



**Loyola College, Kunkuri**

**496225, Jashpur, Chhattisgarh**

## **Annual report of Botany Department 2017-2018**



***Department of Botany:***

### **Vision & Mission**

1. To be a center for Excellence To discover, maintain and transmit
2. knowledge concerning basic plant biology and provide leadership in the biological sciences.
3. To expand academic co-operation by offering new courses and upgrading programmes to a wider spectrum of students and researchers.
4. To produce entrepreneurs for prosperous ventures in the selected fields of their advancements with global perspective.

### **Objectives**

A few activities are conducted at the end of the each classes which are relevant to the topics covered. Algal collections, visits to tissue culture labs, plant collection trips, project works, maintenance of plant diversity on campus are few of the activities. These activities enable the students to study the subject outside the classroom environment.

**Name of Department :**

**Botany**

**Name of Incharge :**

Assit.Prof. Miss. Sangeeta Yadav (H.O.D.)

Asst. Prof. Miss. Sharda Singh

**Name of Other Members :** Dr.Fr. Telesphor Lakra (Principal)

**Non Teaching Staff:**

Miss. Tikeshwari Anant (Lab Technician)

### **Faculty Profile:**

<b>S.No.</b>	<b>Name of Faculty</b>	<b>Academic Qualification</b>	<b>Teaching Experience</b>	<b>Teaching Classes</b>
1.	Sangeeta Yadav	M.Sc., DCA,	School – 02	9-12 <sup>th</sup>

		B.Ed.,PGDCA, M.Phil	Years, 7 Month. <b>College -03</b>	B.Sc.-I, II,III
2.	Sharda Singh	M.Sc., PGDCA, M.Phil	02	B.Sc.-I, II,III
3.	Tikeshwari Anant	M.A.(Sanskrit)	08	Practicals

### Degree College Course:

S.No.	Year	Course Code/Paper	Title
1.	B.Sc. FirstYear	26 A/ First Paper	Diversity of microbes and cryptogams
2.	B.Sc. FirstYear	26 B/ Second Paper	Cell biology and genetics
3.	B.Sc. SecondYear	26 A/ First Paper	Diversity of seed plants and their systematics
4.	B.Sc. SecondYear	26 B/ Second Paper	Structure, development and reproduction in flowering plants
5.	B.Sc. Third Year	26 A/ First Paper	Plant physiology, biochemistry and biotechnology
6.	B.Sc. Third Year	26 B/ Second Paper	Ecology and utilization of plants
7.	All year students	26 P Practical	Botany practical for all year students related to their subject.

- ❖ The syllabus is design by the University according to competitive exam like NET, SET, GATE, Research field, Forestry etc.
- ❖ The course is designed such that majorly all the theoretical course are accompanied by practical classes to provide a hands-on experience to the students.
- ❖ This acquaints them with the necessary skills and professional understanding of the scientific concepts and helps them use this experience in real-life situations during their careers.
- ❖ The course is a combination of various papers and topic which help a student learn in detail the concepts related to botany.

### Classes and subject wise marks distribution:-

Subject	Paper	Total marks	Min. marks
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Botany	First	50	} 33
	Second	50	
	Practical	50	17

### Department Highlights:

- Total No. of Faculty member: 03
- Total no. of students in B.Sc. First:150
- Total no. of students in B.Sc. Second:65
- Total no. of students in B.Sc. Third:79
- Total no. of students in B.Sc. 294

### Orientation programme:

- Miss Sangeeta Yadav participated on faculty development programme organized by XIDAS, Jabalpur for Loyola College Kunkuri from 18 June-19 June 2018.



- Sharda Singh participated on faculty development programme organized by XIDAS, Jabalpur for Loyola College Kunkuri from 18 June-19 June 2018.

### Workshop/Conference/ Seminar Attended:

- Miss Sangeeta Yadav presented paper the National Seminar program Water Conservation and Rain Water Harvesting in PT.SUNDAR LAL SHARMA OPEN UNIVERSITY BILASPUR(C.G.) followed by GURU GHASIDAS VISHWAVIDYALAYA BILASPUR(C.G.) BILASPUR UNIVERSITY BILASPUR(C.G.) Dr.C.V.RAMAN UNIVERSITY BILASPUR(C.G.)

### Departmental Activities

- B.Sc. First year students addressing done 10/7/2017.
- CIPET Programme organized on 10/7/2017.
- Classes start for first year students 12/7/2017.

- Meeting with B.Sc. first year students and Orientation program was done on 21/7/2017.
- Loyola Day was celebrated on 31<sup>st</sup> July.
- All Staff and Students listened to Narendra Modi's speech on 11/9/2017.
- Student's Practicals started from 7/9/2017.



- Quarterly exam of students was conducted on 7/10/2017.
- Quarterly exam result declared on 31/10/2017.
- Completion of syllabus and practical. **(November)**
- Skill development competition program was held on 25/11/2017.
- On 27<sup>th</sup> and 28<sup>th</sup> November by students to prepare the garden for planting plants.



- Annual sports day was celebrated on 16/12/2017.

### **Plantation**

For the betterment in practical knowledge of plant growth and development our students had planted so many plants in our Loyola College's Herbal Garden. Our students had planted following plants: **(4-5 and 11-12 January)**

- **Ornamental Plants:** Rose, China Rose, Marry Gold, Sunflower, Xanthobium spe. etc.
- **Medicinal Plants:** Sarpghandha, Tulsi, Hadjod, Giloy, Betel, *Sarcostemma acidum* etc.



*Students of B.Sc. 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> year Doing Plantation*



*Teachers Doing Plantation*

### **Presentation and Seminar**

In the age of Digital India, to provide our students a world class educational experience, a power point presentation based seminar had been organised.

**Hemant Ekka** student of B.Sc. 3<sup>rd</sup> year (Biotechnology) had given a power point presentation based seminar on projector on **“Plant Tissue Culture.”**



Power point presentation based seminar on projector on **“Plant Tissue Culture.”**By **Hemant Ekka B.Sc. 3<sup>rd</sup> year**

### **A Guest Lecture on 19/12/2017**

A Guest lecture was organised by botany department on 19<sup>th</sup> December 2017 as a guest speaker **Asst. Prof. Mrs. Nishi Ekka**, Govt. College Duldula. As she came a hearty welcome was given by students and staff.

In first session starts from 10:00 am to 11:00 am Asst. Prof. Mrs. Nishi Ekka gave a lecture on the topic **“Life cycle of Marchantia”** in B.Sc. 1<sup>st</sup> year.

In second session starts from 11:15 am to 12:15 pm she gave a lecture on **“Family Description – Malvaceae and Brassicaceae”** in B.Sc. 2<sup>nd</sup> year.

In third session starts from 01:00 pm to 02:00 pm she gave a power point presentation based lecture on projector on topic **“Electron Transport System”** to B.Sc, 3<sup>rd</sup> year students.



*A Guest Lecture on B.Sc. 1<sup>st</sup> year*



*A Guest Lecture on B.Sc. 2<sup>nd</sup> year*



*A Guest Lecture on B.Sc. 3<sup>rd</sup> year on projector*

- The model is made by the students.



- Some people came to visit our college.



## Education Trip-

### One Day Educational Trip

Date: 04/12/2017

Place: Mainpat

For the betterment in knowledge and experiences of students, every year our college arranges educational tour and picnic or rather it is a day educational trip to local places. In current year 2017-18 students of Botany Department were taken to **Mainpat**.



**Mainpat (मैनपाट)** is a small village in the Surguja district in the northern part of the state of Chhattisgarh, India. Lying about **55 kilometres (34 miles)** by road from Ambikapur, the hill station features the Tiger Point Waterfall, Fish Point Waterfall, Unit of Indira Gandhi Krishi Vishwavidyalaya Raipur, Shaila Resort and Restaurant, Anmol Hotel and Resort.

Mainpat is known as the "**Shimla/Swiss of Chhattisgarh**" and is a popular tourist attraction. It is also home to a number of Tibetan religious exiles who worship at a temple dedicated to Buddha and manufacture designer mats as well as woollen cloths.

At Mainpat we visited every place but mostly we spent our time at Indira Gandhi Krishi Vishwavidyalaya Unit and Shaila Resort.



### **Indira Gandhi Krishi Vishwavidyalaya Unit**

For the betterment in agricultural knowledge of our students we visited Indira Gandhi Krishi Vishwavidyalaya Unit. At Indira Gandhi Krishi Vishwavidyalaya Unit we had seen following plants:



**1. Apple - Anna**



**2. Kiwi haven**



**3. Kiwi (elson)  
Nashpati (bagugosa)**



**4.**



***5. Aalu Bukhara (Satlaj-Purple)***



***6. Aadu (Glow Haven)***



***Students, with HOD (Botany Department)  
At Indira Gandhi Krishi Vishwavidyalaya Unit***



**Group Photo (Mainpat)**

### **Shaila Resort**

Secondly we visited Shaila Resort. At Shaila Resort we had had seen so many medicinal plants which has great importance in our Ayurvedic Medical Science.

At here we had seen following medicinal plants:



***Students outside Shaila Resort***

## Some Plants in Indira Gandhi Krishi Vishwavidyalaya of Mainpat: -



### 1. Chitrak – (*Plumbago zeylanica*)

Medicinal Uses :

It enhance the digestive system, fights against cough, kshay, kodh, hydrocele, swelling etc.



### 2. Sarpagandha - (*Rauwolfia serpentina*)

Medicinal Uses :

It helps in maintaining blood pressure. It works in both Low BP as well as High BP.

### 3. Giloy – (*Tinospora cordifolia*)

#### Medicinal Uses:

It cures Gout disease and increases body immunity to fight against Arthritis. It also improves the bone quality. Regular use of this plant keeps the bone healthy and fit.



### 4. Hadjod – (*Cissus quadrangularis*)

#### Medicinal Uses:

It helps to fight against bone related disease.

Use of this plant in bone fracture is very useful for recovering the bone.



## 5. Aadusa -(*Adgatoda zeylarica*)

### Medicinal Uses:

It helps to fight against Asthma, Cough and also cures Jaundice. It is one of most important medicinal plant in Ayurveda.



- Skill development program was held in our college in which many students participated.



- One day Picnic went to Jamdarha from the College side on 6<sup>th</sup> January with the students.



- The photo session of students and staff took place on 7/1/2018.



- Students were given Guidance on the Swachhta Abhiyan on 7/1/2018. by some members and were told about the Swachhta Mahua App.
- The students of our department participate in NSS, Sports, Cultural activity and Blood Donation.







- Model exam started from 15/1/2018 for all year students.
- For College advertising went to different Schools from 30/1/2018.
- The result of the model exam was declared on 7/2/2018.
- **Revision of curriculum 2017-2018**  
This year the I,II and III year B.Sc.Botany Syllabus has been Revised.
- Practical examination – Month of April.
- Annual examination start on 15/3/2018.

Head of Department  
Assist.Prof. Sangeeta Yadav  
Loyola College Kunkuri

**LOYOLA COLLEGE KUNKURI**  
**DEPARTMENT OF BOTANY**  
**SESSION -2017-18**  
**CLASS- B. Sc. I YEAR**

**HEAD OF DEPARTMENT - Miss. SANGEETA YADAV**  
**ASST. PROF. - Miss. SHARDA SINGH**  
**LAB TECHNICIAN - Miss. TIKESHWARI ANANT**

**EXPERIMENT LIST :**

Object.1 To Study of the Microscope Compound Microscope and Dissecting Microscope.

**ALGAE**

Object.2 Study of Vegetative and Reproductive Structure of VOLVOX and its Identification on the Basis of Characters.

Object.3 Study of Vegetative and Reproductive Structure of VOUCHERIA and its Identification on the Basis of Characters.

Object.4 Study of Vegetative and Reproductive Structure of OEDOGONIUM and its Identification on the Basis of Characters.

Object.5 Study of Vegetative and Reproductive Structure of SARGASSUM and its Identification on the Basis of Characters.

Object.6 Study of Vegetative and Reproductive Structure of ECTOCARPU and its Identification on the Basis of Characters.

Object.7 Study of Vegetative and Reproductive Structure of POLYSIPHONIA and its Identification on the Basis of Characters.

**FUNGI**

Object.8 Study of Vegetative and Reproductive Structure of PHYTOPHTHORA and its Identification on the Basis of Characters.

Object.9 Study of Vegetative and Reproductive Structure of CERCOSPORA and its Identification on the Basis of Characters.

Object.10 Study of Vegetative and Reproductive Structure of ASPERGILLUS and its Identification on the Basis of Characters.

Object.11 Study of Vegetative and Reproductive Structure of MUCOR and its Identification on the Basis of Characters.

**BRYOPHYTA**

Object.12 Study of Vegetative and Reproductive Structure of MARCHANTIA and its

Identification on the Basis of Characters.

Object.13 Study of Vegetative and Reproductive Structure of ANTHOCEROS and its Identification on the Basis of Characters.

Object.14 Study of Vegetative and Reproductive Structure of POLYTRICUM and its Identification on the Basis of Characters.

### **PTERIDOPHYTA**

Object.15 Study of Vegetative and Reproductive Structure of EQUISETUM and its Identification on the Basis of Characters.

Object.16 Study of Vegetative and Reproductive Structure of LYCOPODIUM and its Identification on the Basis of Characters.

Object.17 Study of Vegetative and Reproductive Structure of MARSILEA and its Identification on the Basis of Characters.

Object.18 Study of Vegetative and Reproductive Structure of SELAGINELLA and its Identification on the Basis of Characters.

Q.19 Preparation and Study of Slides for Mitosis using Aceto Orescin or Aceto Carmine Technique from Onion Root Tips.

Object.20 To Study the Plants Diseases.

1. Late Blight of Potato
2. Tikka Diseases of Groundnut
3. Red Rot of Sugarcane
4. Mosaic Diseases of Tobacco
5. Citrus Canker Diseases
6. Leaf Curl Disease of Papaya

Object.21 To Study of the given Specimens .

1. Polytricum
2. Chara
3. Moss plant
4. Funaria
5. Lycopodium
6. Psalliota
7. Marchantia
8. Lichen
9. Polysiphonia
10. Anthoceros
11. Agaricus

Object.22 To Study of the given Permanent Slides.

### **ALGAE**

1. Ectocarpus Plurilocular w.m.
2. Oedogonium Drarf Male W.M.
3. Polysiphonia Cystocarp

### **FUNGI**

1. Agaricus V.S.
2. Puccinia Uredo Spore
3. Peziza Apothecia V.S.
4. Peziza Apothecia V.S.

### **BRYOPHYTA**

1. Moss Capsule
2. Marchantia Anthd. V.S.
3. Marchantia Gemma-Cup V.S.
4. Funaria Moss Antheridia V.S.

### **PTERIDOPHYTA**

1. Pteris Rhizome
2. Fern Rhizome T.S.
3. Pteris Root T.S.

4. Lycopodium Cone L.S. 5. Seleginilla Leaf 6. Seleginilla Cone L.S.

### MEIOSIS DIVISION

1. Interphase Stage 2. Prophase Leptotene Stage 3. Anaphase I Stage  
4 Anaphase II Stage 5 Telophase I Stage 6 Telophase II Stage  
7 Metaphase II Stage

#### ❖ List of Instruments, Chemicals, Requirements, Plant Species, Permanent Slides and Specimens.

S.NO.	Name of Instruments	Quantity	Amount
1	Compound Microscope	15	NIL
2	Dissecting Microscope	6	NIL
3	Light Microscope	1	NIL
4	Balance Weighing Machine	Available in College	NIL

S.NO.	Name of Chemicals	Quantity	Amount
1	Safranin Stain	1	690
2	Glycerin	1	415
3	Alcohol	1	345
4	Aceto Carmine	1	1098
5	Aceto Orcein Stain	1	NIL
6	Fast Green	1	NIL
7	Cotton Blue	1	NIL
8	Spirit Solvent	1 lit	NIL
9	Distilled Water	250 ml	NIL

S.NO.	Name of Requirements	Quantity	Amount
1	Slide	3 pkt	NIL
2	Cover slip	5 pic	NIL
3	Dropping Bottle	5	NIL
4	Dropper	6	NIL
5	Watch Glass	25	NIL
6	Needle	25	NIL
7	Blade	1pkt	45
8	Spirit Lamp	6	NIL
9	Match Box	1pkt	70
10	Brush	25	250
11	Forcep	10 small x 10 big	NIL
12	Cotton	1	25
13	Filter Paper	3	225
14	Beaker	6	NIL
15	Test Tube (10 ml)	70	NIL

S.NO.	Name of Plant Species	Quantity	Amount
1	VOLVOX	1	195
2	VOUCHERIA	1	195
3	OEDOGONIUM	1	195
4	SARGASSUM	2	NIL
5	ECTOCARPUS	1	195
6	POLYSIPHONIA	2	390
7	PHYTOPHTHORA	1	195
8	CERCOSPORA	2	NIL
9	ASPERGILLUS	2	NIL

10	MUCOR	1	NIL
11	MARCHANTIA	2	390
12	ANTHOCEROS	2	390
13	POLYTRICUM	2	390
14	MARSILEA	2	390
15	EQUISETUM	2	NIL
16	LYCOPODIUM	2	NIL
17	SELAGINELLA	2	NIL
18	Onion Root Tips	2 Kg	60

S.NO.	Permanent Slides	Quantity	Amount
1	Ectocarpus Plurilocular w.m	1	NIL
2	Polysiphonia Cystocarp	1	NIL
3	Oedogonium Drart Male W.M.	1	NIL
4	Agaricus V.S.	1	NIL
5	Peziza ApotheciaV.S	1	NIL
6	Puccinia Uredo Spore	1	NIL
7	Peziza ApotheciaV.S.	1	NIL
8	Moss Capsule	1	NIL
9	Marchantia Gemma-Cup V.S.	1	NIL
10	Marchantia Antheridia. V.S.	1	NIL
11	Funaria Moss Antheridia V.S.	1	NIL
12	Pteris Rhizome	1	NIL
13	Lycopodium Cone L.S.	1	NIL
14	Ferm Rhizome T.S.	1	NIL
15	Pteris Root T.S.	1	NIL
16	Selaginella Leaf V.S.	1	NIL
17	Selaginella Cone L.S.	1	NIL
18	Interphase Stage	1	NIL
19	Prophase Leptotene Stage	1	NIL
20	Anaphase I Stage	1	NIL
21	Anaphase II Stage	1	NIL
22	Telophase I Stage	1	NIL
23	Telophase II Stage	1	NIL
24	Metaphase II Stage	1	NIL
S.NO.	Specimens	Quantity	Amount
1	Polytricum	1	NIL
2	Cara	1	NIL
3	Moss plant	1	NIL
4	Funaria	1	NIL
5	Lycopodium	1	NIL
6	Marchantia	1	NIL
7	Lichen	1	NIL
8	Psilotum	1	NIL
9	Polysiphonia	1	NIL
10	Anthoceros	1	NIL
11	Agaricus	1	NIL

**LOYOLA COLLEGE KUNKURI**  
**DEPARTMENT OF BOTANY**  
**SESSION -2017-18**  
**CLASS- B. Sc. II YEAR**

**HEAD OF DEPARTMENT - Miss. SANGEETA YADAV**  
**ASST. PROF. - Miss. SHARDA SINGH**  
**LAB TECHNICIAN - Miss. TIKESHWARI ANANT**

**EXPERIMENT LIST:**

**PLANT DISCRPTION**

- Object.1 Description of Some Locally Available Plants and their Identification up to  
MALVACEAE FAMILY – *HIBISCUS ROSA SINENSIS*
- Object 2. Description of Some Locally Available Plants and their Identification up to  
FABACEAE FAMILY – *BAUHINIA VARIEGATA*.
- Object 3. Description of Some Locally Available Plants and their Identification up to  
SOLANACEAE FAMILY – *DATURA ALBA*
- Object 4. Description of Some Locally Available Plants and their Identification up to  
APOCYNACEAE FAMILY – *VINCA ROSEA*.
- Object 5. Description of Some Locally Available Plants and their Identification up to  
LAMIACEAE FAMILY – *OCIMUM SANCTUM*.
- Object.6 Description of Some Locally Available Plants and their Identification up to  
ASCLEPIADACEAE FAMILY – *CALOTROPIS PROCERA*.
- Object.7 Description of Some Locally Available Plants and their Identification up to  
BRASSICACEAE FAMILY – *BRASSICA CAMPESTRIS*.

**GYMNOSPERM**

- Object.8 Preparation and Study of the Temporary Slide of the V.S. of CYCAS LEAFLET.
- Object.9 Preparation and Study of the Temporary Slide of the T.S. of CYCAS RACHIS.
- Object.10 Preparation and Study of the Temporary Slide of the T.S. of PINUS NEEDLE.
- Object.11 Preparation and Study of the Temporary Slide of the T.S. of OLDER STEM OF  
PINUS.
- Object.12 Preparation and Study of the Temporary Slide of the T.L.S. of PINUS STEM . Object.13  
Preparation and Study of the Temporary Slide of the T.R.S. of PINUS STEM .
- Object.12 Preparation and Study of the Temporary Slide of the T.S. of OLDER STEM OF  
EPHEDRA.

## ANATOMY

Object .8 Preparation and Study of the Temporary Slide of the T.S. of SUNFLOWER STEM.

Object .9 Preparation and Study of the Temporary Slide of the T.S. of CUCURBITA STEM.

Object .10 Preparation and Study of the Temporary Slide of the T.S. of ZEA MAYS STEM.

## .EMBRYOLOGY

Object .11 To Study the Placentation in given Material .

Object .12 To Study of the given Specimens .

1. Pinus Male Cone      2 Pinus Female Cone      3 Cycas Seed
4. Ephedra Male Cone    5 Ephedra Female Cone    6 Ephedra Male Cone
- 7 Cycas Female Cone    8 Cycas Male Cone

Object .11 To Study of the given Slides.

1. Pinus Ovule V.S.      2. Pinus Female Cone      3. Cycas Ovule L.S.
4. Maize Root T.S.      5. Zea Mays Leaf V.S.      6. Cycas Root T.S.
- 7 Pinus Pollen Grains    8 Cycas Root Normal T.S.

### ❖ List of Instruments, Chemicals, Requirements, Plant Species, Permanent Slides and Specimens.

S.NO.	Name of Instrument	Quantity	Amount
1	Compound Microscope	15	NIL
2	Dissecting Microscope	6	NIL
3	Magnifying Glass	2	NIL
4	Light Microscope	1	NIL
5	Balance Weighing Machine	Available in College	NIL

S.NO.	Name of Chemicals	Quantity	Amount
1	Safranin Stain	1	690
2	Glycerin	1	415
3	Alcohol	1	345

S.NO.	Name of Requirement	Quantity	Amount
1	Slide	3 pkt	NIL
2	Cover Slip	5 pic	NIL
3	Dropping Bottle	5	NIL
4	Dropper	6	NIL
5	Watch Glass	20	NIL
6	Needle	20	NIL
7	Blade	1pkt	45
10	Test Tube Brush	10	1440
11	Forcep	10	245
12	Cotton	1	25
13	Filter Paper	3	225
14	Beaker	7	NIL

S.NO.	Name of Plant Species	Quantity	Amount
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1	MALVACEAE FAMILY – <i>HIBISCUS ROSA SINENSIS</i>	Available in our College campus	NIL
2	FABACEAE FAMILY – <i>BAUHINIA VERIEGATA</i>	Available in our College campus	NIL
3	SOLANACEAE FAMILY – <i>DATURA ALBA</i>	Available in our College campus	NIL
4	APOCYNACEAE FAMILY – <i>VINCA ROSEA.</i>	Available in our College campus	NIL
5	LAMIACEAE FAMILY – <i>OCIMUM SANCTUM.</i>	Available in our College campus	NIL
6	ASCLEPIADACEAE FAMILY – <i>CALOTROPIS PROCERA.</i>	Available in our College campus	NIL
7	BRASSICACEAE FAMILY – BRASSICA COMPESTRIS.	Available in our College campus	NIL
8	CYCAS LEAFLET	1	NIL
9	CYCAS RACHIS	1	NIL
10	PINUS NEEDLE	1	NIL
11	PINUS STEM	1	NIL
12	EPHEDRA STEM	1	NIL
13	SUNFLOWER STEM	1	NIL
14	CUCURBITA STEM	1	NIL
15	ZEA MAYS STEM	1	NIL

S.NO.	Permanent Slides	Quantity	Amount
1	Pinus Ovule V.S.	1	NIL
2	Pinus Female Cone	1	NIL
3	Cycas Ovule L.S.	1	NIL
4	Maize Root T.S.	1	NIL
5	Zea Mays Leaf V.S.	1	NIL
6	Cycas Root T.S.	1	NIL
S.NO.	Specimens	Quantity	Amount
1	Pinus Male Cone	1	NIL
2	Pinus Female Cone	1	NIL
3	Ephedra Male Cone	1	NIL
4	Ephedra Female Cone	1	NIL
5	Cycas Seed	1	NIL



**LOYOLA COLLEGE KUNKURI**  
**DEPARTMENT OF BOTANY**  
**SESSION -2017-18**  
**CLASS- B.Sc. III YEAR**

**HEAD OF DEPARTMENT - Miss. SANGEETA YADAV**

**ASST. PROF. - Miss. SHARDA SINGH**

**LAB TECHNICIAN - Miss. TIKESHWARI ANANT**

**EXPERIMENT LIST:**

**Physiology**

- Object 1. Demonstration of Endosmosis By Osmoscope of Potato .
- Object 2. Demonstration of Plasmolysis and Deplasmolysis in Plant cell.
- Object 3. To Study the types of Stomata in the Epidermal peel of Leaves.
- Object 4. Comparison of Stomatal and Cuticular transpiration by Four Leaf Method.
- Object 5. Experiment to Measure the rate of transpiration by Ganong Potometer.

**Ecology**

- Object 6. Determination of Percentage Frequency of Plant species in a given Plant community by Quadrature method.
- Object\_7. Determination of Density of Plant species in a given Plant community by Quadrature method.
- Object 8. Determination of Abundance of Plant species by Quadrature method.
- Object 9. Ecology Adaptation in Plant Group –
  - 1. Hydrophytes – External Morphology feature Hydrilla
  - 2. Anatomical Characters- Hydrilla Stem T.S. , Lotus Stem T.S.
  - 3. Water Hyacinth – Eichhornia
    - 1 External Morphological Feature
    - 2 V.S. of Leaf

**Utilization of Plants-**

- Object 10. Utilization of Plants-
  - 1. **Food Plants** – Rice , Wheat ,Maize , Potato , and Sugarcane.
  - 2. **Fibers-** Cotton and Jute.
  - 3. **Vegetable Oils** – Groundnut , Mustard , and Coconut.
  - 4. **Sources of fire Wood** – Timber and Bamboo.
  - 5. **Spices** –Ginger , Turmeric , Clove , Cumin , Black Pepper ,Cinnamon Lesser, Cardamom, Asafoetida,
  - 6. **Medicinal Plants-** Belladonna , Opium , Tulsi , Aswagandha, Aconite, Quinene.
  - 7. **Beverages** – Tea and Coffee.

**Biochemistry /Biotechnology**

- Object 11. To test the Polysaccharide starch.
- Object 12. To Perform Starch test in Leaves.
- Object 13. To test the Presence of Monosaccharide in Plant tissue Fehling –A and Fehling –B

Moor's test.

Object\_14. To test the Presence of Lipid in Plant Tissue .

Object 15 To test the presence of Protein in Plant tissue.

A. Xanthoproteic test.

B. Biuret test.

Object 16. General test for Carbohydrates in Plant tissue.

Object 17. To Study of the given Specimens.

1 Trapa 2. Typha 3. Oscillatoria 4. Eichhornia 5 Hydrilla

6 Asparagus 7 Opuntia 8 Pistia 9 Ceratophyllum.

Object 18. To Study of the given Permanent Slides .

1. Casuarina stem T.S.

2. Trapa stem T.S.

3. Asparagus stem T.S.

4. Nerium Leaf V.S.

5. Hydrilla Leaf V.S.

❖ **List of Instruments, Chemicals, Requirements, Plant Species, Permanent Slides and Specimens.**

S.NO.	Name of Instrument	Quantity	Amount
1	Compound Microscope	15	NIL
2	Stop Watch	1	NIL
3	Vertical Stand	2	NIL
4	Ganong Potometer	5	NIL
5	Quadrant	8	NIL
6	Light Microscope	1	NIL
7	Balance Weighing Machine	Available in College	NIL

S.NO.	Name of Chemicals	Quantity	Amount
1	Safranin Stain	1	690
2	Glycerin	1	415
3	Alcohol	1	345
4	Salt Solution	1	10
5	Sucrose	1	NIL
6	Mom	2	10
7	Petroleum Jelly	1	NIL
8	Sodium Hypochlorite	1	338
9	Fehling Solution -A	1	336
10	Fehling Solution -B	1	622
11	Glucose	1	NIL
12	Iodine Solution	1	NIL
13	Sudan III	1	205
14	Osmic Acid	1	NIL
15	Nitric Acid	1	260
16	Sodium hydroxide	1	338
17	Biuret Reagent	2	NIL
18	Hydrochloric	1	NIL
19	Starch Solution	1	NIL
20	Silicon grease	1	NIL
21	Distilled Water	250 ml	NIL

S.NO.	Name of Requirement	Quantity	Amount
1	Slide	3 pkt	NIL
2	Cover Slip	5 pic	NIL
3	Dropping Bottle	6	NIL
4	Dropper	6	NIL
5	Watch Glass	20	NIL
6	Needle	20	NIL
7	Blade	1pkt	45
10	Test Tube Brush	10	1440
11	Forcep	10	245
12	Cotton	1	NIL
13	Filter Paper	3	225
14	Knife	1m	NIL
15	Paper pin	1pkt	NIL
16	Petri Dish	40	NIL
17	Thread	1	10
18	Wide mouthed Bottle	3	NIL
19	Test Tube (10ml)	70	NIL
20	Spirit Solvent	2 lit.	NIL
21	Test Tube Holder	20	NIL
22	Spirit Lamp	5	NIL
23	Candle	5	10
24	Test Tube Rack	6	NIL
25	Pencil	1	10
26	Paper	3	10
27	Scale	3	NIL
28	Note Book	1	NIL
29	Beaker (500ml)	6	NIL
30	Porcelain Evaporating Dish Big	1	NIL
31	Porcelain Evaporating Dish Small	1	NIL
32	Funnel	6	NIL
33	Measuring Cylinder Small	3	NIL
34	Measuring Cylinder Big	2	NIL
35	Pipette	2	NIL
36	Spatula	1	NIL

S.NO	Name of Plant Species	Quantity	Amount
1	Tradescantia Leaf	Available in our College campus	NIL
2	Plant Twig	Available in our College campus	NIL
3	Different Plant	Available in our College campus	NIL
4	Cucurbita	Available in our College campus	NIL
5	Mustard	Available in our College campus	NIL
6	Ixora	Available in our College campus	NIL
7	Tulsi	Available in our College campus	NIL
8	Palm	Available in our College campus	NIL
9	Doob Grass	Available in our College campus	NIL
10	Onion Leaf	Available in our College campus	NIL
11	Fresh Leaf	Available in our College campus	NIL
12	Potato	Available in our College campus	NIL
13	Groundnut seed	Available in our College campus	NIL
14	Besan	Available in Shop	10 Rs.
15	Rice	Available in our College campus	NIL
16	Wheat	Available in our College campus	NIL
17	Maize	Available in our College campus	NIL

18	Sugarcane	Available in our College campus	NIL
19	Cotton	Available in our College campus	NIL
20	Jute	Available in our College campus	NIL
21	Groundnut	Available in our College campus	NIL
22	Mustard	Available in our College campus	NIL
23	Coconut	Available in our College campus	NIL
24	Timber-Sal,Sagwan,Sheesham	Available in our College campus	NIL
25	Bamboo	Available in our College campus	NIL
26	Ginger	Available in our College campus	NIL
27	Asafoetida,	Available in our College campus	NIL
28	Cardamom,	Available in our College campus	NIL
29	Lesser	Available in our College campus	NIL
30	Cinnamon	Available in our College campus	NIL
31	Black Pepper	Available in our College campus	NIL
32	Black Pepper	Available in our College campus	NIL
33	Clove	Available in our College campus	NIL
34	Turmeric	Available in our College campus	NIL
35	Belladonna	Available in our College campus	NIL
36	Quinone	Available in our College campus	NIL
37	Aconite,	Available in our College campus	NIL
38	Aswagandha	Available in our College campus	NIL
39	Tulsi	Available in our College campus	NIL
40	Opium	Available in our College campus	NIL
41	Tea	Available in our College campus	NIL
42	Coffee	Available in our College campus	NIL

<b>S.NO.</b>	<b>Permanent Slides</b>	<b>Quantity</b>	<b>Amount</b>
1	Casuarina stem T.S.	1	NIL
2	Trapa stem T.S.	1	NIL
3	Asparagus stem T.S.	1	NIL
4	Nerium Leaf V.S.	1	NIL
5	Hydrilla Leaf V.S.	1	NIL
<b>S.NO.</b>	<b>Specimens</b>	<b>Quantity</b>	<b>Amount</b>
1	Trapa	1	NIL
2	Typha	1	NIL
3	Oscillatoria	1	NIL
4	Eichhornia	1	NIL
5	Hydrilla	1	NIL
6	Asparagus	1	NIL
7	Opuntia	1	NIL
8	Pistia	1	NIL
9	Ceratophyllum	1	NIL

Head of Department

Assist.Prof. Sangeeta Yadav

Loyola College Kunkuri

**LOYOLA COLLEGE KUNKURI**  
**DEPARTMENT OF BOTANY**  
**SESSION- 2017- 2018**

**Stock Material**

<b>S.NO.</b>	<b>PARTICULARS</b>	<b>Quantity</b>	<b>Rate</b>	<b>Amount</b>
	<b>Material</b>			
1	Volvox	2 Bott.	195	390
2	Oedogonium	2 Bott.	195	390
3	Vaucheria	2 Bott.	195	390
4	Ectocarpus	2 Bott.	195	390
5	Polysiphonia	3 Bott.	195	585
6	Polytrichum	2 Bott.	195	390
7	Marsilea	2 Bott.	195	390
8	Cycas Root	3 Bott.	195	390
9	Marchantia	2 Bott.	195	390
10	Anthoceros	2 Bott.	195	390
11	Phytophthora	1 Bott.	195	195
	<b>Chemical</b>			
12	Aceto Carmine	3 x 100ml	1098	3294
13	Sodium Hypochlorite	1 x 500ml	196	196
14	$\alpha$ -Naphthol Solution	4 x 100ml	155	620
15	Dextrose L.R. Monohydrate (Glucose)	2 x 500ml	295	590
16	Sodium Hydroxide	2 x 500ml	338	676
17	Alcohol 99.9	4 x 500ml	345	1380
18	Iodine Solution	2 x 100ml	165	330
19	Glycerol HI-LR	4 x 500ml	415	1660
20	Sudan III (S/B)	4 x 100ml	205	820
21	Con-Nitric Acid	2 x 500ml	260	520
22	Copper Sulphate	2 x 500ml	650	1300
23	Safranine (S/B)	4 x 500ml	690	2760
24	Formaldehyde	2 x 5 lit.	696	1392
25	Con- Sulphuric Acid	2 x 500ml	255	510

26	Fehling Solution -A	1 x 500ml	336	336
27	Fehling Solution -B	1 x 500ml	622	622
28	Test Tube Brush	20 pic	144	240
29	Forcep	10 pic	49	245
30	Filter Paper	20 pkt	75	375
31	Potassium Hydroxide (S/B) Solution	1 x 500ml	355	355
	<b>Grand Total</b>			<b>18221</b>

Head of Department  
 Assist.Prof. Sangeeta Yadav  
 Loyola College Kunkuri