S1819590	49	Sneha B Ambi	7798275211	Sneha
S1819591	50	Sneha A. Ingale	7676784766	Sneha
S1819592	51	Sneha S. Murabatte	8904024068	Sneha
S1819593	52	Sneha S. Patil	9353920122	Sneha
S1819599	53	Soumya Magdum	9748275974	Soumya
S1819601	54	Sourabh Vaigude	8867110224	Sourabh
S1819602	55	Srushti S. Halagadagi	6362647167	Srushti
S1819603	56	Suchita Sapagale	9731558921	Suchita
S1819605	57	Sukanya S. Singanavar	8088688952	Sukanya
S1819611	58	Sushma Mathapati	7204525428	Sushma
S1819612	59	Trupti A. Kamalakar	6363894984	Trupti
S1819614	60	Vaishnavi More	8088411287	Vaishnavi
S1819617	61	Varsha R. Kore	9008294255	Varsha
S1890002	62	Abhishek Narayankar	8657068262	Abhishek

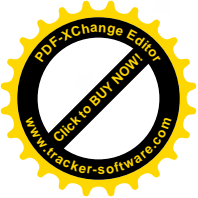
Faculty members:

- 1 Smt. S.B.Patil
- 2 Smt. Dr. S.P.Shiragave
- 3 Smt. S.S.Sunnal

Suhel Negshi
for 00009 - Enrollment

G. Ganesh





Q. III Descriptive Answers

21. From Unit 1: Cell Biology: OI sub question. 1 X 10 = 10

OR

From Unit 2: Morphology of Chromosomes-OI sub question.

22. From Unit 3: Cell division: OI sub question. 1 X 10 = 10

OR

From Unit 4: Genetics: OI sub question.

23. From Unit 4: Genetics: OI sub questions. 1 X 10 = 10

OR

From Unit 5: Evolution: OI sub question.

B.Sc VI semester

(w.e.f 2016 -17)

Botany paper -II

(Molecular Biology, Biotechnology & Immunology)

50 hrs

Objectives: - Molecular Biology, Biotechnology and Immunology has some recent trends in the concern fields. This will help students to pursue research in concerned fields.

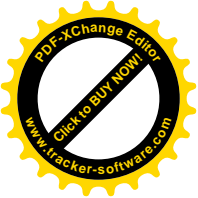
Unit 1: Nucleic Acids: DNA & RNA, occurrence, types and chemical compositions.

Experimental evidences for DNA as genetic material. Structure of DNA. Replication, semiconservative method, RNA and types, post transcription changes.

10 Hrs.

Unit 2: Gene Expression: Gene concept, Genetic code & protein synthesis. Regulation of gene expression in prokaryotes & eukaryotes.

08Hrs.



Unit 3: Recombinant DNA technology and Bioinformatics:

Enzyme, vector (plasmid PBR 322), marker gene, Steps of cloning technique, PCR and its application, Genomic DNA and cDNA library. Brief concept on Genomics and proteomics.

08 Hrs.

Unit 4: Biotechnology and Genetic engineering of plants:

Basic concepts, principles and scope. Aims, strategies for development of transgenic plants

(with suitable example). Agrobacterium-The natural genetic engineer. T-DNA and transposon mediated Gene tagging, intellectual Property rights, possible ecological risks and ethical concerns.

12Hrs.

Unit 5: Microbial genetic manipulation and Immunology:

Microbial genetic manipulation: Bacterial transformation, selection of recombinant and transformants, genetic improvement of industrial microbes, nitrogen fixers & fermentation technology.

Immunology: Immuno-systems, Immunotechniques in Agriculture, ELISA method to detect Plant diseases & Monoclonal antibodies.

12 Hrs.

Practicals:

1. DNA estimation by DPA diphenyl amine method.
2. RNA estimation by orcinol method.
3. Extraction and estimation of protein from plant source.
1) Salt precipitation method 2) solvent method
4. Culturing of Rhizobium-YEMA media.
5. Culturing of Azotobacteria-ASHBY'S media.
6. Demonstration of Electrophoresis technique
7. Agarose gel electrophoresis.
8. Demonstration and comparison of GM Plants with Non GM Plants (BT- Cotton, BT-Brinjal, BT Tomato).
9. Visit to Biotechnology Research Laboratory.



DEPARTMENT OF BOTANY

Ref.:

Date: 27.01.2021

Report on Study Tour/Field Visit for the year 2020-21.

Name of the Department	Botany							
Name of the Event Organized	One day Visit to Biotech lab							
Title of the Event	Dr. Prabhakar Kore Basic Science Research Centre, Belagavi.							
Date of the Event Organized	21.08.2021							
Name of the faculty accompanied	Smt.S.S.Sunnal Smt. S.M.Hegade							
Participants	VI sem students							
No. of Participants	Total	56	Teachers	02	Students	54	Others	-
Name of the Expert with Designation	Dr. Sunil Doddamani							
Contact Number & Address of the Expert	8217781235, BSRC Belagavi							
Objectives of the Event	1. To study the Research Laboratory 2. To observe the various biotechnological instruments							
Outcome of the Event	1. Students observed the Research laboratory 2. Students could see the various Biotechnological Instruments							

Photo Gallery



[Signature]
HOD

HEAD

Department of Botany
 G. I. Bagewadi College, Nipani

[Signature]

IQAC Coordinator

Co-ordinator IQAC

K. L. E. Society's

G. I. Bagewadi College, Nipani.

[Signature]

PRINCIPAL

PRINCIPAL

G.I. Bagewadi Arts, Science &
 Commerce College, NIPANI.



K.L.E. Society's
G.I. Bagewadi Arts, Science and Commerce College, Nipani-591237

Accredited at 'A' level by NAAC with CGPA 3.35

(Affiliated to Rani Channamma University, Belagavi, Karnataka, India)

Website: www.klegibn.nipani.edu.in

E-mail: klegib_npn@yahoo.co.in/ klegibnbotany@gmail.com

Ph.: 08338-220116

Ref: E/E/Studytour/Permission

Date: 19.08.2021

DEPARTMENT OF BOTANY

To,

The Principal,
KLES G I Bagewadi College
Nipani.

Sub: Seeking permission to visit the BSRC reg.

Respected Sir,

With respect to above mentioned subject, as per the RCU Belagavi Botany semester Syllabus, there is compulsory visit to Biotechnology research laboratory for VI semester. In this respect the department of Botany has decided to conduct one day study tour on 21st August 2021 at BSRC Belgavi. Hence, we request your kind permission to conduct the Visit.

Thanking You,

Yours Sincerely

for Sali
HOD

Head
Department of Botany
K.L.E.'s G. I. B. College, Nipani.

Principal
Principal,
G. I. Bagewadi Arts, Science &
Commerce College, NIPANI.



K.L.E. Society's
 G.I. Bagewadi Arts, Science and Commerce College, Nipani-591237
 Accredited at 'A' level by NAAC with CGPA 3.35
 (Affiliated to Raj Channamma University, Belagavi, Karnataka, India)

Website: www.klegibnps.edu.in E-mail: klegib_nps@yahoo.co.in/ klegibnbotany@gmail.com Ph.: 08338-220116

Ref: E./E./Tours/ Permission

Date: 14.08.2021

DEPARTMENT OF BOTANY

To,
 Dr. Ramesh Paranjape
 I/C Director,
 BSRC
 Belagavi.

Subject: Request to visit permission to BSRC reg.

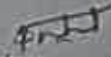
Respected Sir,

With respect to above mentioned subject, as per RCUB syllabus VI semester students need to visit the Biotechnology research laboratory. So we have decided to visit your BSRC on 21st August 2021.

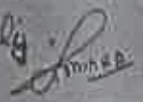
In this respect we request your kind permission to visit your centre, with 62 students and two faculty members will be accompanying them.

We hope you will do the needful.

In anticipation of your permission.


 HOD
 Head
 Department of Botany
 K.L.E.'s G. I. B. College, Nipani



Students visited to BSRC Labs on 21/8/21 and were demonstrated with available faculty.




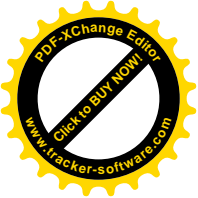
INDEMNITY FORM

We, the under signed B.Sc. VI sem students of G. J. Bagewadi College, Nipani willing to participate in the study tour, undertake and abide our self with following conditions.

1. We will obey the orders of our teachers during the tour period.
2. We undertake that neither our parents nor we will claim the compensation from the authorities of the college, staff, University or from the Government in respect of any loss or injury resulting even in death which we may suffer during the study tour period.

Sl. No.	Student Name	Contact numbe	Signature
1.	Aadesh U. Patil.	8618716423	A.U. Patil
2.			
3.	Aishwarya Kurushinde	9108989603	Aishwarya
4.	Akshata A. Kulkarni	6361748892	AAKulkarni
5.	Akshata A. Vasawade	7338066900	AA
6.	Aniket R. Sadralage	6362330225	Aniket
7.	Anita B. Jangale	7676077374	AJangale
8.	Anjali S. Patil	6364626913	Patil
9.	Anpha A. Kulkarni	9482691423	Anpha
10.	Bhagyashri S. Chhatoge	6364759234	BChhatoge
11.	Dhanashri Patil	8105086550	Patil
12.	Gouri M. Rajaramanar	8951603153	Gouri
13.	Kiran B. Jole	9741878136	Kiran
14.			
15.	Komal. Latkar	9980901970	Komal
16.	Mahesh S. Gavade	8495068309	Mahesh
17.	Mahesh P. Kadapure	88161796004	Mahesh
18.	Maheshchandra T. Dhange	6362697080	Mahesh
19.	Manasi B. Gurav.	6360622122	Manasi
20.	Manjula S. Bhave	9731767308	Manjula
21.			
22.	Megha M. Kamble	8971060984	Megha





Sl. No.	Student Name	Contact number	Signature	
23	Niketeer patil	7676834886	NPatil	L
24	Nisha Chinchane	8496818835	Ninchane	X
25	Omkar D. Kore	7026833729	OKore	L
26	Pavan S. Bilage	9845076461	P. Bilage	L
27	Rakesh Sutar	9108805655	R. Sutar	L
28	Rashmi P. Sedanale	7619276182	RSedanale	L
29	Ritu S. Billkar	6361908393	R. Billkar	L
30	Rudra R. Magadum	8296079959	R. Magadum	L
31	Rukmini. Talewar	8109967200	R. Talewar	L
32	Rutuja D. chougale	9901084292	R. Chougale	L
33	Rutuja B. Desai	9019621640	R. Desai	L
34	Rutuja S. Pawar	6362666619	R. Pawar	L
35	Rutuja V. Shinde	6362764802	R. Shinde	L
36	Sagar B. Bugadi	8431990159	S. Bugadi	L
37	Sahil S. Patil	9611767548	S. Patil	L
38	Sakshata S. Jaitrate	8722429126	S. Jaitrate	X
39	Sana M. Gadampalli	9591508742	S. Gadampalli	L
40	Sana Mulla	9481817386	S. Mulla	L
41	Seema kunnure	8277293040	S. Kunnure	X
42	Shashidhar. N. Gurav.	8720494032	S. Gurav	L
43	Shefali. Magadum	9008634500	S. Magadum	X
44	Shridhar S. Hawaldar	8660980241	S. Hawaldar	L
45	shruti. J. Kamate	9845968498	S. Kamate	L
46	Shrutika A. kamate	6366718974	S. Kamate	L
47	Shrutika D. Tale	8618043251	S. Tale	L
48	Shubhangi S. Bhojpatil	9380543458	S. Bhojpatil	L
49	Sneha B. Ambhi	7798275211	S. Ambhi	L
50	Sneha A. Ingale	7676784766	S. Ingale	L
51	Sneha S. Murabatte	8904024068	S. Murabatte	L
52	Sneha S. Patil	8746076630	S. Patil	L
53	Soumya magadum	9743275974	S. Magadum	L



54	Sourabh -veisgudi	8867110224	Sourabh	L
55	Prusthi Halagodagi	6362647167	Prusthi	L
56	Suchita -C. Sapagale	8951645365	S. C. Sapagale	L
57	Sukanya . S. Singanavor	8088688952	Singani	L
58	Sushma .k. Mathapat	7204525428	Sushma	L
59	Toupti A Kamalakar	6363894984	Toupti	L
60	Vaishnavi A. More	8088411287	Vaishnavi	L
61	Varsha R. Kose	9008274268	Varsha	L
62	Abhishek. Narayanlar.	8651069264	Abhishek	L

HEAD
 Department of Botany
 G. I. Bagewadi College, Nipani.

Co-ordinator IQAC
 K. L. E. Society's
 G. I. Bagewadi College, Nipani.

PRINCIPAL
 G.I. Bagewadi Arts, Science &
 Commerce College, NIPANI.