



**GOVERNMENT DEGREE COLLEGE
LUXETTIPET**



**DEPARTMENT OF BOTANY
FIELD VISIT TO POLASA
AGRICULTURAL UNIVERSITY AND TEMPLE**

GOVERNMENT DEGREE COLLEGE, LUXETTIPET
PERMISSION LETTER
FIELD TRIP
DEPARTMENT OF BOTANY

DATE: 9.01.2020

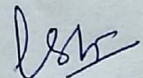
To
The Principal
Government Degree College
Luxettipet

Sub: Request for permission to conduct field trip to Polasa.

As per the subject cited above, I P.Savitha, Asst. Prof. of Botany is intended to conduct field trip on 18.01.2020 to Polasa to visit Pond in Polestheswara Alayam for collection of algae and Agricultural University for studying different techniques used in agriculture. This may be a part of experiential learning to the students which improves the skills and enhances the knowledge of the students.

Thanking You,

Yours Sincerely


Department of Botany

Permitted

P.K. J.L
Principal
Govt. Degree College
Luxettipet - 504 214



**Government Degree College,
Luxettipet**



District: Mancherial

Contact No: 08739 233888 e-mail: gdclxpt@gmail.com

Principal Present (FAC): Dr. Jai Kishan Ojha, M.Sc, Ph.D. cell: 9440036165

To
The Associate Director of Research
Regional Agricultural Research Station
Polasa, Jagtial

From
The Principal
Government Degree College
Luxettipet, Dist. Mancherial

Sir,

Sub: Permission for field visit to Agricultural Research Station, Polasa - UG Students of Govt. Degree College, Luxettipet - Request - Regarding.

In accordance with the subject cited, I wish to submit that Government Degree College, Luxettipet is catering to the educational needs of students hailing from remote and rural areas surrounding the region. To enrich the curriculum and to inculcate scientific temper in the nascent minds of our students, the institute is planning for field visit to your esteemed research centre.

In this regard, I request your good self to consider our request and grant permission to our students (about 30) to visit your Institution on 18.01.2020 and facilitate them in knowing the current trends and techniques in the subject.

Thanking You sir

Yours Sincerely,

Received

Jai Kishan Ojha
17/1/2020

Associate Director of Research
Regl. Agril. Res. Station
POLASA, JAGTIAL.

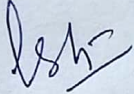
T.K. Jil
Principal

Principal
Govt. Degree College
Luxettipet - 504 214

**GOVERNMENT DEGREE COLLEGE
LUXETTIPET
NOTICE**

Date:11.01.2020

It is hereby informed to the students of B.Sc B.Z.C I,II and IIIYr ,that a field trip will be conducted by Botany department on 18.01.2020 to Polasa Agricultural University in view of making the learning more experiential in courses of botany and environmental studies.Hence i request all the students to attend to field trip and make it a success.



Department of Botany

J.K. - jk
Principal
Govt. Degree College
Luxettipet -504 21st

**GOVERNMENT DEGREE COLLEGE, LUXETTIPET
FIELDTRIP 2019-20**



**AT POND IN POLESTHESWARA TEMPLE IN POLASA
FOR COLLECTION OF ALGAE**



AT POLASA AGRICULTURAL UNIVERSITY OBSERVING GREEN HOUSE



OBSERVING VARIETIES OF RICE PRODUCED AT POLASA

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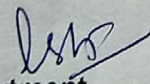
DEPARTMENT OF BOTANY

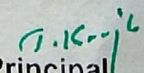
GOVERNMENT DEGREE COLLEGE ,LUXETTIPET
STUDENTS ATTENDANCE SHEET

Name of the Activity : FIELD TRIP

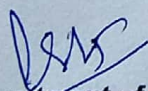
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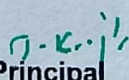
S.No	Name of the student	Course and Year	Signature of the students
1.	M.Sandhya	B.Sc.B.Z.C IIIYr	M. Sandhya
2.	M.Anusha	B.Sc.B.Z.C IIIYr	Anusha
3.	U.Sandhya	B.Sc.B.Z.C IIIYr	Sandhya
4.	P.Uma Maheswari	B.Sc.B.Z.C IIIYr	U. Sandhya
5.	P.SravyaSri	B.Sc.B.Z.C IIIYr	Sravyasri
6.	P.Rakesh	B.Sc.B.Z.C IIIYr	Rakesh
7.	G.Ganesh	B.Sc.B.Z.C IIIYr	Rakesh
8.	D.Madhukar	B.Sc.B.Z.C IIIYr	Madhukar
9.	A.Rajeshwari	B.Sc.B.Z.C IYr	A. Rajeshwari
10.	K.Mamatha	B.Sc.B.Z.C IYr	K. Mamatha
11.	M.Sandhya Rani	B.Sc.B.Z.C IYr	m. Sandhya Rani
12.	Anjali	B.Sc.B.Z.C IYr	Gr. Anjali
13.	B.Sushmitha	B.Sc.B.Z.C IYr	B. sushmitha
14.	R.Sneha	B.Sc.B.Z.C IYr	R. Sneha
15.	E.Krishnaveni	B.Sc.B.Z.C IYr	e. Krishnaveni
16.	J.Varalaxmi	B.Sc.B.Z.C IYr	J. Varalaxmi
17.	S.Amulya	B.Sc.B.Z.C IYr	Amulya.
18.	E.Sreeja	B.Sc.B.Z.C IYr	E. Sreeja
19.	K.Amulya	B.Sc.B.Z.C IYr	K. Amulya
20.	K.Sharmila	B.Sc.B.Z.C IYr	Sharmilak
21.	A.Vani	B.Sc.B.Z.C IYr	A. Vani
22.	K.Sony	B.Sc.B.Z.C IYr	K. Sony


Department


Principal
Principal
Govt. Degree College
Luxettinet - 504 21st

S.No	Name of the Student	Designation Course and year	Signature of the student
1	B.Divya	B.Sc.B.Z.C I Yr	B. Divya
2	A. Upender	B.Sc.B.Z.C I Yr	A. Upendar
3	D. Sudhakar	B.Sc.B.Z.C I Yr	D. Sudhakar
4	J. Sagar	B.Sc.B.Z.C I Yr	J. Sagar
5	J. Ramesh	B.Sc.B.Z.C I Yr	J. Ramesh
6	M. Yogender	B.Sc.B.Z.C I Yr	M. Yogender
7	M. Rajitha	B.Sc.B.Z.C III Yr	M. Rajitha
8	K.Mounika	B.Sc.B.Z.C I Yr	K. Mounika


Department of Botany

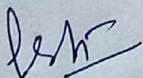

Principal
Principal
Govt. Degree College
Luxettinet - 504 211

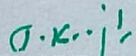
GOVERNMENT DEGREE COLLEGE, LUXETTIPET
FEEDBACK REPORT

Date:

Name of the student	A. Vani
Course and Academic year	BZC 1 st year 2019-20
Name of the programme	Field trip
Questionnaire for the programme	
1. Are you satisfied by the programme	Yes
2. What did you learn from the Programme	About different Agricultural techniques.
3. Is it useful to improve your skills	Yes
4. Can you apply this in generating self employment	Yes
4. Any suggestions by you regarding the programme	- Nil -

SIGNATURE
OF THE STUDENT


PROGRAMME COORDINATOR


PRINCIPAL
Principal
Govt. Degree College
Luxettipet - 504 215

REGIONAL AGRICULTURAL RESEARCH CENTRE, POLASA
DIST. JAGTIAL, TELANGANA STATE

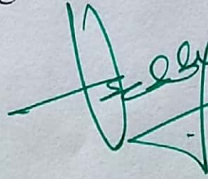
ATTENDANCE CERTIFICATE

This is to Certify that the following staff members from Government Degree College, Luxettipet attended the field visit at Regional Agricultural Research Centre, Polasa along with (~~30~~) students on 18.01.2020.

Staff members

- ① Dr. Jai Kishan Ojha (Principal FAC)
Asst. Prof of Physics.
- ② P. Savitha
Asst. Prof of Botany.
- ③ P. Chandrashekar
Lec in Zoology
- ④ G. Sreelatha
Asst. Prof of Telugu.
- ⑤ Dr. E. Rajkumar
Asst. Prof of Hindi
- ⑥ B. Narmada.
TSKC Mentor

7


12/1/2020

Associate Director of Research
Regl Agril. Res. Satation
POLASA, JAGTIAL.

GOVERNMENT DEGREE COLLEGE, LUXETTIPET
OUTCOMES OF THE FIELD TRIP
DEPARTMENT OF BOTANY

As a part of experiential learning field trip was conducted by the Department of Botany to Polasa, Polesteshwara temple where from an old pond algae was collected where presence of Nostoc, Oscillatoria, Oedogonium etc was observed. In addition, visited Polasa Agricultural University to study different Agricultural techniques.

OUTCOMES OF THE FIELD TRIP

- By collection of algae from the pond, came to know about the habitats of the different types of algae.
- Analytical skills were developed where analysis of atmosphere, humidity and temperature for the growth of different types of algae can be made.
- By observing the algae, the environment needed for their growth can be assessed.
- This knowledge can be applied for growing different algae for preparation of biofertilizers etc.
- As a result of the field trip to Polasa Agricultural university, modern techniques used to improve agriculture were observed.
- Agricultural skills are developed by the students.
- Soil PH Testing, working of anemometer, rain gauge etc was also observed.
- Developed applicative knowledge where it can be put into practice to get better results in agriculture on an own where self employment can be generated.
- Also it is helpful for carrying on jobs in gardening and horticultural fields.

Department of Botany

7.8.21
Principal
Govt. Degree College
Luxettipet - 504 216

Practical Syllabus

(45 hours)

1. Study of viruses and bacteria using electron micrographs (photographs).
2. Gram staining of Bacteria.
3. Study of symptoms of plant diseases caused by viruses, bacteria, Mycoplasma and fungi:
Viruses: Tobacco mosaic
Bacteria: Angular leaf spot of cotton and Rice tungro.
Mycoplasma: Little leaf of Brinjal and Leaf curl of papaya
Fungi: White rust on Crucifers, Rust on wheat & Tikka disease of Groundnut.
4. Vegetative and reproductive structures of the following taxa:
Algae: Oscillatoria, Nostoc, Volvox, Oedogonium, Chara, Ectocarpus and Polysiphonia.
Fungi: Albugo, Mucor, Saccharomyces, Penicillium, Puccinia and Cercospora
5. Section cutting of diseased material infected by Fungi and identification of pathogens as per theory syllabus. White rust of Crucifers, Rust on wheat & Tikka disease of Groundnut.
6. Lichens: Different types of thalli and their external morphology
7. Examination of important microbial, fungal and algal products:
Biofertilizers, protein capsules, antibiotics, mushrooms, Agar-agar etc.
8. Field visits to places of algal / microbial / fungal interest (e.g. Mushroom cultivation, water bodies).
9. Study of Morphology (vegetative and reproductive structures) and anatomy of the following
Bryophytes: Marchantia, Anthoceros and Polytrichum.
10. Study of Morphology (vegetative and reproductive structures) and anatomy of the following
Pteridophytes: Lycopodium, Equisetum and Marsilea.
11. Study of Anatomical features of Lycopodium stem, Equisetum stem and Marsilea petiole & rhizome by preparing double stained permanent mounts.

Practical Model Paper

Max. Marks: 25

Time : 3 hrs

1. Identify the given components 'A' & 'B' in the algal mixture .
Describe with neat labeled diagrams & give reasons for the classifications. 2 X 2 = 4M
2. Classify the given bacterial culture 'D' using Gram - staining technique. 3M
3. Take a thin transverse section of given diseased material 'E'.
Identify & describe the symptoms caused by the pathogen. 4M
4. Identify the given specimens 'F', 'G' & 'H' by giving reasons .
(Fungal-1, Bacteria-1 & Viral-1) 3 X 1 = 3M
5. Comment on the given slides 'I' & 'J' (Algae-1, Fungi-1) 2 X 2 = 4M
6. Identify the given specimen 'K' & slide 'L' (Bryophytes & Pteridophytes) 2 X 2 = 4M
7. Record 3M

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T.K.V.
Principal
Govt. Degree College,
Luxettipet-504 215

KAKATIYA UNIVERSITY
B.SC I YEAR SEMESTER-I - CBCS
Ability Enhancement Compulsory Course (AECC)

ENVIRONMENTAL STUDIES

(2 hrs./week)

Credits – 2

UNIT - I : Ecosystem, Biodiversity & Natural Resources

(15 hrs.)

1. Definition, Scope & Importance of Environmental Studies.
2. Structure of Ecosystem – Abiotic & Biotic components Producers, Consumers, Decomposers, Food chains, Food webs, Ecological pyramids)
3. Function of an Ecosystem :Energy flow in the Ecosystem (Single channel energy flow model)
4. Definition of Biodiversity , Genetic,Species & Ecosystem diversity , Hot-spots of Biodiversity, Threats to Biodiversity , Conservation of Biodiversity (Insitu & Exsitu)
5. Renewable & Non – renewable resources, Brief account of Forest , Mineral & Energy (Solar Energy & Geothermal Energy) resources
6. Water Conservation , Rain water harvesting & Watershed management.

UNIT – II: Environmental Pollution , Global Issues & Legislation

(15 hrs.)

1. Causes, Effects & Control measures of Air Pollution, Water Pollution
2. Solid Waste Management
3. Global Warming & Ozone layer depletion.
4. Ill – effects of Fire- works
5. Disaster management – floods, earthquakes & cyclones
6. Environmental legislation :-
(a) Wild life Protection Act (b) Forest Act (c) Water Act (d) Air Act
7. Human Rights
8. Women and Child welfare
9. Role of Information technology in environment and human health

❖ **Field Study:**

(5 hours)

- **Pond Ecosystem**
- Forest Ecosystem

REFERENCES:

- Environmental Studies - from crisis to cure – by R. Rajagopalan (Third edition) Oxford University Press.
- Text book of Environmental Studies for undergraduate courses (second edition) by Erach Bharucha
- A text book of Environmental Studies by Dr.D.K.Asthana and Dr. Meera Asthana

DR. G. SHAMITHA
Chairperson
Board of Studies
Department of Zoology & Sericulture Unit
KAKATIYA UNIVERSITY - WGL-508009 (T.S)

Principal
Govt. Degree College,
Luxettipet-504 215

KAKATIYA UNIVERSITY

U.G. Botany (Under CBCS)

B.Sc. Final Year (DSE-1E)

SEMESTER – V

Elective

A) Ecology & Biodiversity

DSE-1E (3 hrs./week)

Theory Syllabus

Unit – I

1. Concept and components of Ecosystem. Energy flow, food chains, food webs, ecological pyramids, Biogeochemical cycles - Carbon Cycle (4h)
2. Definition of Environment: Atmosphere (Troposphere, Stratosphere, Mesosphere, Ionosphere), Hydrosphere, Lithosphere & Biosphere. (3h)
3. **Plants and environment: Ecological factors - Climatic** (Light and Temperature), and **biotic. Ecological adaptations of plants.** (5h)

Unit – II

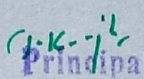
4. Edaphic Factors: Soil- Formation- Weathering, mode of formation-residual; Transported: Colluvial, Alluvial, Glacial & Eolian. Soil erosion & Conservation. (4h)
5. Population ecology: Natality, Mortality, Growth curves, Ecotypes & Ecads. (4h)
6. Community ecology: Frequency, density cover, Life forms & Biological spectrum. (4h)

Unit – III

7. Community Dynamics: Succession - Serial stages, Modification of physical environment, Climax formation with reference to Hydrosere and Xerosere. (4h)
8. Production ecology: Concepts of productivity - Primary and Secondary Productivity. (4h)
9. Biodiversity: Concepts, Convention of Biodiversity - Earth Summit (Copenhagen). (4h)

Unit – IV

10. Biodiversity – Levels, threats and value (3h)
11. Hot spots of India - North Eastern Himalayas, Western Ghats; Endemism. (3h)
IUCN categories, RED data book
12. Principles of conservation – *In situ* and *Ex situ*. Role of organizations in the conservation of Biodiversity - WWF and NBPGR. (3h)


Principal
Govt. Degree College
Luxettinet -504 214

KAKATIYA UNIVERSITY
U.G. Botany (Under CBCS)
B.Sc. Final Year (DSE-1E)
SEMESTER – V

Elective

A) Ecology & Biodiversity

Practical Syllabus

1. Study of plant communities by Quadrat Method (9h)
2. Estimation of carbonates and bicarbonates in the given water sample. (6h)
3. **Determination of soil texture (composition of clay, sand silt etc.) and pH.** (6h)
4. Study of morphological and anatomical characteristics of plant communities using locally available plant species: Hydrophytes (*Eichhornia, Hydrilla, Pistia, Nymphaea, Vallisneria*), Xerophytes: (*Asparagus, Opuntia, Euphorbia spp*), Halophytes (*Rhizophora, Avicennia*). (12h)
5. Value of biodiversity
 - a) Medicinal value: *Catharanthus, Tinospora* and *Emblica* (12h)
 - b) Timber Value: *Acacia, Tectona* and *Azadirachta*
 - c) Aesthetic Value: *Mangifera, Ficus, Ocimum*

P.K. J.L.
Principal
Govt. Degree College
Luxettipet -504 215