

**Profile :**  
**Department**  
**of**  
**Botany**

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# **1. INTRODUCTION**

## **“BOTANTY”**

**A lot of earth is covered with plant life that gives oxygen, food supplies and many other necessities. Botany is the scientific study of plant life including the life of something such as fungus which aren't really considered plants anymore. Botany is a branch of biology which deales the study of plants.**

**Botany also called plant science, plant biology or phytology is the science of plant life and a branch of biology. A botanist or plant scientist is a scientist who specializes in this fieldthe term “BOTANY” comes from the ancient Greek word Botavn (Botane) Meaning Grass or fodder. Botavn is in turn derived from Boskein to feed or to graze. Botany has also included the study of fungi and algae by mycologist and phycologist respectively. Botany originated in prehistory as herbalism with the effort of early human to identify, and later cultivate, Edible, medicinal and poisonous plants, making it one of the oldest branches of science.**

**In the 19<sup>th</sup> and 20th centuries new techniques were developed for the study of plants including methods of optical microscopy and live cell imaging, electron microscopy, analysis of chromosome number, plant chemistry and the structure and function of enzymes and other proteins. In the last two decades of the 20th century botanists exploited the techniques of molecular genetic analysis,**

**including genomics and proteomics and DNA sequences to classify plants more accurately.**

**Modern botany is a broad multidisciplinary subject with inputs from most other areas of science and technology. Research topics include the study of plant structure, growth and differentiation, reproduction, biochemistry and primary metabolism, chemical products, development, diseases, evolutionary relationships, systematic and plant taxonomy. Dominant themes in 21<sup>st</sup> century plant science are molecular genetics and epigenetic which are the mechanisms and control of gene expression during differentiation of plant cells and tissues. Botanical research has diverse application in providing staple food, materials such as timber, oil, rubber ,fiber and drugs in modern horticulture, agriculture and forestry, plant propagation, Plant breeding and genetic modification, in the synthesis of chemical and raw materials for construction and energy production in environmental and maintenance of biodiversity.**

## **2. AIMS AND OBJECTIVES**

1. Establish an identity as a department of excellence and service.
2. The main aim of department is to give knowledge of subject to students in such a way so they able to achieve UG and PG degrees.
3. To enhance the students logical reasoning and analytical skills.
4. To enhance the ability of students to learn throughout life.
5. To provide basic concept of Botany and also teach students about applied aspects of the subject to enhance the self employment skills among youths.
6. To encourage the students for self employment in various fields like Horticulture, Agriculture and Forestry Plant breeding etc.

### 3. DEPARTMENT AT A GLANCE

1. Name of Department : Department of Botany
2. Date of establishment : June 2014
3. Educational programme : B.Sc. with Zoology
4. Details of Faculty :

S.N	Name of Faculty	Qualification	Post Hold	Experience	Specialization
01	Dr. Rajesh Bakoriya	M.Sc. Ph.D.	Assist. Professor	11 Years	Plant Pathology

5. Number of teaching, technical and administrative staff of the department.

	Male	Female	Total
Total No. of Teachers	01	-	01
Technical staff	01	-	01
Administrative staff	-	-	-

## 4. CURRICULAR ASPECTS

### 4.1 Curricular Planning and Implementation

- Online admission in the Institution is made on the basis of guidelines provided by department of Higher Education M.P. Govt.
- The college offers undergraduate course in Science i.e. B.Sc.

S.No.	UG	Group	Subjects
1.	B.Sc.	Biology	Botany ,Zoology, Chemistry, and FC

- Syllabus is designed and approved by UGC is being implement Unified Syllabus of Barkatullah University, Bhopal.

The following paper istaught:

Class	Paper
B.Sc. I Year	Paper I :- Diversity of Lower Plants
B.Sc. I Year	Paper II :- Diversity of Higher Plants
B.Sc II Year	Paper I:- Structure development and Reproduction of flowering Plants
B.Sc. II Year	Paper II :- Plant Ecology ,Biodiversity and phytogeography
B.Sc III Year	Paper I :- Plant physiology and Biochemistry
B.Sc. III Year	Paper Ii :- Cell Biology, Genetics and Biotechnology

- Time lines are also decided for maintenance & approved of teaching records i.e. attendance register and Teaching Diaries.
- Faculty of Department also proposes to maintain a weekly diary as per the directives of Higher Education Department for the tasks undertaken by faculty and present them on weekly basis besides the daily teaching diary and attendance record of students.

### 4.2 Academic Autonomy

Our college is affiliated with the Barkatullah University, Bhopal. So we are bound to follow the syllabus presented by the university- but we are free to adopt innovative teaching methods to benefit the students.

### **4.3 Financial Autonomy**

No financial Autonomy purchasing the instrument from the budget section by UGC and RUSA

### **4.4 Administrative Autonomy**

The department is free to form its own timetable in consultation with the Timetable committee of the college Discipline is maintained in the departmental College.

### **4.5 Curriculum Enrichment**

Our faculty is directly or indirectly involved in curriculum enrichment professor of our department represent the following University/Autonomous institute.

### **4.6 Feedback**

We have a formal mechanism of taking feedback from students however It Is not communicated to the university directly.



## **5. TEACHING LEARNING AND EVALUATION**

### **5.1 Student Enrolment and Profile.**

- The admission process is carried out through online process by the Higher Education Department. Where candidates apply directly through online application.

### **5.2 Catering to Student Diversity**

- All students are from the same state they are from various economic and social backgrounds.
- Student diversity showing in following graphs as entry level (1<sup>st</sup> Semester)

### **5.3 Teaching Learning Process**

The faculty members are actively involved in not only providing Academic guidance to the student but also improving their own academic Excellence.

- Beside Traditional Teaching method (using black board) teachers also apply following teaching methods.
  - PowerPoint Presentation
  - Project work
  - Using charts, models & slide projector, teachers of the department make the subject easy to understand and interesting, too and it also saves time while teaching by the traditional chalk-board method.
  - Theory and practical classes are regularly held with good attendance.
  - Newspaper cuttings and other relevant articles are provided to students and are displayed on the display board.
  - Forming Heterogeneous groups of students — slow medium and fast learners to encourage peer learning.
  - Interactive teaching
  - Lecture handouts/reading materials

- Group discussions
- 

#### 5.4 Teaching Quality

Teachers update their subject knowledge through self study by attending seminar, refresher course and the information is then shared with the study.

#### 5.5 Evaluation Process

- Periodic Test
- Surprise class test in theory & practical classes.
- Question - Answer session in theory & practical classes.
- Quiz and seminars are regularly organized.

Following measures have been taken by the department for Continues Evaluation

S.No.	Mode of CCE	Aim and Importance
1	Assignment	To employer beyond Horizons
2	Group discussion	To hone their analytical ability
3	Objective type Question, Answers	For in-depth subject knowledge
4	Class room teaching	To built and enhance their confidence and power of expression
5	Collage making	To enhance their creativity
6	Making specimen description chart	To create interest in identification of plants
7	Making Instrumental chart	To know about instrument and properhandling

## 5.6 Student Performance and Learning Outcomes

- The progress and performance is monitored through CCE and Practical exam. The performance is communicated to the students by faculty and measures on improvement on them are discussed with them by their "guardian teacher" under tutor guardian scheme.
- Results of the students are presented below :-

### Result percent of last 5 years

B.Sc Botany	2014-15	2015-16	2016-17	2017-18	2018-19
B.Sc 1 <sup>st</sup>	91%	100%	100%	90%	97%
B.Sc 2 <sup>nd</sup>	---	91%	99%	96%	95%
B.Sc 3 <sup>rd</sup>	---	---	100%	100%	98%

### Number of the student in the department during the Last 5 Years

S.No	2014-15	2015-16	2016-17	2017-18	2018-19
1 <sup>st</sup>	36	37	54	60	60
2 <sup>nd</sup>	---	36	37	54	55
3 <sup>rd</sup>	---	---	33	38	52
Total	36	73	124	152	167

## 5.7 Collaboration/Linkage

The Industry Institutions community interactions through project work by Job Oriented Work/Training are carried out in the department. Where are placed for internship in various Industries/Institutions are selected students themselves or as suggested by the faculty members students undertake sixty hours of project work/Internship along with their regular curricular activities All students of VIthSem, before completion of their degree Course undertake this internship to have hands on experience along with the theoretical knowledge of the subject.

Department select few Institute/Lab/Industries are given below:-

- MPCOST, Bhopal.
- EPCO, Bhopal.
- M.P. Agro Industries, Bhopal (M.P.)
- Barkatullah University, Bhopal (M.P.).
- Pollution & Control Board, Bhopal (M.P.).
- krashi Vigyan Kendra SewaniyaIchchhawar
- Resham Kendra sehore.
- RAK College Sehore.
- Vanbihar national park Bhopal.
- Regional Science center Bhopal.
- Govt. and Private Schools of Sehore.

### **Infrastructure and Learning Resources**

The department is on the first floor of the building. The built up area of The department is 20x30 sq. feet.

- The lab is well equipped with various equipment's for undergraduate students. Grants are procured from U.G.C. and RUSA for development of laboratory.
- The list of various equipment's is enclosed at Annexure 01.
- Internet facilities for Staff and Students available.
- Lab and class room with ICT facility available for all students.
- Since the department is at graduate level, it has no departmental library. Following books and Journals are available in central Library.

1. Botany Books : Total tax books - 218
2. Reference Books : 89
3. Magazines : Nil

### **5.8 Student Support and Progression**

- Our department runs a guardian tutor scheme which is followed in the department as well

- During Teacher Guardian meet special stress is on 75% attendance and it also makes the students & parents aware of the horizons of career & the scope of subject.
- Through this scheme the teacher help the students to solve their academic non academic and sometimes personal problems also.
- Students are encouraged psychologically to perform well & to be moving expressive and confident, personal attention is given during their practical classes.
- To provide specimen books to poor and needy students.
- To ensure a support between students and guardian-tutor informal interaction take place and faculty acting as guardian tutor, tries to find out sort out and finally to salve out the problem if any Periodically the guardian tutor makes efforts to interact with the parents/guardian of thestudents.
- The students are provided counseling at various levels.
- The scholarship and free ships are given by Higher Education Department Government of M.P. Our students actively participated in various sports & games, cultural and other extra-curricular activities according the yearly calendar prescribed by department of Higher Education.
- In youth festival and Annual Function various competitions are organized at college level like debate, Rangoli, Clay Modeling, Spot Painting, Poster making, Quiz, Group Songs, Solo Songs, Group Dance etc.

## 6. Healthy Practices

- The department of Botany organizes various activities to buildup the personality of students and also to acquire them with practical knowledge of subjects.
- Teachers help the students in every possible way spare copies of text books are freely distributed to needy students.
- help is readily provided to needy students by teachers.
- Linkages hare been established with various agencies for training and placement of the students.
- Celebration of National festivals, Teachers day, SwamivivekanandJayanti, Hindi diwas, Science day MatadataJagrukatadiwas, yoga diwas, yuvautsav&Annual function are some of the healthy practices being followed in our institution. Faculty members also render service to Various committees formed in the institution to carry out activities like Admission discipline examinations.
- Welcome & introduction to fresher's farewell to senior students.
- Science club - following activities organized by science club
- Wall magazine "Science updates"
- Science day celebration - Science exhibition vision 2020
- One day excursion tours are organized with UG students such as visit CIPET Bhopal (11.02.15), science exhibition at Dashahramaidan(21.02.15), MP- Science fair Dashahramaidan (20.02.2016), Van-ViharBhopal for watching wild life animals
- Innovation - Our department organized 1, one day workshop with the help of our students. Workshop on "Enhancement of students creativity in life diversity in there workshop students of VI sem. Making collage poster Making on following five type. (1) Animal around us (2) Save these (3) Life in water (4) Life in forest (5) World of birds.

## **7 Organization and Management**

The principal is the head of the institution as per direction of the principal. Head of the department manager different activities of the department With the help of supporting staff members. Internal meeting are organized by the I Lead of the department to decide various matters and to solve all sorts of problems

## **8 SWOC Analysis of the Department and Future plans-**

### **a. For Strength-**

- 1.Highly Qualified Faculty,
- 2.Strong focus on quality Teaching. Congenial atmosphere for work, cooperation from all for improving teaching learning process.
- 3.Good infrastructure and well-equipped laboratory.
- 4.Mordern teaching aids available.
- 5.Library rich in Reference books.

### **b. For Weakness-**

- 1.Lack of Infrastructure, space & Men Power
- 2 Shortage of Teaching &Non Teaching staff.
- 3.Untrained lab staff.
- 4.Students are of Hindi Medium though standard academic material is available in English medium.
- 5.Inadequate space in the department.

c. for Opportunity-

1. Only One Govt. Girls College in this District hence a great No. of Students can be admitted when starting various new courses Sericulture, Vermicomposting along with Biology. College can thus become a major Institution of National repute.

2. Environmental awareness can be generated in the community by the students of Botany.

3. Many channels of self-employment in the field of botany can support in women empowerment as well.

d. For Challenge-

1. Working towards the up- liftment and enrichment of students from middle class and lower middle and rural areas.

2. As many students are from semi urban background special efforts are required to enable them to discover their full potential and also to orient them towards suitable field of employment.

3. To maintain quality teaching which is affected by transferable government job of the faculty.

4. Decreased interest of the students in pure Botany.

**Future Plans**

1. To Develop a Botanical garden
2. Development of garden for rare plants as well as medicinal plants and Butterfly Garden.
3. To develop vermi composting Plant.
4. Development of Tissue Culture Laboratory
5. Development of green house.



#### **4. To introduce the post graduate course.**

##### **Institution in future.**

- To start add on courses in Vermicomposting.
- To start add on courses in Sericulture.
- To develop a museum.
- To establish a well equipped laboratory to enhance research activities
- To organize training for developing skills in students.
- To develop a bio diversity park within the campus.

## 9. BIO DATA

**Dr. Rajesh Bakoriya**

**Asst. Professor of Botany**

**Govt. Girls College Sehore (M.P)**

**E-mail:** rajeshbakoriya79@gmail.com

**Educational Qualification:**

**M.Sc. (2002) from Barkatullah University Bhopal with Second division**

**MP SLET Qualified (2004-05)**

**Ph.D. (2016) from Barkatullah University Bhopal-,**

**Topic: “STUDY OF ETHNOMEDICINAL PLANTS OF SEHORE DISTRICT WITH SPECIAL REFERENCE TO WOUND HEALING ACTIVITY”**

**Present Position:**

**Working as an Assistant Professor at govt. Girls College Sehore**

**Book Publication:**

**NIL**

**Research Project:**

**NIL**

**Orientation and Refresher courses:**

S.N.	Date	Title of Programme	OrganisedBy	Sponsored By
1	20/02/2012 to 17/03/2012	Orientation Course	Asc HP Shimla	UGC
2	15/02/2014 to 07/03/2014	Refresher in emerging Trends in biological Sciences	Asc Indore	UGC
3	11/12/2017 to 30/12/2017	Refresher Course in Changing dimensions of higher education in india	Asc Jabalpur	UGC
4	03.01.2020 to 16.01.2020	Refresher Course in Environment Education and disaster Management	Asc Indore	UGC

## Training/workshops and FDP Attained

S.N.	Date	Title of Programme	OrganisedBy	Remark
1	09 & 10 March 2016	Training Workshop on Laboratory Methods of few Experiment in Cytology & Physiology	Geetanjali Girls P.G. College Bhopal	
2	30 march 2016	National Workshop on Climate Change & Sustainable dev.	Govt. Girls College Sehore	
3	27 Feb 2017	National Workshop on Library Automation	Govt. Girls College Sehore	
4	23 to 30 July 2018	Use of ITC in Developing Effectiveness of Teaching Skills Teachers in Higher Education	C.S.A. Govt. P.G. Nodal College Sehore	

## National and International Seminar/workshops/Conferences with Paper Presentation

S.N	Date	Topic of Seminar	Title of the Paper	Organized By	Sponsored By
1	26-17 Feb 2011	Conserulation and Management of Biodiversity in 21 <sup>st</sup> Century (National Seminar)	-	Govt. MVM College Bhopal	UGC
2	21-22 Dec. 2011	National Seminar on Biodiversity and Environmental Conservation	-	Govt. Girls College Sehore	UGC
3	17/04/2002	(Question Bank) Workshop on Botany Question Bank	-	Govt. SBS College Ashta	GC
4	14-15 Dec. 2012	State Level Seminar on Social Economics & Political Challenges with Special Reference to rural women	PrachinKal me StreeyokiDasha	Govt. SBS College Ashta	JBS
5	16-17 Sept. 213	National Seminar	Swami Vivekananda ji ka Aadhyatmabad	C.S.A. Govt. P.G. College Sehore	UGC
6	25 Oct. 2013	State level Workshop on Chromatographic techniques	-	C.S.A. Govt. P.G. College Sehore	UGC

7	12-13 Dec. 2013	State level workshop on Aquatic ecology & Bio monitoring	-	C.S.A. Govt. P.G. College Sehore	UGC
8	24-28 Dec. 2013	Computer Training	-	P.S. Academy Bhopal	UGC
9	19-20 Sept. 2015	National Seminar on Social Issues and Environmental Problems	Society and Environment	Govt. girls PG College Ujjain	UGC
10	07/11/2015	conference on Soil Degradation & Water Pollution Caused due hazardous waste of Industries	Soil Erosion & Water Pollution	Gandhi P.R. College Bhopal	EPCO
11	27-28 Nov. 2015	International Conference on Innovative agriculture for ruler prosperity	-	Govt. M.P. State Agriculture Marketing Board	AGRO India
12	25-03-2015	Rashtriya Vigyan Divas, Vigyan avam Rashtriya Nirman	Separation techniques in chromatography	Govt. SBS College Ashta	MPCST
13	02 March 2016	Samajik Andolan Bahuanushasnik Aayam	Paryavaran Andolan avam uske prabhav	Govt. SBS College Ashta	UGC
14	09-10 March 2016	State Level Workshop of Botany Department	Laboratory Methods of few Experiments in Cytology and physiology	Govt. Geetanjali PG College Bhopal	UGC
15	30 March 2016	National Workshop on Climate Change & Sustainable Development	-	Govt. Girls College	JBS
16	03-12-2016	Manav Adhikar	Paryavaran Sanrkshan avam Manav Adhikar	Govt. SBS College Ashta	UGC
17	30-31 Jan. 2017	National Research Seminar	-	Bherulal Patidar Govt. PG College Mahow	UGC
18	16-17 Feb. 2017	International Conference on Make in India	-	Career College Bhopal	MPCON
19	27 Feb. 2017	National Workshop on Library Automation using Soul 2.0 Software	-	Govt. Girls College Sehore	UGC
20	16 Jan. 2018	National Seminar on Indian Higher Education System Issues and Challenges	Higher Education System and India Present Status and Emerging Issues	Govt. Girls College Sehore	JBS

<b>21</b>	29 Jan. 2018	National Seminar on Quality Assurance in Higher Education Institution Issues Challenges and Remedies-1	Role of Smart Class and Virtual Class for Quality Assurance	C.S.A. Govt. P.G. College Sehore	JBS
<b>22</b>	27-28 Feb. 2018	Role of Science in the Development of the Society	-	Govt. MVM College Bhopal	JBS
<b>23</b>	30 July 2018	International Conference on use of ICT in Developing Effectiveness of teaching skills for teachers in higher education	The role of ICT in higher education opportunities and challenges	C.S.A. Govt. P.G. College Sehore	University of Delhi
<b>24</b>	28 Sept. 2018	National Level Workshop	-	Seth N.K.T.T. College Thane	UGC
<b>25</b>	24 Oct. 2018	National Seminar	-	Intellectus Galaxy Bhopal	Progressive Education Society
<b>26</b>	08 Feb 2019	National Seminar on Environmental Ethics & Conservation	Rule of Traditional Knowledge to Nature Conservation	C.S.A. Govt. P.G. College Sehore	JBS
<b>27</b>	25 Feb. 2019	National Seminar on Environmental Degradation: Causes & Remedies	Conservation of Ethno Medicinal Plants	Govt. Girls College Sehore	JBS
<b>28</b>	27 Feb. 2019	National Seminar on Role & Challenges to Science, Humanities and Management in Rural Development	Role of Govt. Scheme in Rural Development	Govt. Degree College Rehti	NPCST

## Paper Publications

S.N.	Title of Paper	Name of Journal/Seminar Proceeding	ISSN/ISBN
1	Wound Healing Activities of Cassia tora (Linn.) Leaves Extract on Excision Wound Model of Wistar Albino Rate (Date 24-11-2014)	Journal of Chemical, Biological and Physical Sciences	E-ISSN-2449-1929
2	Isolation and Structural Elucidation of a Bioactive Compound from ficusracemosa leaves Ethanolic Extract. (05-12-2014)	International Journal of Green and Herbal Chemistry	E-ISSN-2278-3229
3	Wound Healing Activities of FicusRacemosa Leaves Ethanolic Extract on Excision Wound Model of Wistar Albino Rate (Date 01-06-2015)	International Journal of pharmaceutical sciences and research	E-ISSN- 0975-8232
4	Isolation and Structural Elucidation of a Bioactive Compound from Ethanolic Extract of Cassia tora Leaves (22-06-2015)	Asian Journal of Chemistry	AJC-17339
5	Alsi:-Ek Aushadhiya Mahatv ka Podha (March 2017-Vol. I)	Naveen Shodh Sansar	2320-8767
6	Unemployment and underemployment an emerging issue of higher education	Indian higher education system: Issues and challenges	ISBN: 978-93-87580-04-6

### 10. List of equipments and material in lab

S.N	Name	Quantity
1	Compound microscope	16
2	Projection microscope	01
3	Dissecting microscope	08
4	Ganongs potometer	02
5	Ganongs respirometer	02
6	Magnifying lens	02
7	T.L.C kit	01
8	Chart –color-regzeen	06+47
9	Magnetic stirrere with hot plate	02
10	Speciemen common	60
11	PH –paper	02 pkt
12	Models -pop	25
13	Chart cabinet	01
14	Hot air oven	02
15	Centrifuge machine	01
16	Auto clave	01
17	Water and soil analysis kit	01
18	Digital PH meter	01
19	Gel electrophoresis	01
20	Micro pipette	01
21	Digital colony counter	01
22	Laminar air flow	01
23	Rotary micro tome	01
24	Stop watch	01

25	Fast green and sephrenin	1
26	Petridish -80*17mm	15
27	Petridish 100*17 mm	10
28	Sprit lamp	02
29	Dissecting box	01
30	Class work material	220tube
31	Wash bottle	05
32	Slide cabinet	01
33	Nitric acid	500ml
34	Glycerine	200ml
35	Acetone	500ml



## 1. List of specimens

<b>S.No</b>	<b>Name of specimen</b>	<b>No of specimen</b>
1	Albugocandia on leaf	01
2	Alternaria	01
3	Citrus canker	01
4	Ustilago [any stage ]	01
5	Polytrichum with capsule	01
6	Marchantia with gemma cup	01
7	Equisetum with cone	01
8	Cycas megasporophyl	01
9	Cycas young plant	01
10	Pinus female cone	01
11	Utricularia	01
12	Drosera	01
13	Eichhorian	01
14	Hydrilla plant	01
15	Vallisnaria plant	01
16	Nymphaea leaf	01
17	Opentia	01
18	Gral	01
19	Phylloclade of ruscus	01
20	Agaricus	01
21	Puccinia life history	01
22	Anthoceros sporophyte	01
23	Riccia of targionia	01
24	Marchantiaantheridial	01
25	Marchantiaarchegonial	01
26	Marchantia with sporophyte	01
27	Lycopodium shoot cone	01
28	Selagineia fertile plant	01
29	Cycas megasporophyle	01
30	Cycas microsporophyle	01

31	Pinus young plant	01
32	Cycas young plant	01
33	Ephedra male cone	01
34	Ephedra fe male cone	01
35	Australian acacia leaf	01
36	Cuscuta with host	01
37	Equisetum with cone	01

## 2. Specimen model [ p o p ]

	<b>Description of goods</b>	<b>quantity</b>
1	Vaucheria model	01 each
2	Polysiphonia model	01 each
3	Puccinia uredo model	01 each
4	Puccinia acidium model	01 each
5	Puccinia pycnium model	01 each
6	Marchantia male receptacle model	01 each
7	Marchantia female receptacle model	01 each
8	Marchantia with gemma cup model	01 each
9	Marchantia sporophyte model	01 each
10	Equisetum cone L S model	01 each
11	Marselia sporocarp T S model	01 each
12	Lycopodium strobilus L S model	01 each
13	Selaginella cone L S model	01 each
14	Cycas T S of ovule model	01 each
15	Pinus L S female cone model	01 each
16	Pinus L S male cone model	01 each
17	Ephedra L S ovule model	01 each
18	Drosera sundew model	01 each
19	Nepenthes pitcher model	01 each
20	Utricularia bladderwort model	01 each
21	Hypogynous arrangement model	01 each
22	Perigynous arrangement model	01 each
23	Epigynous arrangement model	01 each
24	Placentation types model	01 each

### 3. LIST OF BIOVISUAL CHAT, BIOVISUAL CHART

S.N	Biovisual Chart	Qntty
Algea - 1	Oedogonium	1
2	Chaa	1
3	Volvox	1
4	Polysiphonia	1
5	Ectocarpus	1
6	Voucheria	1
Fungi - 7	Mucor	1
8	Bacteria structure & Forms	1
9	Bacteria Showing Reproduction	1
10	Virus types structure and life fistory	1
11	Phytophthora struxture and life history	1
12	Peziza structure & Reproduction	1
13	Liechens structure and life history	1
14	A spergillus structure and life history	1
15Bryophyte, pteridophyta	Riccia structure &Reproduction	1
16	Marchentia structure and life history	1
17	Anthoceros structure &Peproduction	1
18	Selaginella structure &Peproduction	1
19	Marselia structure &Reproduction	1
20	Lycopodium structure &Peproduction	1
21	Plant cell (Ultra Structure)	1
22	Equisetum structure & Reproduction	1
23	Meiosis on plant	1
24	Cycas life history	1
25	Cycas anatomy	1
26	Pinus life history	1
27	Ponus anatomy	1
28	T.S. of Dicot Root	1
29	T.S. of monocot root	1
30	T.S. of Dicot stem	1

31	T.S. of monocot stem	1
32	T.S. of Dicot leaf	1
33	T.S. of monocot leaf	1
34	T.S. of Anther & Its Development	1
35	Megasporogenesis	1
36	Development of Embryo and Endospermes	1
37	Types of Embryo Sacs	1
38	Brassiacamjpestris (Mustard	1
39	Argemone Mexicana	1
40	Hibiscus rosasinensis (Shoe Flower)	1
41	Cassia fistula (Casalpinioideae)	1
42	Acacia Arabica (Mimosiaecae)	1
43	Helianthus annuus (Sunflower)	1
44	Solanum nigrum	1
45	Calotropis procera (Aak)	1
46	Ocimumbasilicum	1
47	Nerium odorum (Oleander)	1

### ❖ Student support

Library :- There Is a Rich Central Library. The Library Contained Various Books in Botany

- |                    |   |     |
|--------------------|---|-----|
| 1. Reference Books | – | 89  |
| 2. Text Books      | – | 218 |

**Total Books – 307**