

Progress Report

DBT Star College Scheme



Submitted by:

Silver Jubilee Govt. College (Autonomous), Kurnool

Re-accredited with "A" Grade by NAAC

College with Potential for Excellence

STAR COLLEGE STATUS by DBT, NEW DELHI

NIRF- 35th Rank

Institute of Innovation Council (IIC) by MHRD

Progress report by Silver Jubilee Govt. College (Autonomous) Kurnool, AP

For the academic year 2017-18

Name of the College : Silver Jubilee Govt. College (Autonomous) Kurnool, AP

Names of Departments supported : **Botany, Zoology, Chemistry, Physics & Computer Science**

Name of the Principal : Dr. K. Uma Devi
kurnoolsilver.jkc@gmail.com
9440970631

Name of Coordinator, ,: Dr.K. Michael David
address, phone nos.
designation
Assistant Professor & Head
Dept. of Botany
9493439686

1. No. of regular faculty with Ph.D. in each participating departments at the Undergraduate level

S. No	Department	No. of Faculty	
		Govt.	Redeployed
1	Botany	1	1
2	Zoology	1	-
3	Chemistry	-	1
4	Physics	1	2
5	Computer Science	1	-

2. List of courses (B.Sc./ M.Sc./ PG Diploma, certificate etc) run by different participating departments :

S. No	Department	Regular Course	Certificate Course
1	Botany	B.Sc. Plant Biotechnology B. Sc. Microbiology B. Sc (Botany, Zoology, Chemistry)	Mushroom Cultivation
2	Zoology	B.Sc. Biochemistry And Horticulture	Medical Lab Technology
3	Chemistry	B.Sc. Chemistry	-
4	Physics	B.Sc. Physics	-
5	Computer Science	B. Sc Web Technology and B. Sc. Computer Science	

4. Results (April 2018):

S. No	Department	Regular Course	Pass percentage
1	Botany	B.Sc. Plant Biotechnology B. Sc. Microbiology B. Sc (Botany, Zoology, Chemistry)	100 100 100
2	Zoology	B.Sc. Biochemistry	100
3	Chemistry	B.Sc. Chemistry	100
4	Physics	B.Sc. Physics	100
5	Computer Science	B. Sc. Computer Science	100

3. List of projects undertaken by students, industrial visits by the students, summer training in last one year:

Department of Botany:

Projects

Microbiology

- Microbiological analysis of soil samples of the campus
- Study of Microbial flora in nails

Plant Physiology

- Enzyme kinetics – amylase activity in Potato tuber
- Hydroponics
- Study of rate of transpiration in different trees species in Campus
- Study of Structure of stomata in different plant species in campus

Applied Biotechnology

- Plant tissue culture – Induction of callus from leaf disc (*Solanum nigrum*) & Anther (*Datura*)

Industrial visit

- Visit to Pushpanjali Agri Input technologies, a biopesticide producing industry

Department of Zoology

Industrial Visit:

The III year B.Sc. students undertook a Study trip to Vermicomposting Unit and Poultry farm in Kallur Mandal

The laboratory visit included the following:

- Tissue Culture Room – Incubator, Laminar air flow chamber

This visit has been an enriching learning experience for our students enhancing their practical knowledge and their awareness on advanced instrumentation techniques used in research.

Field Trip:

The I year students visited the Dept. of Entomology, Agriculture College, Mahanandi, Kurnool Dt. The students were exposed to various practices relating to Poultry farming, Dairy Farming.

Department of Chemistry:

Projects

- The students were trained to study the adulteration in essential food commodities like dhal, coffee powder, tea etc. Following the training, the students brought samples from home and neighbouring areas to study the presence or absence of adulteration for food chemistry practicals. The results of the analysis were communicated to their families and people of the neighbourhood.
- Ten students of II B.Sc. Chemistry were given special training in water analysis as part of Environmental Chemistry course. . The students were trained to estimate TDS, pH, chloride, nitrite, nitrate, ammonia, sulphide, chloride, dissolved oxygen, BOD, COD etc. The students brought samples from different localities and analysed the potability of the water samples.

Industrial visits:

- Visit to the Nandi pipes limited, Nandyal
- An educational trip was organized for the students of the I B.Sc Chemistry to Sree Rayalaseema Alkalies and allied chemicals, Panchalingala, Kurnool

Department of Physics:

Industrial Visits:

- Visit to Asia's Largest solar power project near Vorvakal, Kurnool Dt.

7. List of exhibitions/seminars/training courses conducted by the College:

Botany:

Training: III Year – Training programme on Techniques on Molecular Biology - September 17 and 25, 2018.

PRINCIPLES AND PROSPECTS OF RESEARCH IN SCIENCE

1. Title of the Activity : District Level Workshop for UG Science Students
2. Date : 8/09/17

3. No. of Students involved : 100

4. No. of Colleges Participated : 8

A brief report:

District Level Workshop for Science Students was organized by Department Botany on 08/09/17 in Silver Jubilee Govt. College (A), Kurnool. This program was sponsored by Department of Biotechnology, New Delhi. 100 Biology Students of different Government, Private and aided colleges participated in this program. Prof. Sudhakar, Dept. of Botany, S. K. University, Anantapuramu acted as resource person

The objectives of this program are

- To encourage students to take research as career
- Scope of Botany in various fields like Science & technology institutes, medicine, Industry, forensic science, space research, biotechnology etc.,
- The details of finance assistance provided by various government, corporate institutes, UGC, DST, DBT etc for research
- Chances in Abroad and in different Projects for science students
- Employability after taking science as a career
- Chances of entry into different institutes after completion of UG

CAPACITY BUILDING WORKSHOP FOR BIOLOGY TEACHERS

1. Title of the Activity : Capacity Building for Biology Teachers

2. Date : 17/11/ 2017

3. No. of Teachers Participated : 60

4. No. of Students involved : 20

5. No. of Schools Participated : 40

A brief report:

OBJECTIVE OF THE WORKSHOP

- 1) To enrich the content of high school teachers working in govt. schools
- 2) To improve the quality of instruction at school level
- 3) To make the teachers to cope up with challenges in Teaching- learning process

TECHNICAL SESSION - The event was divided into following session

D) 09:30 am to 10:30 am – Registration and inaugural function

Guests of inaugural function

- Dr. S .Abdul Khadar, principal, SJGC(A), Kurnool - President of the function

- Smt. Tahera sulthan, DEO, Kurnool - Chief guest
- Smt. Vasundhara devi, principal, IASE, Kurnool. Guest of honour
- Dr. Rajendra Reddy, chief engineer, APPCB, Kurnool. Guest of honour

II) Technical Session:

Time	Event
11.00 to 1 PM	Gram Staining
01:pm to 01: 45 pm	working lunch
2:00PM to 2:30 PM	Blood grouping
2: 30 to 3: 30 PM	Calorimetric estimation of Proteins
3:30 PM to 4:00 PM	Paper Chromatography
4:00 PM to 4:30 PM	Mitosis in Onion root tips
4:30 PM to 4:45 PM	Evaluation
4: 45to 5 15 PM	Conclusion

- 05:30 pm to 06:30 pm – Valedictory function, Interaction by the participants
- Interaction by the resource persons
- Presentation of duty and participation certificate

Demonstration of practicals by

- i) Dr. Vimala Rodhe, HOD, Microbiology, SJGC(A), Kurnool.
- ii) Dr. Michael David, HOD, Botany, SJGC(A), Kurnool AS
- iii) Students of SJGC(A), Kurnool
- iv) Resource person Dr. Y. V. Ranga Reddy , HOD, Botany, GDC, Nandikotkur.

Funding through :Star college Scheme by the Department of Biotechnology. GoI, New Delhi.

SCIENCE EXHIBITION

1. Title of the Activity : Science Exhibition
2. Date : 28/02/18
3. No. of Students Participated : 800
4. No. of Students involved : 40
5. No. of Schools Participated : 4

A brief report:

Science exhibition was organized by Departments Botany, Biotechnology and Microbiology on 28/02/18 in Silver Jubilee Govt. College (A), Kurnool. This program was sponsored by Department of Biotechnology, New Delhi. 40 Biology Students of Silver Jubilee College involved in explaining the exhibits. 800 students from Govt. Boys High School, B. Camp, Kurnool, Govt. Girls High School, B. Camp, Kurnool, Good Shepherd School and Indus School participated in this program. Students observed the exhibits, the advanced science equipment in laboratories of Botany, Biotechnology and Microbiology, sponsored by Department of Biotechnology, New Delhi, in this exhibition.

It was a great experience for the High school students to gain knowledge in Biology and observing the advanced equipment in laboratory at their school age.

Summer School Program (STATE LEVEL ACTIVITY)

1. Title of the Activity : **Summer School Program**
2. Date : 21/05/18 to 28/05/18
3. No. of Resource persons involved : 26
4. No. of Biology Students Participated : 110
5. No. of colleges Participated : 10 (Govt. Autonomous Colleges)

A brief report:

State level summer school program was organized by science departments from 21/05/18 to 28/05/18 in Silver Jubilee Govt. College (A), Kurnool. This program was sponsored by Department of Biotechnology, New Delhi. 110 Students of 10 Government Autonomous colleges from all over the state participated in this program. Eminent resource persons from reputed institutes have delivered lectures and gave hands on experience to the students.

The students were taken for a field trip to Biodiversity Park at Sunnipenta and Hydroelectric power station at Srisailam

STUDENT EXCHANGE PROGRAMME
Conducted Under STAR COLLEGE scheme, DBT, GoI
12-18 November 2018

REPORT

The IQAC of St.Pious Degree and PG College for women has taken the initiative to organise Student Exchange Programme (12-11-18 to 18-11-18) in collaboration with Silver Jubilee Government College (A), Kurnool, AP., sponsored by the Star College Scheme, Dept. of Biotechnology Government of India.

Twenty girl students (life sciences and physical sciences) and the Programme coordinator Dr.A.VimalaRodhe (Lecturer in Microbiology) of Silver Jubilee Government College (A), Kurnool, AP, have attended the programme. Students arrived in Hyderabad on 11th November 2018. Their stay was arranged at St.Pious College Hostel.

Day 1 (12.11.2018) The 7day programme was initiated by an inaugural session taken up Mrs.Grace Been Paul, Head, Department of Zoology. The Correspondent Sr.Japamala, Principal Sr.VelanginiKumari and IQAC coordinator Dr.Komala welcomed the students. The second session was on communicative English taken up by Mrs.Annie Sunil, Head, Department of English followed by 'NayiDisha' an orientation lecture by Mrs.P.Sowmya Sree from department of computer science on the concept 'knowing about yourself' in which the students were asked to express their strengths and weaknesses. Afternoon sessions were allotted for experimental work and students were asked to choose lab work of any subject based on their interest. First lab session was on virtual labs in which students of life Sciences and physical sciences were given exposure to virtual labs and realise the difference between virtual lab experiments and real lab experiments.

Day 2 (13.11.2018)

The second day started with a phonetics session by Ms.Mary Cicilia, Department of English in which she explained about speech sounds. Mr.P.Sudhakar, MD of Spark Educational Academy gave an orientation lecture on the preparative procedure to be followed to get into premier Higher Educational Institutions at National level. He also enlightened students on various non-conventional courses available for science students after graduation. Dr.Mala Das Sharma, Head, Department of Chemistry gave a lecture on scientific writing in which proposal writing and scientific paper writing were discussed. In post lunch session, students of life sciences were allotted experiments from microbiology and biochemistry. Physical science students were taught multimedia and were asked to design a certificate as their project work. Mass Communication department organised a debate in the Mass Communication studio.

Day 3: (14.11.2018) Loud reading competition was conducted by the Department of library. Phonetics- stress and intonation was taken up by Mrs.Monoshree Mitra, Department of English followed by a visit to digital lab.Miss C.Vanisree, Head, Department of Biochemistry, delivered a lecture on Role of Nutrients in well-being of youth. Students continued lab sessions during post lunch session. Miss.Sparsha and Mrs Meher Unnisa from Department of mathematics explained the applications of Geogebra, a software tool which can be used to get three dimensional graphs.

Day 4: (15.11.2018) Mrs.K.Udaya Lakshmi, Department of Computer Science delivered a lecture on 'Internet as a learning resource. In which she gave information about various tools, softwares, search engines available for the effective learning and understanding the concepts visually. Dr.K.VindhyaVasini Roy, Head, Department of Microbiology delivered a lecture on communicable diseases and their prevention. Prof.S.Parthasarathi from M.B.A department gave a motivational lecture on belief system and behaviour, in which he focused on character building and importance of ideologies to become successful citizens. Post lunch session was allotted to continue their experimental work.

Day5: (16.11.2018) Field trip was arranged to IKP knowledge park, Shameerpet, Telangana. Students were shown instrumentation facilities like HPCL, NMR etc which are used for research activity. The Dr.SangitaSen, Head, life Science incubator, IKP knowledge Park and Mr.Vyankatesh Apte, Chief Manager addressed students on the topic 'research and its scope in starting startups'. They have advised students to come up with innovative thoughts so that they can start their own industries.

Day 6 (17.11.2018)

An orientation lecture was organised on 'Meditation for healthy mental life' in association with an' Heartfulness'organisation. The resource persons spoke on Relax, Rejuvenate, Connect with Your inner self for healthy mind.Dept. of Chemistry organised 'Academic Tambola' , quiz based on basic sciences. Mrs.Anitha, H.O.D, Statistics, delivered a lecture on Descriptive statistics and their applications.Students were given the experience of campus touring in which they visited commerce lab, Gym, Health centre, Indoor stadium. The post lunch session was allotted for the preparation of project reports and Power point presentations to be presented in the valedictory programme.

Day 7 (18.11.2018) The programme concluded with the Valedictory session in which students were given certificates and prizes. Students shared their feedback on the programme. The Correspondent, Principal, IQAC team of St.Pious X Degree & PG College and the students of Silver Jubilee Govt College and the Programme coordinator Dr.A.VimalaRodhe have participated in the closing ceremony.

Field Trips:

The students of Cluster elective- Physics along with the faculty of Department of Physics visited solar Power station near Vorvakal, Kurnool

The Students of cluster elective Chemistry along with the faculty visited Rayalaseema Alkalies and Allied Chemicals industry, Kurnool and SPY Agro Industry- Nandyal

The Students of Bioolgy (III Year) visited Nallamala Forest- a rich biodiversity tiger reserve near Mahanandi and Ahobilam

10. List of new practical/demonstrations introduced in different departments in last one year:

Botany:

- Gel electrophoresis
- Study of pollen germination
- Stigma receptivity
- Pollen Morphology
- Extraction of DNA
- Microtomy

Zoology:

- DNA extraction -RNA extraction
- Microtomy
- **Demonstration of :**
 - PCR technique
 - Gel Electrophoresis

Chemistry:

- Water analysis using pH meter, colorimeter, TDS meter, volumetric and spectroscopic techniques [I &II B.Sc. Chemistry Students].
- Demonstration of analysis of functional groups and derivative preparation of organic compounds [II B.Sc. Chemistry Students].

- Demonstration of basic analytical operations like solvent extraction and chromatographic techniques- TLC & Column chromatography [III B.Sc. Chemistry Students]
- Demonstration of detection of counterfeit currency notes using UV light, effect of UV light on dyes and drugs [III B.Sc. Chemistry Students].

Physics:

The list of new experiments introduced was:

1. Robotics

14. Qualitative improvement due to DBT support:

Botany:

- Through this programme, the students **were enriched in scientific knowledge** and motivated to understand and appreciate the importance of biology.
- Students had '**Hands on Experience**' in performing **practicals individually** through equipments purchased such as Micropipette, Electrophoresis units, Electronic balance in Molecular Biology practicals- DNA isolation. The microscopes added to the existing number enhanced the students to carry out individual microscopic analysis of various experiments.
- Students were exposed to the **current trends in biology** through guest lectures by experts from different institutions.
- The Cameras purchased under this scheme were very useful in field trips

Zoology:

- Financial assistance provided by the Scheme helped in the purchase of several new Equipments in more numbers. This made it possible for every student to handle the equipment and **perform the experiments individually**. It has enhanced our practical curriculum and broadened the scope of our studies.

- Conduct of Workshops and Seminars for both students and faculty was feasible and has helped in **upgrading our knowledge**
- It has also made possible the **publication of Practical Manuals**, which serve as ready reckoners to both students and faculty.
- This grant has also enabled us to organize more Field Trips to enrich the **Teaching-Learning process.**

Chemistry:

- Procure equipments, to enhance **individual ‘Hands on Experience’**
- Learn through demonstrations
- Participation in exhibition, workshops, field visits and seminars for **experiential learning**
- **Environmental awareness** through water analysis, soil analysis and food analysis.
- **The timely intervention of the Ministry of Science and Technology, Govt. of India has facilitated to rekindle the passion to study basic sciences through the Star College Scheme.**

Physics:

- A number of **new equipments** were bought.
- A number of workshops were arranged for the students to gain hands on experience so that the **basics of the subject was strengthened**
- The seminars conducted made the students aware not only of the importance of learning the fundamentals of physics but also the **immense scope of the subject.** This has motivated several students **to pursue higher studies in physics.**
- Field trips were organized in order to provide hands on experience of the **applications of the subject.**

Computer Science:

- The new computers purchased under this scheme increased the opportunity for the students to get Hands on Experience
- The projector and printers are made teaching more effective

ACKNOWLEDGEMENT:

The college places on record its sincere thanks to the Department of Biotechnology (DBT), Ministry of Science & Technology, Government of India, for the financial support and opportunity given to strengthen the Basic Sciences. This scheme has benefited nearly 700 undergraduate students and we are sure that similar financial assistance will help the young

society

of

large

DEPARTMENTS OF BOTANY, BIOTECHNOLOGY & MICROBIOLOGY

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College with Potential for Excellence

STAR COLLEGE STATUS by DBT, NEW DELHI

NIRF- 35th Rank

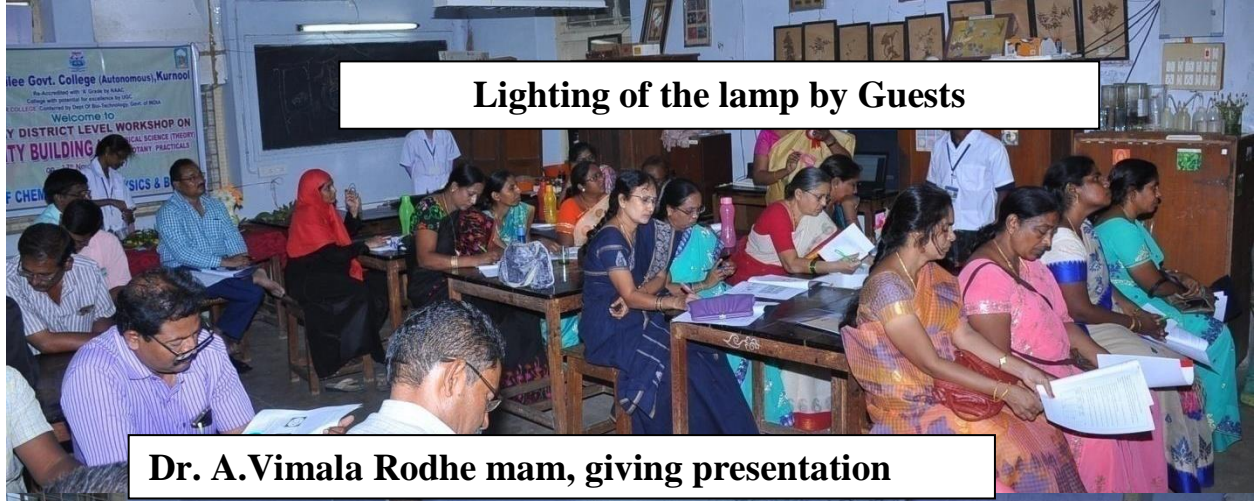
District Level Workshop For High School Teachers Working In Govt. Schools



Principal Dr. S. Abdul Khadar addressing the Participants



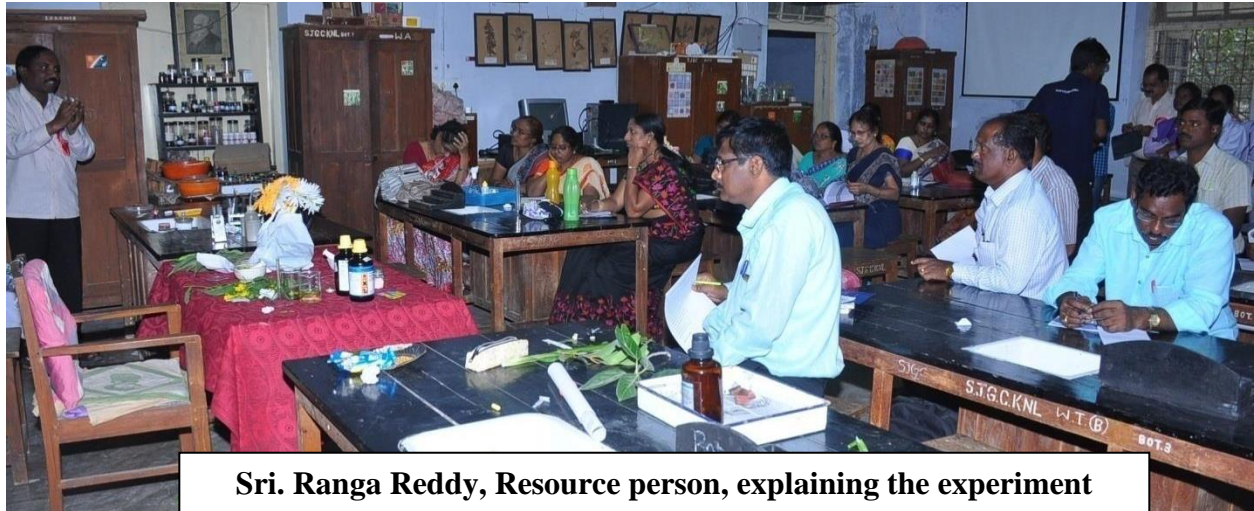
Lighting of the lamp by Guests



Dr. A.Vimala Rodhe mam, giving presentation



Participant involved in performing experiment



Sri. Ranga Reddy, Resource person, explaining the experiment



SJGC(A) students demonstrating the experiment



Participants receiving the Certificates

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District Level Workshop on Principles and Prospects of Research in Science



Dr. S. Abdul Khadar, Principal addressing the gathering



A part of Gathering



Lunch Session



Certificate Distribution

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SUMMER SCHOOL PROGRAMME

Dr. Sairam Reddy demonstrating isolation of DNA

Students getting Hands on Experience



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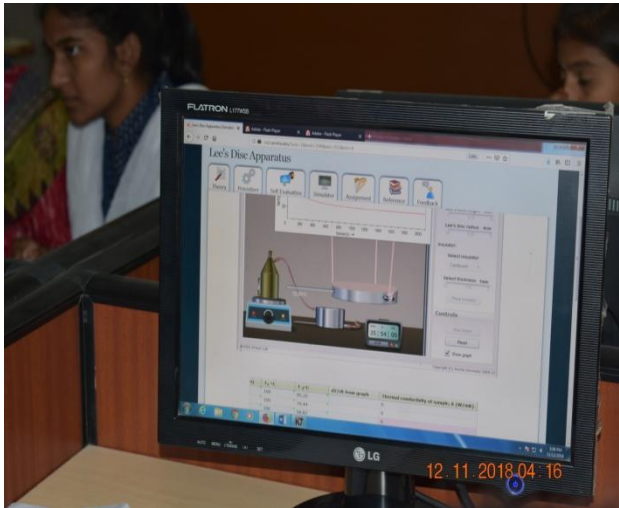
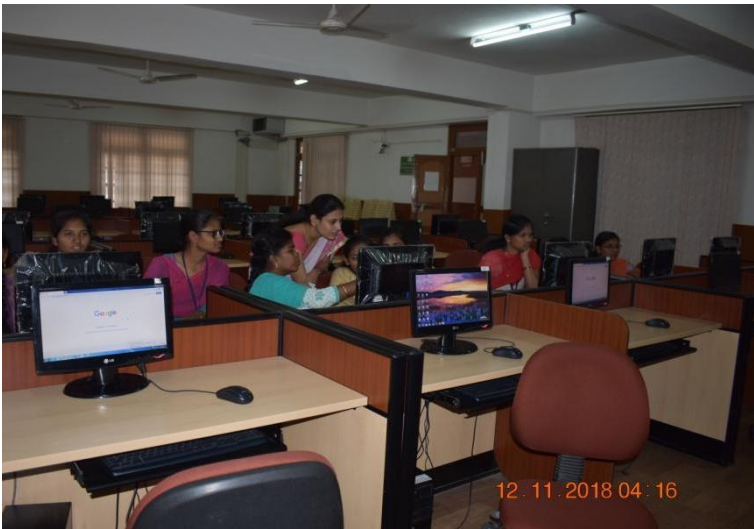
STUDENT EXCHANGE PROGRAMME

Inaugural session

Visit to IKP Knowledge



Virtual Lab



Project Presentations



Valedictory Session



