KVR GOVERNMENT COLLEGE FOR WOMEN (A)

Re Accredited with 'B^{++}' Grade by NAAC

(Constituent College of Cluster University)

Kurnool

ANDHRA PRADESH

ANNUAL PROGRESS REPORT

SUPPORTED UNDER

STAR COLLEGE SCHEME

(AUGUST 2024-MARCH 2025)

SUBMITTED TO

DEPARTMENT OF BIOTECHNOLOGY

MINISTRY OF SCIENCE AND TECHNOLOGY

GOVERNMENT OF INDIA

NEW DELHI

Department of Biotechnology

Proforma for submission of Annual Progress Report supported under Star College Scheme

1	Name of the College	KVR Government College for Women (A), Kurnool, AP
2	Name of Coordinator designation, Address, Phone nos	Dr K Michael David, Lecturer in Botany KVR Government College for Women (A), Kurnool, AP Mobile No; 9493439686
3	Assessment duration	30/7/24 to 30/4/25
	Duration in years	9 months

4. Details of Departments Supported

Sl No	Name of Department	Courses (B.Sc./M.Sc./PG Diploma, certificate etc) offered	Regular Faculty members	
			Total = 28	
			With Ph.D.	Without Ph.D.
1	Botany & Zoology	B. Sc (Honours),-Botany & Zoology M. Sc- Botany, Zoology	9	3
2	Bichemistry & Biotechnology	B. Sc (Honours)- Bichemistry& Biotechnology	1	3
3	Physics	B. Sc (Honours)- Physics	3	1
4	Chemistry	B. Sc (Honours)- Chemistry M. Sc- Chemistry	7	1

5. Number & Date of Advisory committee meeting: Yet to convene. However, 14 internal meetings held during the academic year 2024- 25

6. Qualitative improvements due to DBT support. Please highlight 5 salient points (within 500 words).

- **Strengthening of the science laboratories**: Procurement of new instruments was made possible through the programme.
- **Accessibility of instruments to students improved substantially**: Through the purchase of basic instruments in multiple numbers which enabled Hands on experience for students
- **Drastic shift in the paedagogy**: To adapt with the circumstances, knowledge sharing was accomplished mainly through workshops, student exchange programs, learning by doing etc.
- **Purchase of consumables:** such as chemicals, glassware and components facilitated to conduct of student centered activities viz. additional practicals, trainings and project work and thus improved the skill and interest for the subject.
- **Dissertations conducted during the period**:
  - Green synthesis of silver nano particles
  - Vermicomposting and Vermiwash preparation.
  - Preparation of Biofertilizers and Pesticides
  - Ecological parameters of Organic Garden soil, like soil temperature, soil pH, moisture content was also analysed.

- Pollen Biology and Anatomical studies of some medicinal plants
- Identification of adulterants in food and beverages
- Analysis of Water samples from different places of Kurnool District, AP

- Industrial visit and field visits conducted under this scheme has enabled deserving students from economically poor sections to develop academic rapport and created a platform for employability. These visits introduced students to eminent researchers, research and production environments, advanced instruments, processes and research outputs.
- **Science Expo**: to make the students understand the subject and apply them in daily life and to develop research aptitude, sharing their experience working model presentations, poster presentations were organised

7. Any Novel aspect introduced or planning to introduce during the Scheme duration.

- Planning to implement more research-oriented teaching to attract young minds to the field of science.
- Students will be encouraged to undergo internship programmes and participate in seminars and training programmes organised by other institutes.
- Seminars/Webinars will be conducted on advanced topics related to the syllabus as per NEP.
- Laboratory experiments and training classes for students, faculty and Lab assistants based on emerging trends in ICT and science and Minor research projects for final year students are also planned for the future.
- Underachieved objectives of the first year will be continued in the current year.

8. Lessons learnt / difficulties faced/suggestions if any, in implementation of the programme and utilization of DBT grant. (Max 3 points within 300 words).

- Improvement in the facilities of participating science departments was a major change after the implementation of the programme. Student based activities like training programmes, introduction of new practicals, institution visits were carried out during the academic year.
- The important lesson learnt was to prepare a calendar for activities and their execution in real time without deviation
- Since we have completed only 10 months period, invited lectures by eminent researchers, purchase of books and journals were not being carried out. Delayed admissions process in our state which continued upto November 2024 has not given sufficient time to carryout sufficient hands on training programs for First year students

9. Key performance indicators

S. no	Indicator	Pre-support								During /After Support								Remarks
1	No. of students admitted	Total =169								Total =140								
		M=0				F= 169(2023-24)				M=				F= 140 (2024-25)				
		SC	ST	OBC	G	SC	ST	OBC	G	SC	ST	OBC	G	SC	ST	OBC	G	
		0	0	0	0	55	12	95	7	0	0	0	0	40	7	85	8	
2	No. of students passing out (%) Students Admitted/passing out (pass %)	151/191= 79.05% (2023- 24 Passed out students)								162/196= 82.6% (2024- 25 Passed out students)								
3	Drop-out rates	7.2%								4.2%								
4	No. of students opting for M. Sc	29								-								PG admission procedure yet to begin
5	Average marks	7.8 (SGPA)								(8.1) SGPA								
6	No. of hands-on experiments being conducted	4								11								Procured equipment in the month of November
7	No. of new experiments introduced	2								18								
8	Publications (scopus indexed) /patents, if any.	4								9								
9	Training received by faculty	-								-								
10	Exhibitions/seminars /training courses conducted	-								9								
11	Books/journals subscribed from grants	-								-								Will be purchased in 2025-26 academic year
12	Outreach activities (Popular lectures)	-								-								
13	Colleges mentored to apply for DBT Star College grants	-								-								
14	Invited lectures	-								2								

- Proofs (S.No. 6-14 not more than 5 pages, 1.5 line spacing 11 times roman font size) to be provided duly attested by Principal and Coordinator.

10. Self evaluation

Department	*Objective (as stated in proposal)	% achieved	Reasons for underachievement / If achieved, state in quantitative metrics
Botany& Zoology	New practicals introduced	80%	Received equipment in the month of November 2024, we are unable to take up all the objectives in the span of 4 months as the students were busy with semester end exams in December 2024 and April 2025. Planning to achieve all the mentioned objectives in coming academic year. **(Quantitative metrics**) 1.75+2+1.75+ 2= **7.5**
	Access to Journals	-	
	Visiting educational institutes and industries	100%	
	Student study projects	80%	
	Procuring New equipment	100%	
Biotechnology& Biochemistry	New practicals introduced	80%	**(Quantitative metrics**) 1.75+2+1.75+ 2= **7.5**
	Access to Journals	-	
	Visiting educational institutes and industries	100%	
	Student study projects	80%	
	Procuring New equipment	100%	
Physics	New practicals introduced	50%	**(Quantitative metrics**) 1+2+1.75+ 2= **6.75**
	Access to Journals	-	
	Visiting educational institutes and industries	100%	
	Student study projects	80%	
	Procuring New equipment	100%	
Chemistry	New practicals introduced	80%	**(Quantitative metrics**) 1.75+2+1.75+ 2= **7.5**
	Access to Journals	-	
	Visiting educational institutes and industries	100%	
	Student study projects	80%	
	Procuring New equipment	100%	

11. Provide detailed information on budget utilization under Grants-in-Aid (General), including the exact percentage of funds allocated and utilized for the purchase of chemicals, travel, mentoring activities, contingency and any other activity:

S. No.	Budgetary Object Heads	Unspent Balance Carried Forward from Previous Financial Year	Grant Received/ Assigned from DBT during the Financial Year	Other receipts/ Interest Earned on the DBT Grants	Total Grant Available	Actual Expenditure (*excluding commitments) incurred during the financial year*	Balance Grant Availabl e	Re ma rks (t*If an y*)
1	2	3	4	5	(3+4+5) = 6	7	(6-7) = 8	9
A.	Grants-in-aid General	Nil	11, 50, 000/-	Nil	11,50,000/-	11,49,574/-	426-00	
Grand Total		**Nil**	**11, 50, 000/-**	**Nil**	**11,50,000/-**	**11,49,574/-**	**426-00**	

Funds Utilized

S. No.	Budgetary Objects	Botany & Zoology	Biotechnology & Biochemistry	Physics	Chemistry	Total	Remarks (t*If any*)
1	Purchase of Chemicals and Glassware	2, 75, 416-00	1, 70, 754-00	1, 72, 457-00	1, 69, 944-00	7, 88, 571-00	Difference in sharing of amount among Four Sanctioned departments will be adjusted in next release of funds
2	Travel (Field trips and Hands on training programs)	60, 000-00	25, 000-00	75, 000-00	1, 51, 000-00	3,11, 000-00	
3	Mentoring	-	-	-	-	-	
4	Contingency	12, 964-00	12, 534-00	12, 469-00	12, 036-00	50, 003-00	
Grand Total		**3,48,380-00**	**2,08,288-00**	**2,59,926-00**	**3,32,980-00**	**11,49,574-00**	

10/6/25

Course Coordinator
(With Seal)

CO-ORDINATOR
DBT Star College Program
K.V.R. Govt. College for Woman (A)
KURNOOL-518 004.
Andhara Pradesh

10/6/2025

Head of the Institution
(With Seal)

PRINCIPAL
K.V.R. Govt. College for Women
(Autonomous)
KURNOOL.

KVR GOVT. COLLEGE FOR WOMEN (A)

DEPARTMENT OF BIOTECHNOLOGY

HANDS ON TRAINING PROGRAMME AT PUSHPANJALI AGRI INPUT TECHNOLOGIES

(DBT-STAR COLLEGE PROGRAM, GoI)

DURATION: 10-09-2024 to 13-09-2024

NAME OF THE INSTITUE/ FIRM: Pushpanjali Agri Input Technologies, #80/81-9-A, Aditya Nagar, Kurnool – 518003

TITLE OF THE ACTIVITY: Hands On Training On Biofertilizer And Bio pesticide Technology

NAME OF THE RESOURCE PERSON: Dr.V.Venkateshwarulu, Proprietor, Pushpanjali Agri Input Technologies, Knl.

NAMES OF THE FACULTY INVOLVED: 1. Dr.N.Rami Reddy, Incharge, Department of Biotechnology, 2.Smt. P.Sangeetha, Lec. In Biotechnology, 3. Dr. G.Ebenezer, Lec. In Biotechnology.

NO. OF STUDENTS BENEFITED: 15

EXPECTED OUTCOMES: During the training course, the participants will acquire skill/ hands on practices in mass production of Biofertilizers, mass production of Biocontrol agents, on-farm production of biopesticides(Trichoderma, Pseudomonas), botanicals for pest management . The participants will have

1. Ability to understand formulation and large scale industrial production of biofertilizers.

2. To gain knowledge eco-friendly agricultural inputs so as to nullify the ill effects of chemical fertilizers.

3. Explain about the types mode of action of microbes on biopesiticides.

4. To gain knowledge about how technology pertinent to microbiological and physico-chemical analyses of soil samples and their assessment.

5. To impart knowledge on protocold for establishment of bio-labs and registration procedure.

6. To impart knowledge on quality control of biofertilizers and biopesticides.

KVR GOVT. COLLEGE FOR WOMEN (A)
DEPARTMENT OF BIOCHEMISTRY

HANDS ON TRAINING PROGRAMME AT

PUSHPANJALI AGRI INPUT TECHNOLOGIES
(DBT-STAR COLLEGE PROGRAM, GoI)
DURATION: 10-09-2024 to 13-09-2024

NAME OF THE INSTITUE/ FIRM : Pushpanjali Agri Input Technologies, #80/81-9-A, Aditya Nagar, Kurnool – 518003

TITLE OF THE ACTIVITY : Hands On Training On Biofertilizer And Bio pesticide Technology

NAME OF THE RESOURCE PERSON: Dr.V.Venkateshwarulu, Proprietor, Pushpanjali Agri Input Technologies, Knl.

NAME OF THE FACULTY INVOLVED: Dr.M.V.N.V. PRASAD GUPTA, In charge, Department of Bio Chemistry, 2. Smt. S. SHOBHA RANI, Lec in Biochemistry, 3. Smt R.RIBCA ALEKHYA, Lec in Biochemistry.

NO. OF STUDENTS BENEFITED : 07

EXPECTED OUTCOME: The training was scheduled for 4days to provide information on the importance of different kinds of Biofertilizers (Mycorrhygae)their production and production of Biocontrol agents (Trichoderma, Pseudomonas) for pest management. Students benefited with the following skills

1. To gain knowledge eco-friendly agricultural inputs. Biofertilizers are natural fertilizers that don't harm the environment.
2. Biofertilizers can be cost effective and they don't require running production until all years.
3. Improve soil Quality, Soil texture, and fertility and can increase the availability of nutrients in the soil.
4. Biofertilizers can increase crop yield.

KVR GOVT. COLLEGE FOR WOMEN (A)
DEPARTMENT OF ZOOLOGY
HANDSONTRAININGPROGRAMME AT PUSHPANJALIAGRIINPUTTECHNOLOGIES
(DBT-STAR COLLEGE PROGRAM, GoI)
DURATION:10-09-2024to 13-09-2024

NAMEOFTHE INSTITUE/ FIRM: PushpanjaliAgri Input Technologies, #80/81-9- A,AdityaNagar, Kurnool – 518003

TITLE OFTHE ACTIVITY: Hands OnTrainingOn Biofertilizer And BiopesticideTechnology

NAMEOFTHERESOURCE PERSON: Dr.V.Venkateshwarulu, Proprietor, Pushpanjali Agri Input Technologies, Knl.

NAMEOF THE FACULTY INVOLVED: Dr.T.Lavanya, Incharge, Department of Zoology, KVRGCW(A), Kurnool. Dr.S.Shamshad, Lec. In Zoology, Smt. J.Hema latha, Lec. In Zoology, Dr.G.Seethamma, Lec. In Zoology, Smt.B.Sujatha, Lec. In Zoology

NO.OFSTUDENTS BENEFITED: 14

EXPECTEDOUTCOME: During the training course, participants will gain hands-on experience in the mass production of biofertilizers and biocontrol agents, as well as the on-farm production of biopesticides such as Trichoderma and Pseudomonas, and the use of botanicals for pest management. Participants will:

1. Develop an understanding of the formulation and large-scale industrial production of biofertilizers.
2. Learn about eco-friendly agricultural inputs to mitigate the harmful effects of chemical fertilizers.
3. Be able to explain the various types and modes of action of microbes in biopesticides.
4. Acquire knowledge of technologies related to microbiological and physicochemical analyses of soil samples and their assessment.
5. Gain insights into the protocols for establishing bio-labs and the registration procedures involved.


KVR GOVT. COLLEGE FOR WOMEN (A)
DEPARTMENT OF BOTANY
HANDSONTRAININGPROGRAMME AT PUSHPANJALIAGRIINPUTTECHNOLOGIES
(DBT-STAR COLLEGE PROGRAM, GoI)
DURATION:10-09-2024to 13-09-2024

NAMEOFTHE INSTITUE/ FIRM: PushpanjaliAgri Input Technologies, #80/81-9- A,AdityaNagar, Kurnool – 518003

TITLE OFTHE ACTIVITY: Hands OnTrainingOn Biofertilizer And BiopesticideTechnology

NAMEOFTHERESOURCE PERSON: Dr.V.Venkateshwarulu, Directorr, Pushpanjali Agri Input Technologies, Knl.

NAMES OF THE FACULTY INVOLVED: 6 Members of faculty of Department of Botany
NO.OF STUDENTS BENEFITED: 35
BRIEF DESCRIPTION OF THE ACTIVITY: Students were trained in Sterilization techniques, inoculation and incubation of various fungal strains. They were made aware of importance of Biofertilizers and Biopesticides.

K.V.R. GOVERNMENT COLLEGE FOR WOMEN (A), KURNOOL

DEPARTMENT OF CHEMISTRY

HANDS OF TRAINING IN GROUND WATER ANALYSIS

Title of the Activity	Hands on Training in Ground water analysis
Date & Time	**23-09-2024**
Details of Resource persons/Place Visited	Ground water analysts
No. of students & Staff Participated	55- Students, 09- Staff

Brief report: Department of Chemistry conducted Hands on Training for Ground water analysis activity to the III B.Sc students. A hands-on training session on water analysis was conducted at the Ground Water Department, Kurnool. This session was focused on equipping students with practical skills for analyzing water samples collected from Kethavaram Village and Mahanandi. About 55 students were benefited in this program

Supporting Evidence

Outcome of the activity: The students successfully completed the water analysis, and the results indicated that while most parameters were within permissible limits, attention was needed for fluoride and nitrate concentrations, which showed slightly elevated levels in some samples.

KVR GOVT COLLEGE FOR WOMEN (A), KURNOOL
DEPARTMENT OF BIOCHEMISTRY
HANDS OF TRAINING IN BLOOD GROUPING

Date :20.11.2024

Title of the activity: blood grouping

Name of the faculty involved: Smt.R.Ribca Alekhya

Brief Report: Bloog group was organized in classroom level. Final year students conducted blood grouping to second year students to know their blood groups

KVR GOVT COLLEGE FOR WOMEN (A), KURNOOL
DEPARTMENT OF BIOCHEMISTRY
HANDS OF TRAINING IN ESTIMATION OF HAEMOGLOBIN

Date: 29.11.2024

Title of the activity: Awareness programme or Aneamia and heamoglobin determination

Name of the faculty involved: Smt. R.Ribca Alekhya, Smt.S.Shobha Rani

Brief report: In the Department of Biochemistry hemoglobin levels of Girl students were determined. Final year students done heamoglobin estimation to second year students, and assessed anemia among second year students

KVR GOVT COLLEGE FOR WOMEN (A), KURNOOL
DEPARTMENT OF BIOCHEMISTRY
HANDS OF TRAINING IN ESTIMATION OF HAEMOGLOBIN

Date: 14.12.2024

Title of the activity: Hands on activities

Name of the faculty involved: 1.M.V.N.V.Prasad Gupta, 2. Smt.R.Ribca Alekhya, 3. Smt.S.Shobha Rani

Brief Report: Faculty of Biochemistry gave a training to students how to handle equipment in the lab during hands on activity

K.V.R. GOVERNMENT COLLEGE FOR WOMEN (A), KURNOOL
DEPARTMENT OF CHEMISTRY

HANDS OF TRAINING IN PREPARATION OF NATURAL COSMETICS

Title of the Activity	**HANDS OF TRAINING IN PREPARATION OF NATURAL COSMETICS**
Date & Time	**27-01-2025**
Details of Resource persons/Place Visited	Faculty and Incharge-Dept. of Chemistry
No. of students & Staff Participated	100- students and staff
Brief report: Dept. of Chemistry has conducted Fair and Lively cosmetics and general health products for IV semester UG students. In this course, students learn to prepare Lacto calamine lotion and Hair oils, Antiseptic cream, Astringents, Green tea preparation and advantages theory and practicals.	
Supporting Evidence 	
Outcome of the activity: Students learn to know the preparation and advantages of natural cosmetics and general health products.	

K.V.R. GOVERNMENT COLLEGE FOR WOMEN (A), KURNOOL
DEPARTMENT OF BOTANY
HANDS OF TRAINING IN PREPARATION OF JEEVAMRUTHAM

Title of the Activity	Hands on Training in preparation of Jeevamrutham
Date & Time	**03-02-2025**
Details of Resource persons/Place Visited	Dr G V Ranga Reddy, Incharge, Dept. of Botany, KVRGDCWA, Kurnool
No. of students & Staff Participated	40- Students, 06- Members of Staff

Brief report: Department of Botany conducted Hands on Training in preparation of Jeevamrutham for the III B.Sc students.

Supporting Evidence

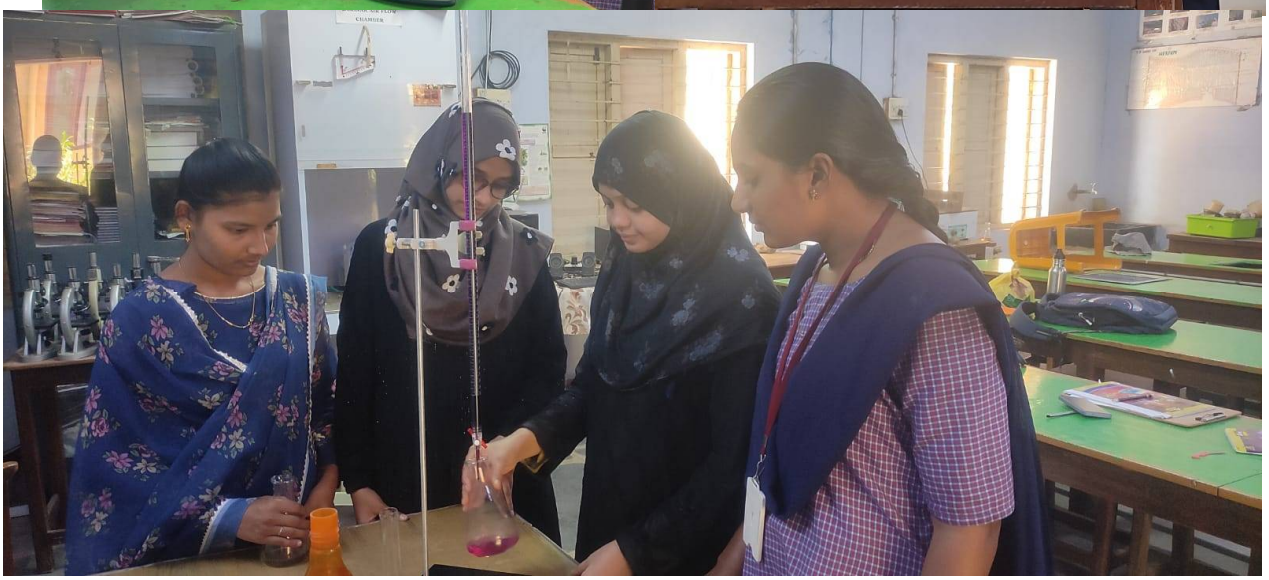
K.V.R. GOVERNMENT COLLEGE FOR WOMEN (A), KURNOOL
DEPARTMENT OF BOTANY

HANDS OF TRAINING IN ESTIMATION OF OXALATES IN LEAF VEGETABLES

Title of the Activity	Hands on Training in estimation of Oxalates in leafy Vegetables
Date & Time	**20-02-2025**
Details of Resource persons/Place Visited	Dr K Michael David, Lecturer, Dept. of Botany, KVRGDCWA, Kurnool
No. of students & Staff Participated	10- Students, 06- Members of Staff

Brief report: Department of Botany conducted Hands on Training estimation of Oxalates in leafy Vegetables III B.Sc students. Spinach and Tomato are regular combination of making Dal in Rayalaseema region of Andharapradesh. As per the studies, High amount of Oxalates in food will lead to formation of stones in Kidneys. To estimate the amount of Oxaltes in Various Leafy vegetables, Hands on Training in estimation of Oxalates in leafy Vegetables was given to the students

Supporting Evidence



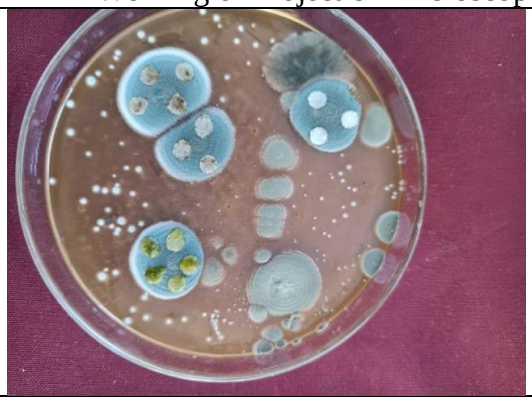
No. of new experiments introduced

The DBT Star College Scheme aims to strengthen the academic and practical skills of undergraduate (UG) students by providing enhanced support for quality improvement in science education. This report highlights the various academic activities organized by the various science departments of KVR Government College for Women (A), Kurnool, under this scheme during the period August 2024 to March 2025, focusing on Extension Experiments in regular laboratory courses, Project Works, Invited Talks& Field/Lab Visits.

DEPARTMENT OF BOTANY

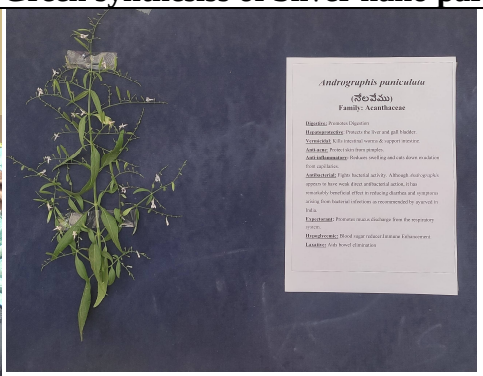
S. No.	Title of the experiment	Name of the Associated Faculty member(s)	No. of students benefited	Course/ semester
1.	Working of Projection Microscope with camera and taking images from it.	Dr. K.Michael David	40	B. Sc. (H) Botany/ IV Sem
2.	Preparation of herbarium and identification of Ethnobotanical important plants	Dr. G. V. Ranga Reddy	40	B.Sc. (H) Botany/II Sem
3.	Hands on training on literature and data extraction from PUBMED.	Dr. K. Michael David	25	B.Z.C. VI Sem
4.	To estimate TDS of water samples.	Dr. K. Michael David	40	B.Sc. (H) Botany/IV Sem
5.	Identification of medicinal plants and part of plant used.	Dr. G. V. Ranga Reddy	25	B.Sc. (H) Botany/II Sem
6.	Identification and classification of plants in the campus.	Dr. S. Sailaja	40	B.Sc. (H) Botany/II Sem
7.	How to use the autoclave and other sterilization techniques	Dr. K. Michael David	40	B.Sc. (H) Botany/II Sem
8.	Preparation of the Nutrient Agar media.	Dr. K. Michael David	40	B.Sc. (H) Botany/IV Sem
9.	Isolation of microbes from the soil	Dr. S. Sunitha	20	B.Sc. (H) Botany/II Sem
10.	Synthesis of green silve nano particles	Dr. S. Sunitha	20	B.Sc. (H) Botany/IV Sem

Working of Projection Microscope with camera and taking images from it



Isolation of soil fungus

Green synthesiss of Silver nano particles



Preparation of herbarium

Isolation of Microbes orm the soil

Medicinal plants and part of plant used

DEPARTMENT OF BIOTECHNOLOGY

S. No.	Title of the experiment	Name of the Associated Faculty member(s)	No. of students benefited	Course/ semester
1.	Gel Electrophoresis	Dr. Ebenazer	20	B. Sc. (H) Botany/ IV Sem
2.	Differential staining of blood cells	Smt. Sangeetha	20	B.Sc. (H) Botany/II Sem

Demostration of Gel Electrophoresis

Demostration of differential staining of blood cells

DEPARTMENT OF CHEMISTRY

S. No.	Title of the experiment	Name of the Associated Faculty member(s)	No. of students benefited	Course/ semester
1.	Kinetic study of iodination of acetone using colorimeter	Dr. N. Rami Reddy	46	BZC VI sem
2.	Determination of Viscosity using digital viscometer	Smt. J. Kalpana	20	B.Sc. (H) Botany/II Sem
3.	Data collection using UV visible spectrometer	Dr. R. Sreenivasulu	30	B.Sc. (H) Biotech/ IV Sem
4	To determine the free chlorine content in the bleaching powder solution.	Dr. N. Rami Reddy	30	B.Sc. (H) Botany/ IV Sem

Kinetic study of iodination of acetone

Using UV visible spectrometer

Determine the free chlorine content in the bleaching powder solution

Determination of Viscosity using digital viscometer

DEPARTMENT OF PHYSICS

S. No.	Title of the experiment	Name of the Associated Faculty member(s)	No. of students benefited	Course/ semester
1.	Modeling & Solving Physics Problems on topics: Motion of Falling body in a Resisting Medium, Variation of current & charge in a LR circuit, Projectile Motion, Energy Oscillation in LC Circuit, Coupled Oscillators (Mechanical & Electrical) (MP-2 Lab)	Dr. Padmavathi	40	BZC VI sem
2.	Design 5V/ 9V DC power supply using capacitor filter and IC regulator	Smt. Vasavi	20	B.Sc. (H) Physics/II & IV Sem

Variation of current & charge in a LR circuit, Projectile Motion, Energy Oscillation in LC Circuit

Design 5V/ 9V DC power supply using capacitor filter and IC regulator

Department of Zoology

S. No.	Title of the experiment	Name of the Associated Faculty member(s)	No. of students benefited	Course/ semester
1.	Extraction of protein from pulses	Dr. Lavanya	20	BZC VI sem

Extraction of protein from pulses

Reasons for Less number of activities:

- Received grant in the month of August 2024, It took time to process the Fund through PFMS by our administrative staff
- Procured equipment in the month of November 2024
- Process of admissions continued till the month of November 2024
- Students were busy with the even and odd semester end examinations in the month of November 2024 and March 2025.

8. Publications (scopus indexed) /patents, if any.

Sl No	Title	Name of the Journal	ISSN No:	Link/ Web site/ Volume No
1	Priyangu (*Callicarpa macrophylla* Vahl.): Botany and Pharmacology Properties	Agri Articles	E-ISSN: 2583-1755	Volume-4,Issue-4, December, 2024, Page No: 564- 567 http://www.agriarticles.com
2	Edible Waxing on Fruits and Vegetables	Agri Articles	ISSN: 2582-9882	Agri Articles, 04(06): 419-422 (NOV-DEC, 2024)
3	Natural Dyes from Trees	Agri Articles	ISSN: 2582-9882	Volume: 04, Issue:06 (NOV-DEC, 2024): 432- 434
4	Comparative studies on Oxalate Ion concentration in different combinations of Spinach and tomatoes, an important dietary combination in Andhrapradesh, India	Journal of technology	ISSN NO: 0886-9367	Volume 12 Issue 12, December 2024 **http://journaloftechnology.org/volume12-issue-122024/** Paper ID: JOT-6419
5	Review on natural and synthetic edible waxes on vegetables and Fruits	GIS Science Journal	ISSN NO: 1869-9391I	VOLUME 12, ISSUE 1, 2025 PAGE NO: 47- 55
6	Comparative studies of spinach cultivation in hydroponic system	The International journal of analytical and experimental modal analysis	ISSN NO: 0886-9367	Volume 17, Issue 01, January /2025/ 97- 107
7	Studies on Reproductive Biology of *Terminalia pallida* Brandis, An Endemic Plant of Eastern Ghats (Andhra Pradesh)	International Journal for Multidisciplinary Research (IJFMR)	E-ISSN: 2582-2160	IJFMR250137774, Volume 7, Issue 1, January-February 2025 www.ijfmr.com
8	Pollen biology and anatomy of *Clitoria ternatea* l., an important medicinal plant	Journal of Emerging Technologies and Innovative Research (JETIR)	ISSN-2349-5162	JETIR May 2025, Volume 12, Issue 5/ e202- e 209 www.jetir.org
9	Innovations in remote sensing techniques for monitoring agricultural crops and environmental stress conditions: A review	Journal of Scientific Research and Reports	ISSN: 2320-0227	Volume 31, Issue 6, Page 178-194, 2025; Article no.JSRR.133646

INDUSTRIAL VISITS/ ACADEMIC/ FIELD TRIPS

S. No.	Title of the Activity	Name of the Associated Faculty member(s)	Number of beneficiaries/ students	Course/ semester
1.	Visit to Pushanjali Ari Input technologies for 4 Day Hands on Training Program (from 10/09/24/to 13/09/24)	All the members of Faculty of Botany, Zoology, Biotechnology and Bio Chemistry	50	III B.Sc.(BZC, BBtC and ZBC) Students
2.	Visit to Greenko Ultra Mega Solar Park, Gani (V), Kurnool Dt. On 19/09/2024	Faculty of Department of Physics	46	III B.Sc MPC & MPCs students
3.	Visit to Hyderabad Central Universty. 20/09/2024	Faculty of Department of Physics	45	III B.Sc MPC & MPCs students
4.	Ground water sample collection and FieldVisit to Kethavaram and Mahanandi 21/09/2024	Faculty of Department of Chemistry	30	III B.Sc.(BZC, BBtC and ZBC) Students
5.	Field visit to Yogi vemana University, Kadapa (23/09/2024)	Faculty of Botany and Zoology Departments	45	III B.Sc.(BZC) Students
6.	Visit to IICT and CCMB, Hyderabad, Telangana (25-09-2024 and 26-09-2024)	Faculty of Department of Chemistry	48	III B.Sc.(BZC, BBtC and ZBC) Students

CLUSTER UNIVERSITY:: KURNOOL
KVR GOVT. COLLEGE FOR WOMEN(A)
DEPARTMENT OF BIOTECHNOLOGY

FIELD VISIT
TO
INDIAN INSTITUTE OF CHEMICAL TECHNOLOGY
&
CENTER FOR CELLULAR AND MOLECULAR BIOLOGY,
HYDERABAD, TELANGANA-500007

(DBT-STAR COLLEGE PROGRAM, GoI)

DURATION : 25-09-2024 to 26-09-2024

NAME OF THE INSTITUE/ FIRM : IICT, CCMB
Uppal Rd, IICT Colony, Tarnaka, Hyderabad,
Secunderabad, Telangana 500007

TITLE OF THE ACTIVITY : Field VIsit

NAME OF THE FACULTY INVOLVED : Dr.N.Rami Reddy, Incharge,
Department of Biotechnology,
KVRGCW(A), Kurnool.
1. Smt. P.Sangeetha, Lec. In Biotechnology.
2. Sri.G.Ebenezer, Lec. In Biotechnology.

NO. OF STUDENTS BENEFITED : 15

EXPECTED OUTCOME :

During the field visit, the students would be inculcated with the following

I. IICT :

1. To enhance the practical stimulation and help students gain first – hand information regarding functioning of the industry, which presents the students with opportunities to plan, organize & engage in active learning experience both inside and outside the classroom.
2. Students can learn about the institute's research areas, including organic synthesis, medicinal chemistry, and materials for solar energy.

II. CCMB :

1. Learn about modern biology and scientific research through exhibits, live experiments and an art corner.
2. The students can better understand genetic and infectious diseases through interactive exhibits.
3. The students can see experiments that are designed to teach basic molecular biology techniques and research being conducted at CCMB.

III. INDUSTRIAL DEVELOPMENT AREA :

1. Students gain practical knowledge about how things are done in an organisation.
2. The students develop interpersonal, communication, and teamwork skills.

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KVR GOVT. COLLEGE FOR WOMEN(A)
DEPARTMENT OF BIOTECHNOLOGY

FIELD VISIT TO INDIAN INSTITUTE OF CHEMICAL TECHNOLOGY

DAY 1 : 25-09-2024

BRIEF REPORT :

The students were taken on a field visit to IICT, Hyderabad as a part of Industrial Exposure Programme. The visit enhanced the practical knowledge among the students and provided them with insights into the application of biotechnology in various insights. During the visit, the students learned about the anaerobic digestion process, where organic waste is converted into biogas. This made the students understand how the biogas technology plays a crucial role in waste management and sustainable energy production. In the Semio-chemical lab, the students were explained about the semio-chemicals which are used to influence the behaviour of organisms, particularly for pest management in agriculture. They were also made aware of the pheromones and other chemical signals used to control pests in an eco-friendly manner.

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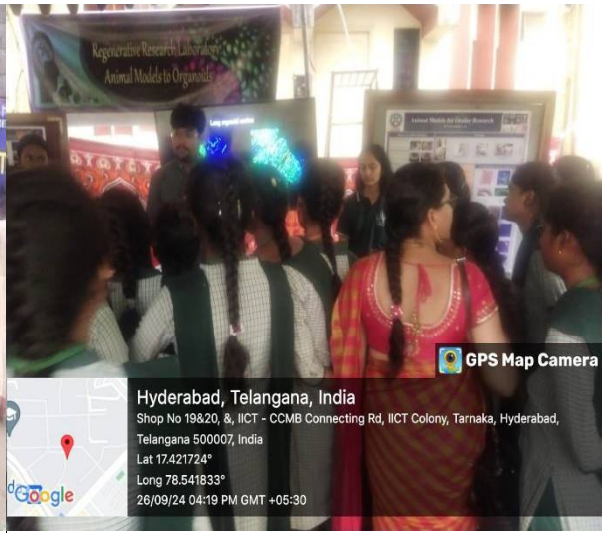
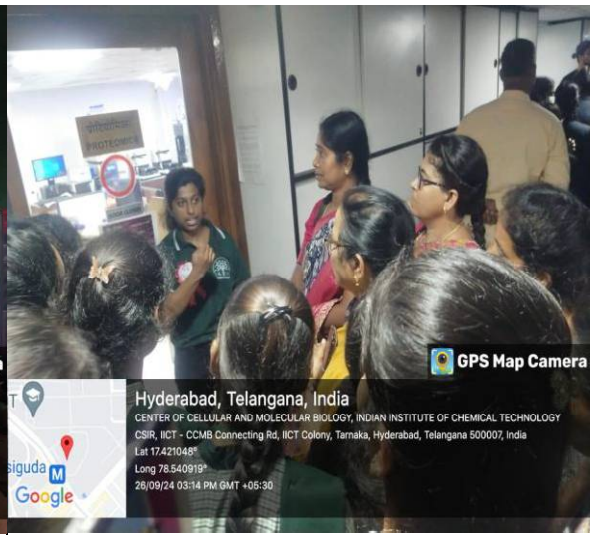
DEPARTMENT OF BIOTECHNOLOGY

FIELD VISIT TO CENTRE FOR CELLULAR AND MOLECULAR BIOLOGY

DAY 2 : 26-09-2024





BRIEF REPORT :

The students were taken on a field visit to CCMB, Hyderabad with the objective to expose the students to real world application of research and its significance. The Centre for Cellular & Molecular Biology (CCMB) is a premier research organization in frontier areas of modern biology. The objectives of the Centre are to conduct high quality basic research and training in frontier areas of modern biology, and promote centralised national facilities for new and modern techniques in the inter-disciplinary areas of biology. The students were made aware of the current research projects in molecular biology, genetics, biotechnology, and the application of molecular sciences in pharmaceutics and medicine. CCMB conducts exploratory research addressing the fundamental questions in biology. It also seeks to develop

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DEPARTMENT OF BIOTECHNOLOGY

FIELD VISIT TO INDUSTRIAL DEVELOPMENTAREA

DAY 2 : 26-09-2024

BRIEF REPORT :

The students visited Industrial Development Area where the students were provided with practical exposure to pharmaceutical processes and technologies. The students learnt about the industry's functioning, the real working environment, and how to interact with the experienced personnel. They also gained insights into Good Manufacturing Practices (GMP), quality control and regulatory compliance. The students were made aware of the tablet formulations and preparation of potassium nitrate.The industrial visits can help the students bridge the gap between theory and practical and see their future place in the working world.

CLUSTER UNIVERSITY:: KURNOOL
KVR GOVT. COLLEGE FOR WOMEN(A)
DEPARTMENT OF CHEMISTRY

Hands on Training for Final Year Students on Ground water analysis

Conducted Under DBT, STAR COLLEGE PROGRAM, GoI

21/09/24 and23/09/2024

1. Title of the activity	Hands on Training for Ground water analysis
2. Date	21-09-2024, 23-09-2024
3. No. of Resource persons involved	04
4. No. of Students Participated	50
5. Names of faculty involved	All the members of Faculty Dept. of Chemistry
6. Name of Institute/ firm involved with address	Ground water and water audit department, Kurnool, AP
7. Expected outcomes of the event	To get awareness on Ground water sample collection and students learn to know the water analysis techniques.
8. Feed back by the students	(scanned copies attached)

REPORT:

Introduction:

Day 1 (21.09.2024)

Ground water samples were collected at Kethavaram and Mahanandi villages of Kurnool and Nandyal districts from various bore points.

Day 2 (23.09.2024)

A hands-on training session on water analysis was conducted at the Ground Water Department, Kurnool, for the students of KVR Government College for Women. This session focused on equipping students with practical skills for analyzing water samples collected from Kethavaram Village and Mahanandi.

Objectives:

To provide hands-on experience in water quality analysis.

To impart knowledge about the significance of analyzing drinking water for contaminants.

To familiarize students with standard methods used in water quality testing.

Overview:

The training was organized in collaboration with the Ground Water Department, Kurnool, known for its expertise in water resource management. The water samples for this training were sourced from Kethavaram Village and Mahanandi, rural areas with concerns about groundwater quality.

Training Sessions:

Introduction to Water Quality Parameters:

The session began with an introduction to key water quality parameters such as pH, turbidity, hardness, dissolved oxygen (DO), total dissolved solids (TDS), and the presence of harmful elements like nitrates, fluorides, chlorides and heavy metals.

Collection and Preservation of Water Samples:

Demonstrations on how to collect water samples without contamination were provided. The samples were collected from various points in Kethavaram Village and Mahanandi, ensuring representation of groundwater quality across different locations.

Laboratory Testing:

The hands-on portion of the training took place in the Ground Water Department's laboratory, where students were guided through the step-by-step process of testing water for physical, chemical and biological parameters.

Instruments such as pH meters, conductivity meters, and spectrophotometers were used for analysis.

Analysis and Interpretation:

Students learned how to interpret the results of the water quality tests and compare them with Bureau of Indian Standards (BIS) permissible limits for drinking water.

Discussions were held on how factors like industrial activities, agricultural runoff, and natural mineral deposits could impact groundwater quality in the region.

Conclusion:

The hands-on training provided invaluable practical experience to the students of KVR Government College for Women. They gained a comprehensive understanding of water analysis techniques and the importance of monitoring water quality for public health and safety. The training also raised awareness on groundwater issues in Kethavaram Village and Mahanandi and also the need for continuous monitoring and management of water resources in rural areas.

Outcome:

The students successfully completed the water analysis, and the results indicated that while most parameters were within permissible limits, attention was needed for fluoride and nitrate concentrations, which showed slightly elevated levels in some samples. The findings emphasized the need for regular water quality checks in the village to ensure safe drinkingwater.

This training program fostered a sense of social responsibility among the students to contribute toward environmental sustainability and community well-being.

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DEPARTMENT OF CHEMISTRY

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Faculty Department of Chemistry with Final year B.Sc. Students reached Kethavaram village for Ground water sample collection at different bore points.

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DEPARTMENT OF CHEMISTRY

Ground water sample collection at different bore points at Kethavaram

Ground water sample collection at different bore points at Kethavaram

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DEPARTMENT OF CHEMISTRY

Ground water sample collection at different bore points at Mahanandi Village

Ground water sample collection at different bore points at Mahanandi Village

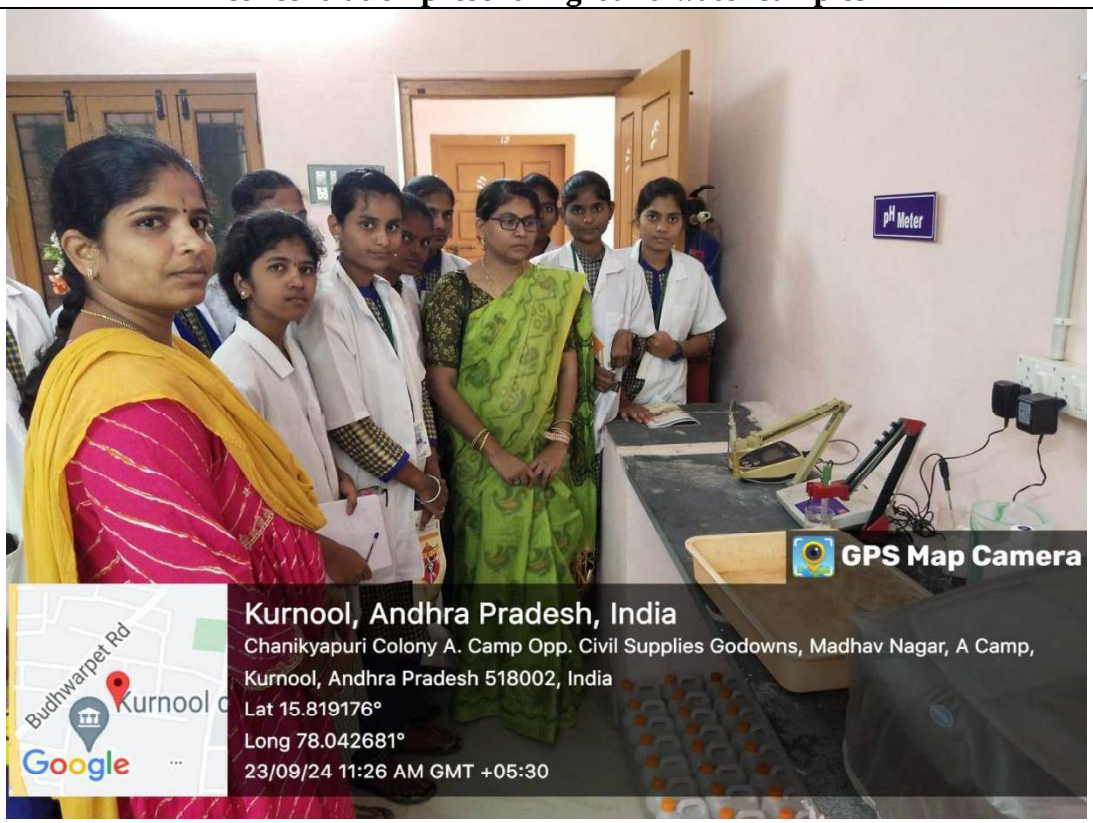
Hands-on training for the Analysis of Ground water at Ground water and water audit

department, Kurnool, AP

Ground water at Ground water and water audit department, Kurnool, AP - Labs for the Analysis of Ground Water samples

UV-Visible Spectrophotometer for the determination of sulphate ions and Fluoride ions

concentration present in ground water samples



EC- For the detection of Electrical conductivity - used to access the concentration of dissolved substances or ions present in ground water samples

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DEPARTMENT OF CHEMISTRY

pH meter- To check the pH of ground water samples

Determination of Calcium hardness and complete hardness of ground water samples using EDTA titrations

Flame Photometer for the presence of Sodium and Potassium ions present in ground water samples

CLUSTER UNIVERSITY:: KURNOOL
KVR GOVT. COLLEGE FOR WOMEN (A)
DEPARTMENT OF BOTANY

Field visit for Final Year Students to Yogi Vemana University, Kadapa
Conducted Under DBT, STAR COLLEGE PROGRAM, GoI
23/09/2024

1. Title of the activity	Field visit to Research Institutes
2. Date	23-09-2024
3. No. of Resource persons involved	10
4. No. of Students Participated	45
5. Names of faculty involved	All the Faculty Dept. of Botany and Zoology
6. Name of Institute/ firm involved with address	Yogi Vemana University, Kadapa
7. Expected outcomes of the event	• To motivate the students for higher education in Life sciences • To promote research aptitude
8. Feed back by the students	(scanned copies attached)

REPORT:

Introduction: Students visited various research labs, Butter fly park and Lead Botanical garden in University: The primary objective was to provide exposure to students towards higher education in Life sciences

- Experts and researchers from various domains in Life science departments provided insights into the importance of interdisciplinary research and innovation in creating breakthroughs in biological sciences.
- The visit started around 6AM at college. Reached Yogi Vemana University Lead Botanical Garden at 10.30 AM

Lead Botanical Garden, Yogi Vemana University, Kadapa

- The department of Botany maintains the Botanical Garden in Yogi Vemana University. This facility is developed in 18.27 acres within the University Campus.
- In the year 2009 it was stared with hundred species and continued to have more than **1000 species including rare, endemic and threatened plants.**
- It has been developed in the alkaline waste lands with lot of care and observation. It serves for collection and maintenance of useful germplasm for various crops and plant species that have invaluable utility in the area of Plant Bio-Technology and Genetic Engineering.
- Botanical gardens are living repositories of indigenous and exotic, cultivated and wild plants, It is a place where a wide variety of plants are cultivated for scientific, educational,

and ornamental purposes, often including a library, a herbarium, green and glass houses.

- The main theme of Yogi Vemana University Botanical Garden is to educate students, researchers and common man about plant biodiversity and its importance in human wellbeing.
- The major attraction of YVU botanical garden is having world largest giant water lily ***Victoria amazonica***.
- The YVU Botanical Garden is basically intended to educate the students, researchers and common man about plant biodiversity and its importance in human well – being.

Miyawaki Forest:

- An innovative reforestation technique has been used successfully to restore patches of forest in bare soils of Yogi Vemana University Campus where traditional reforestation methods have previously failed.
- In the campus 10 acres of degraded land near Botanical garden of YVU has been selected for Miyawaki method of Plantation.
- 1, 06, 400 saplings covering 25 indigenous plant species of all canopy layers in Yogi Vemana University.
- **This is the largest area of Miyawaki Plantation in India**

Lichen Herbarium/ Museum

- Department of Botany, Yogi Vemana University, Kadapa is in collaboration with CSIR–National Botanical Research Institute (Lucknow) has initiated documentation on lichens of Andhra Pradesh state for the first time in the year 2009 and established a new lichen herbarium in the Department of Botany, Yogi Vemana University (YVUH), Vemanapuram, Kadapa in YSR district.
- In this herbarium, around 6000 specimens are preserved collected from Eastern Ghats of India. The herbarium consists around 300 species belonging to 80 genera under 35 families.
- The present information will be helpful to know the status of lichen flora and its biodiversity in the state of Andhra Pradesh as well as to India.
- It will also provide information on lichens to future researchers of colleges, universities and

other research organizations which are engaged in bio monitoring studies.

- **The lichen herbarium is 5th largest in India**.

Scanning electron microscope

- Scanning electron microscopy is a highly versatile technique used to obtain high-resolution images and detailed surface information of samples.
- It is a type of electron microscopy that uses a focused beam of electrons to scan the surface of a specimen and generate images at a much greater resolution compared to optical microscopy.
- The resolution of SEM instruments can range from < 1 nanometer up to several nanometers.
- Scanning electron microscopy facility was established as a part of RUSA facility in 2018.
- SEM analysis service is provided for the research scholars, scientists, faculty or staff of the YVU or any other university or institution by providing Job SEM card.

Butterfly Park and Insect Museum

- For elaborate research on Butterflies Dept. of Zoology, Yogi Vemana University, Kadapa started one Model Butterfly Park at Yogi Vemana University campus along with Insect museum in 2010.
- The Butterfly park & insect museum first of its kind in Andhra Pradesh was established by Yogi Vemana Univesity.
- Every year it has a collection of 400 to 500 butterflies in number belonging to 40 species displaying in a mosaic of various colors and hues.
- In the Insect museum more than 100 species along with life cycles of different butterflies were displayed in beautiful boards.
- More than 80 to 90 insect dead specimens were also displayed.

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DEPARTMENT OF BOTANY

Lead Botanical Garden YVU, Kadapa

Miyawaki Forest

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DEPARTMENT OF BOTANY

Vice Chancellor sir offering Saplings to Department of Botany, KVRGCWA

Prof. Madhusudhun explaining about Botanical Garden

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DEPARTMENT OF BOTANY

Giant Water Lilly- *Victoria amazonica*

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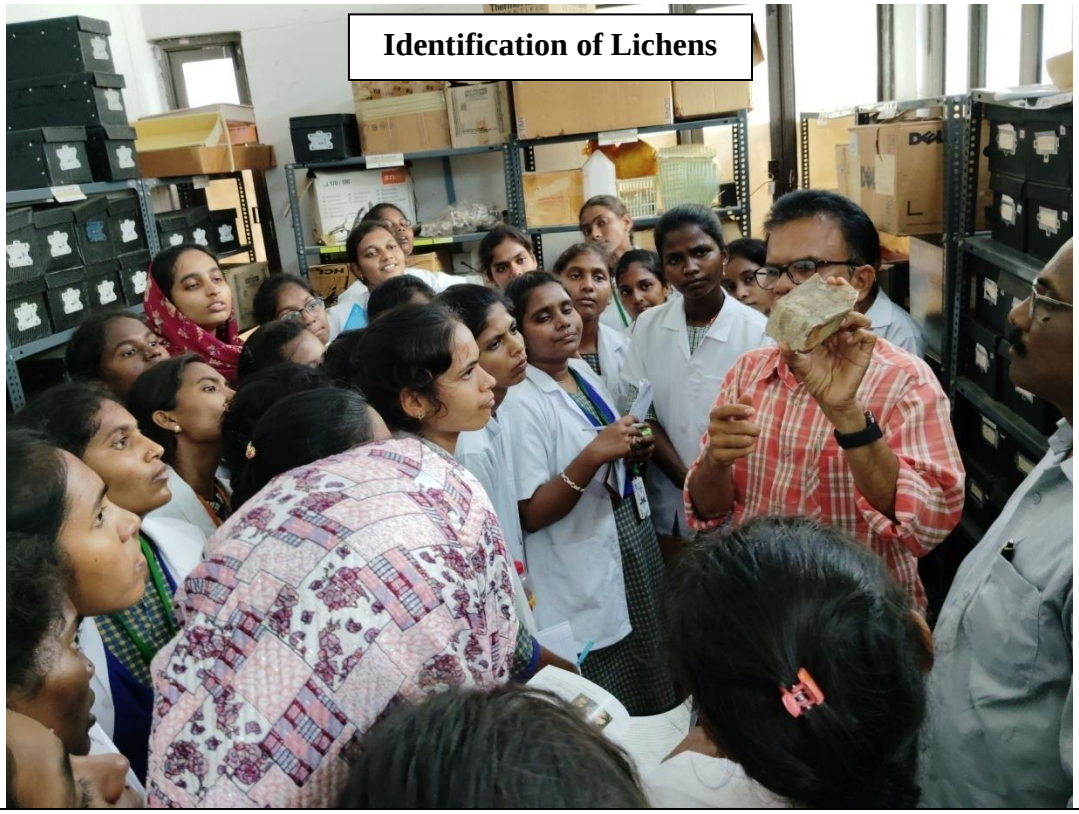
KVR GOVT. COLLEGE FOR WOMEN (A)
DEPARTMENT OF BOTANY

Green House for propagation different species of *Cycas*

At red sanders plantation

Lichen Herbarium



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DEPARTMENT OF BOTANY

Hands on Training on identification of Lichens

Study of Lichens in Lichen Herbarium

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DEPARTMENT OF BOTANY

Gas Chromatography

Students in Insects' Lab

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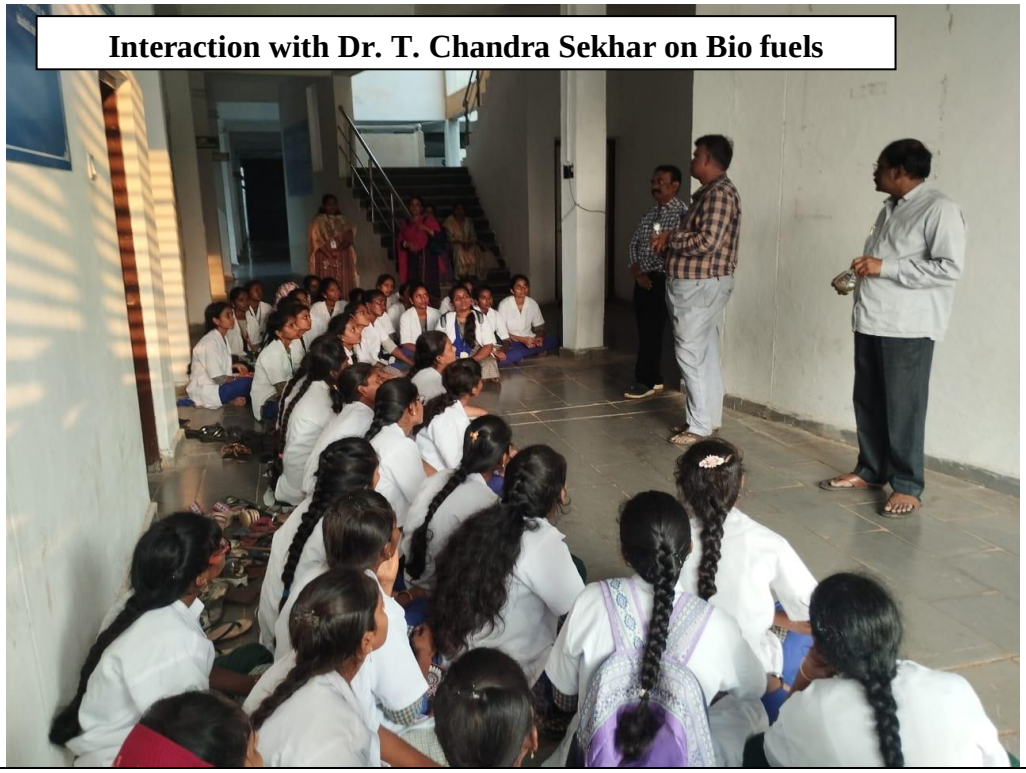
KVR GOVT. COLLEGE FOR WOMEN (A)
DEPARTMENT OF BOTANY

Students listening to the working principle of Scanning Electron Microscope

CLUSTER UNIVERSITY:: KURNOOL
KVR GOVT. COLLEGE FOR WOMEN (A)
DEPARTMENT OF BOTANY

Visit to Insects' Lab

Interaction with Dr. T. Chandra Sekhar on Bio fuels



Educational Tour for Final Year Students to Hyderabad Central University,Hyderabad

Conducted Under DBT, STAR COLLEGE PROGRAM, GoI

20/09/24

1. Title of the activity	**Educational**
2. Date	**20/09/24, One day**
3. No. of Resource persons involved	**Dr. K. Jyothi Research Associate& Dr. Nirmal K. Viswanath dean School of Physical Sciences**
4. No. of Students Participated	**45**
5. Names of faculty involved	**Smt. S Vasavi Devi , Dr. M Padmavathi & Dr. G. Mahaboob Basha**
6. Name of Institute/ firm involved with address	**Hyderabad Central University, Gachibowli, Hyderabad Telangana 500032**
7. Expected outcomes of the event	**1. To encourage women students towards higher education and Research thereby empowering them.** **2. To expose the students to the advanced physics equipment's and enable them for real time learning.** **3. To correlate theory and the practical.** **4. To understand the importance of research and chose it as their career in future.**
8. Feed back by the students	(scanned copies attached)

- **REPORT: Under Star College program Education Tour visit to Hyderabad central University was conducted to the students of Semester V MPC and MPCS.**
- **Most of the students studying in our college are first generation students .We the faculty of physics department thought it as our responsibility to motivate the students towards higher education.**
- **In the beginning, address by Dr. Nirmal K. Viswanath Dean of Physical sciences motivated the students to take up higher education.**

- **Students visited School of Physical Sciences and and Centre for Nanotechnology.**
- **In School of Physical sciences the different laboratories are Laser physics lab, microwave lab, condensed matter physics lab and Raman spectroscopy lab.**
- **In Laser Physics lab resource person Dr. K. Jyothi demonstrated various Optics experiments which were based on the Interference, Diffraction and Polarisation related to wave optics. Students had studied the theory part in previous year. In this way they got a good correlation between theory and Practical.**
- **There was good interaction between Dr. K. Jyothi and students. She aspired at least few students from the group to get admission to HCU in the coming year.**
- **Students were very much satisfied to see the sophisticated equipment in HCU. They were inspired by the available facilities and showed lot of interest to pursue higher education.**
- **Conclusion: The visit to Hyderabad Central University created the students towards Higher education and Research. This way it enriched the students with experiential learning. The purpose of visit to encourage them towards higher education was served. Our heartfelt thanks to DBT Star College Program for giving us this opportunity.**

PHOTOS

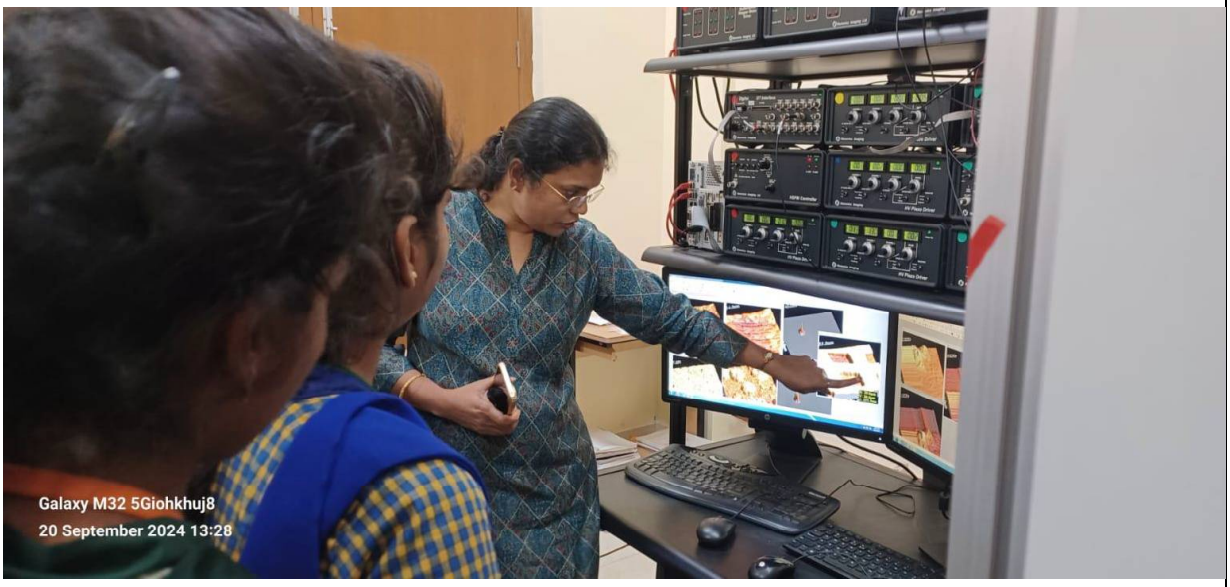
Student Interaction with Resource Persons

A Token of respect to the resource Person Dr. K. Jyothi

Interaction with Students in Optics Lab

Physical property measurement set up

Near Field Atomic Force microscope



Centre for Nano technology

Industrial Tour for Final Year Students to UltraMega Solar Park Gani Sekunala,Kurnool (Dt.)

Conducted Under DBT, STAR COLLEGE PROGRAM, GoI

19/09/24

1. Title of the activity	**Industrial tour**
2. Date	**19/09/24,One day**
3. No. of Resource persons involved	**2,Mohammed Sattar &B. Ravi Kumar**
4. No. of Students Participated	**46**
5. Names of faculty involved	**Smt. S Vasavi Devi & Dr. M Padmavathi**
6. Name of Institute/ firm involved with address	**Ultra Mega Solar Park, Gani Sekunala Village Kurnool(Dt.) 518010**
7. Expected outcomes of the event	**1. To understand the production of Electricity from Solar Energy** **2. To switch into alternate renewable sources of energy instead of relying on fossil fuels which not only cause pollution but are depleting at the fastest rate.** **3. To link the curriculum with the field study** **4. To explore for the job opportunities after completion of their BSc Program**
8. Feed back by the students	(scanned copies attached)

- **REPORT: Under Star College program Industrial visit was conducted to the students of Semester V MPC and MPCS.**
- **Ultra Mega Solar Park was the world's first largest Solar park located at one place when it was started in 2017. It is spread in an area of 5800 acres. Two villages Gani and Sakunala were disturbed to some extent. Most of the area was rocky fields. In that sense Government has mostly utilized waste land. A separate officer is posted to Corporate social responsibility is entrusted exclusively with the job to serve the disturbed families. The Electricity produced is 1000MW per day.**
- **The faculty of department of Physics felt to introduce the students regarding the**

importance of renewable and green sources of energy which do not add pollution to the environment.

- **As the students have studied about generation of Electricity by using solar energy in their earlier class. Good correlation between the theoretical and practical concept was obtained.**
- **As of now very less job opportunities are noted in that sector for women students as most of the work needs exposure to the field.**
- **Conclusion: The visit to Ultra Mega Solar park made the students understand the production of Electricity from solar energy. Resource persons were kind enough to clear all the doubts which enhanced the communicative and Interactive skills among the students. The Department of Physics and students are very much thankful to the DBT Star college program which enabled them to visit industry and explore for their future career.**

PHOTOS: Md. Sattar Explaining in the Field about Solar modules

A Token of respect to the resource Persons

Student Interaction with Resource Persons

Group photo at the end

CLUSTER UNIVERSITY
KVR GOVT. COLLEGE FOR WOMEN (AUTONOMOUS) KURNOOL
DEPARTMENT OF BOTANY
Academic year: 2024- 2025

1. Name of the Activity	**Open House**		
2. Conducted through	Department of Botany		
3. No of Days and Date & time	No Days: 1	Date:20/02/2025	Time :10AM to 5.00PM
4. Activity (Conducted / Participated)	Conducted		
5. International/ National/ State/ District/ College Level	College Level		
6. Name of the lecturers involved	Sri. G. V. Ranga Reddy, Dr. S. Sunitha, Dr. K. Michael David, Dr. P. Helen Kumari, Dr. S. Sailaja and Smt. B. Bhavani		
7. No. of Students involved (from KVR College)	80 Students from I & IV Semester of UG & II Year PG		
8. Colleges visited	Bhashyam School Brach-2, Silver Jubilee Govt. Degree College, Kurnool; Osmania College(A), Kurnool		
9. No. of Students and lecturers visited (from outside colleges)	252 Students and 8 lecturers		

BRIEF REPORT OF THE SCIENCE EXPO:

Aim: The main aim of this exhibition is to spread knowledge among the students about botany, plant diversity, medicinal plants, endemic plants and research equipment and the conservation of biodiversity.

Objectives:

1. *To understand the importance of various research equipment and their utilization.*
2. *To recognize the significance of plants in our lives* and to encourage the habit of growing and nurturing plants.
3. To engage students in learning new facts and inventions with enthusiasm, exploring their creative talents and fostering out-of-the-box thinking.
4. To identify medicinal plants and create awareness about their medicinal value, plantation and conservation.
5. To promote awareness about the plantation and conservation of endemic plants of Seshachalam, such as *Cycas beddomie, Pterocarpus satalinus, Boswellia ovalifiliolata etc.*,
6. To raise awareness about the herbal teas brewed from plant leaves, flowers, fruits, stems, and roots that contain anti-oxidants and offer nutritional and health benefits.
7. To educate on germplasm conservation (*Ex-situ conservation*) through seed collection practices.
8. To provide knowledge about Bio-Char preparation and its role in soil reclamation.

9. To provide knowledge about Jeevamtutham preparation and the collection and culturing of bio fertilizers like *Nostoc* and *Azolla* which replace the chemical fertilizers that enhancing soil fertility and crop productivity.

10. To understand the biomass production and conversion into compost by using the aerobic method.

11. To learn about the propagation of *Gambusia* fish which are used to control mosquito populations.

12. To gain insights into nutrient-rich soil preparation and plant propagation in nursery.

13. To raise awareness on Hydroponics (Soil-less farming) including vertical and horizontal methods, which allow for pathogen-free, heavy metals-free, climate- independent plant growth.

14. To gain knowledge about lichens, their types, significance and methods of collection.

15. To understand and acquire the knowledge about mushroom cultivation

16. To know the importance of silver nano particles in certain activities viz., anti-fungal, anti-helminth, anti-oxidant so on

17. To witness the live medicinal plant collections which are around use and to understand the medicinal and ecological importance of the plants

18. To know the procedure of vermicompost preparation and witness the same

19. To understand the plant morphological adaptations to aquatic and xeric conditions

20. To understand the vegetative propagation techniques and plants that are being propagated in KVR garden

REPORT:

To promote participatory and hands-on learning in Botany, the department of Botany conducted the "Open House Expo" on February 20, 2025. Students from the I, II and III Year of UG and I & II-Year PG Program actively participated, showcasing their exhibits and explaining to the visitors from various colleges. The honourable vice chancellor, Cluster university Prof. DVS Sai Gopal Garu and Registrar, Cluster university Dr. K. Venkateswarlu garu, graced the event as the chief guests and addressed the students, emphasizing the importance of Botany and its vast potential and promising future opportunities. Furthermore, they addressed about the Cluster University, its vision for academic excellence, and interdisciplinary research and they have interacted with every student of the exhibit and encouraged them to grow academically. Dr. D. Swapna sree, Lecturer in Botany, Silver jubilee college, Miss. Ayesha, faculty of Osmania College, Dr. S. Somashekar Lecturer in Botany, GDC (M) were few of the faculty visited open house expo along with their students. Faculty and students of Bhashyam School, II campus visited the exhibits and expressed that they felt very happy and acquired knowledge from the exhibition.

Highlights of the exhibition included:

- **Research Equipment:** Students demonstrated instruments such as Laminar Airflow Chamber, Autoclave, Ultracentrifuge, BOD Incubator, Hot Air oven, Binocular microscope, Plant growth chamber, pH meter procured under the DBT STAR College program.

- **Herbal Tea Preparation:** The main attraction of the exhibition was preparation of herbal teas using flowers like *Chrysanthemum sp., Clitoria ternatea* and *Hibiscus* and leaves such as Rosemary, Cardamum, Tulsi and Ginger. These teas, rich in anti-oxidants, offer significant nutritional and health benefits. Several faculties both outside and inside the campus tasted the teas and appreciated the exhibits

- **Medicinal Plants conservation:** This exhibition highlighted plants used for treating common ailments like coughs and colds, as well as those effective against diabetes, high blood pressure, and related conditions.
- **Seed Collection (Germplasm Conservation):** A variety of seed samples from significant plant species were collected, labelled and displayed to emphasize genetic diversity preservation.
- **Propagation of Ornamental plants:** Techniques like grafting and cutting used in nurseries were demonstrated, along with the propagation of ornamental plants.
- **Endemic Plants and their Conservation:** Endemic plants like *Cycas beddomei, Pterocarpus santalinus* and *Boswellia ovalifoliolata* were grown in pots to underscore the importance of ex-situ conservation of genetic resources.
- At the expo, Biochar was prominently displayed and its significance in soil reclamation was thoroughly explained.

Outcomes of the exhibition:

1. This expo provided students with an opportunity to showcase their ideas, skills and talents through various exhibits. They developed leadership, team work and presentation skills while deepening their knowledge of Botany.
2. Students and faculty from various colleges gained awareness of research equipment and their utilization.
3. Attendees *understood different techniques for plant propagation.*
4. Students appreciated the importance of medicinal plants in treating common diseases and conservation.
5. The seed collection display helped participants to understand the importance of preserving genetic diversity for future scientific studies.
6. Inspired by the expo, many students decided to plant medicinal plants in their homes, gardens and fields.

The program was a grand success, driven by enthusiastic student participation.

10. Supporting evidences enclosed: (with Press Note/ photos)	**Enclosed**

Evidences

1.INTERACTION WITH PROF. D.V.R. SAIGOPAL VICE CHANCELLOR AND DR.K. VENKATESWALU, REGISTRAR CLUSTER UNIVERSITY

1. STAFF AND STUDENTS INVOLVED IN EXPERIMENTING
2. EXPLAINING BIOSYNTHESIS OF SILVERNANO PARTICLES RESEARCH

HERBAL TEA PREPARATION EXIHIBITION

PLANT NURSERY AND EXIHIBITION OF SAPLING

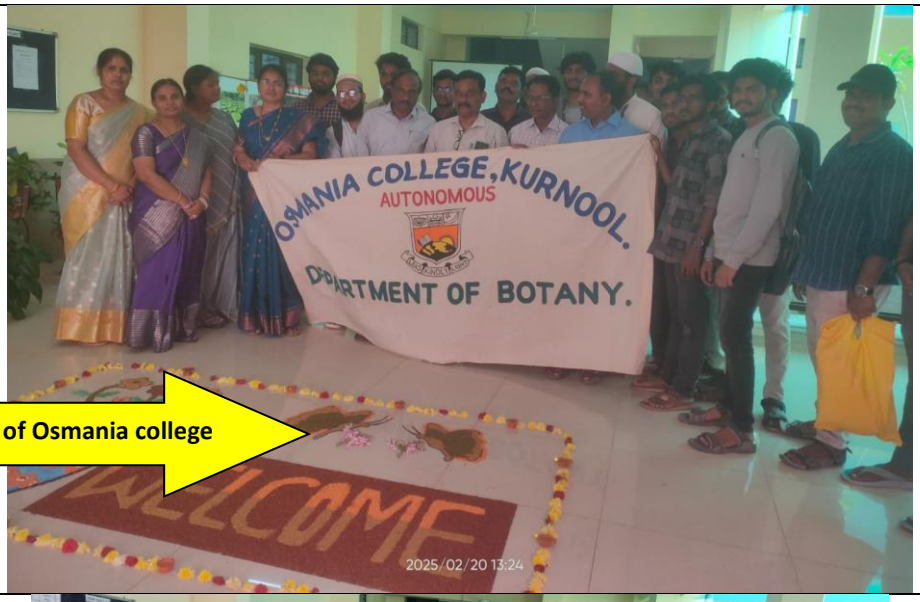
HYDROPONICS- HORIZONTAL & VERTICAL

GERMPLASM COLLECTION(SEED COLLECTION)

EXPLAING ABOUT BIOCHAR, JEEVAMRUTHAM, BIOFERTILIZERS, BIO PESTICIDES

CUTIVATION OF MICROGREENS

STUDENTS FROM VARIOUS COLLEGES



Students and staff of Osmania college

Silver Jubilee Govt. Degree College

Students from Bhashyam school, KNL

INVITED TALKS

Department of Physics

S. No.	Title of the experiment	Name of the Associated Faculty member(s)	Number of beneficiaries students	Course/semester
1.	Multidisciplinary approach of waste management and renewable energy resources	Dr. Madhuchandrika Chatopadhyay EPTRI, Hyderabad	100	B, Sc (MPC)- Sem VI/ B. Sc- Physics- Sem IV & II
2.	Switching into alternate renewable energy sources	Md. Sattar, Electrical engineer, Greenko Ultra Mega Solar Park, Kurnool Dt	50	B, Sc (MPC, MPCs)- Sem VI/

Invited talk by Dr Madhuchandrika

Md. Sattar, Electrical engineer interacting with students