



KONGUNADU ARTS AND SCIENCE COLLEGE

AUTONOMOUS

College of Excellence (UGC)

Re-accredited by NAAC with 'A+' Grade

4th Cycle

29th Rank among Colleges in NIRF 2023

DBT STAR COLLEGE SCHEME PROGRESS REPORT 2023-2024

Submitted to



सत्यमेव जयते

**Department of Biotechnology
Ministry of Science and Technology
Government of India, New Delhi**

By

**DEPARTMENT OF PHYSICS
DEPARTMENT OF CHEMISTRY
DEPARTMENT OF COMPUTER SCIENCE
DEPARTMENT OF MATHEMATICS**

A BRIEF PROFILE

Kongunadu Arts and Science College started with pre-university course in the year 1973-1974, has grown tremendously in academic stature and is now offering 23 UG, 14 PG, 21 Certificate, 8 Diploma and 5 PG Diploma programmes. The college has also blossomed into a full fledged Research institute offering M.Phil. and Ph.D. programmes in 13 disciplines.

At present around 4228 students are studying and among the total students woman population is around 45%. Our college has the distinction of having over 158 PhDs among the total number of 220 teaching faculty.

The college has been **Re-accredited with “A+” Grade** by the National Assessment and Accreditation Council (NAAC) in the 4th Cycle. Recognizing the quality of Teaching imparted in the college, the University Grants Commission (UGC) awarded the status of **“College with Potential for Excellence”** (CPE) in the year 2011. Satisfied with the successful implementation of the proposals under the CPE scheme, the UGC has awarded the status of **“College of Excellence”** to our college. Autonomy was granted to the college in the year 2004 and it has been extended by the UGC up to 2031-2032. In the year 2019, the College has been approved with a financial allocation of Rs.30,00,000 (Rupees Thirty Lakhs) as Mentor Institution by UGC under the scheme of **“PARAMARSH”** for mentoring NAAC Accreditation Aspirant Institutions to promote Quality Assurance in Higher Education. The Department of Science and Technology (DST), Ministry of Science and Technology, Govt. of India has sanctioned financial assistance to a tune of Rs.1.5 Crores to this college under FIST programme. The Department of Biotechnology (DBT), Govt. of India has sanctioned financial assistant under DBT Star College Scheme to a tune of Rs.82 Lakhs. The college has positioned at **29th rank in NIRF ranking 2023** and categorized as **Participated Institution in ARIIA-2023**. The KASC IIC bagged the 3 Star status in the IIC Ranking 2023. The college is a Partner Institute with the Amrita DST Technology Enabling Centre (TEC). The institution is also recognized as a Nodal center for Virtual Labs by the Amrita Vlabs for the Department of Biotechnology and School of Computer Science.

During the Academic year 2023- 2024 the College has produced 4 M.Phil. degree holders and 30 Ph.D. degree holders. Currently 13 M.Phil. Scholars and 287 Ph.D. scholars are pursuing their degree under the recognized guides of the college. A total number of 145 International/ National Conferences/Seminars/Workshops/Hands on Training Programmes have been organized in the college by the faculty members of various departments. A total number of 190 Research

articles were published in Scopus/ Web of Science/ UGC CARE listed journals. The Institutional h-index is 62.

At present, 6 research projects are ongoing including 4 Major projects including the SPARC project, 1 Minor and 1 UTTHAN project to a tune of Rs. 45,43,000 (Forty five Lakhs forty three thousand). One Major and One Minor project have been completed to an amount of Rs. 8,03,000/- (Eight lakhs three thousand) for the academic year 2023-2024.

So far, 26 patents were published and 13 patents were granted. Research and Development cell of the college monitors the ongoing research activities by conducting periodic mentoring meetings. The cell brings out a bi-annual journal in the name of “Kongunadu Research Journal” in which standard research articles are being published.

The following bodies functioning in the college are actively engaged in promoting research and extension activities.

- Dr. M. Aruchami Research Foundation
- ISCA- Indian Science Congress Association- Coimbatore Chapter
- Institution Innovation Council (IIC)
- KASC I-Hub
- KASC Tech hub
- Eco Club
- Bird club
- NCC
- NSS
- YRC
- RRC
- Women Empowerment Cell

The Ministry of Education has established **950+ Institution’s Innovation Councils (IICs) in HEIs** on 21st November 2018. **Our college is one among them.** Tamilnadu has maximum number of IICs -179. Out of 1641+ Proof-of-concept applied nationally in 2019, after several stages of selection and mentoring by MIC, a prototype of Electric bicycle- an innovation by our college student G. Priyadarshan, III B.Sc. Physics has been selected for National Level Boot camp and Exhibition held at New Delhi between 9th and 11th September 2019 as part of MIC. Among the colleges selected, Kongunadu Arts and Science College is the one and only Arts and Science College sharing the platform with renowned research institutions like IITs. Institution Innovation Council (IIC) received 3 star in IIC 5.0 in the academic year 2023-2024.

The ICT Academy offered various Faculty Development Programmes and a 100 Hours Skill Development Programme. ICT Academy has recognised the institution as the best institution for Learnathon Programme. In the ICT Bridge 2023, Dr. C. A. Vasuki, Secretary and Director was awarded with the “Best Edupreneur Award 2023” and received the award from Shri PTR Palanivelrajan, Minister of IT, Tamilnadu. The college has been offered with Center of Excellence by Ui Path and Aspire.

In the Smart India Hackathon 2022, a team of 8 students from KASC participated in the National Level Hackathon and won 1st place with a cash award of 1 Lakh rupees.

The Consultancy services available in the College have been publicized through the college website highlighting the areas of “core-competence” so that user industries and institutions can make use of the expertise. The faculty members of the college have generated considerable amount through the consultancy services of their expertise.

The college has inked MoUs with renowned National and International Institutions / Universities thereby enabling exchange of knowledge, sharing of expertise in niche areas and collaborates on latest research topic which will enhance joint publications.

The Department of Biotechnology signed a MoU with Brawijaya University, Indonesia and our faculty visited Brawijaya University in February 2023 for collaborative teaching and two faculty from Brawijaya University visited KASC in March 2023 for exchange teaching and research.

Mrs. Sasirekha Velusamy, Research Scholar, Department of Energy, University of Exeter, UK and Dr.Senthilarasu Sundaram, Professor of Sustainable Energy Materials, Teesside University, UK and Dr.David Ian Benson, Senior Lecturer in the Department of Politics, University of Exeter, UK visited our college as visiting Professor’s under SPARC Scheme during August 2023.

The Library and Information centre in the college has a collection of 88,000 volumes of Books, 167 Periodicals, 10,00,000 e-books (N-List / INFLIBNET), more than 6500 e-journals, 32 computers, 2 Laptops and one Mini theatre. Our College subscribed Drillbit Anti-Plagiarism software for plagiarism checking. The Library is fully computerized, bar coded and functioning from 8.00 am to 8.00 pm without any break including Saturdays and vacation. Digital Library Online public access catalogue, E-Gate register are the special features, Lecture capturing System, Video Conference facilities are the latest updation in the Library. KASC NDLI club is functioning effectively with more than 7000 students as members in this club. Around 65 activities were organized and received the recognition award from NDLI, Kharagpur, Kolkata.

The College has a dedicated Placement Cell which continuously monitors the recruitment needs of Companies and networks with them for arranging campus placements. During 2023-2024, 538 students were placed in various companies.

This College pays equal attention for harmonious growth of both the body and mind of the students. The College believes in following the dictum 'A Sound Mind in a Sound Body'. The Department of Physical Education, ever since its inception in 1975, has been making all our efforts to train the students in Indoor and Outdoor games. The college has spacious grounds for playing outdoor games like Athletics Track, Volleyball, Kabaddi, Badminton and Basket Ball etc. The students are given intensive training every day in playing many sports and games, with the training provided by professional coaches. There is also a modern, state-of-the-art gymnasium for the benefit of both men and women students of the College, in order to keep their body and physique in a very good shape. The Department of Physical Education has been organizing a number of Sports Events for the benefit of teaching and non-teaching staff of this College. The numbers of Students have won prize in many sports meets, conducted both inside and outside Tamilnadu, in events like Chess, Badminton, and Volley Ball, Power Lifting, Shooting, Teakwondo, Cycling, Best Physique, Cricket, Table Tennis and Athletic competitions.

Our college students have actively participated in the 10th Sub-Junior & Senior Coimbatore District Level Wushu Championship and 17th SUB-Junior; Youth Senior State Wushu Championship-2021 and won the Gold & Silver Medals. Our students also participated in the 6th State Youth Rural Athletic Meets-2020-21 and won the Gold & Silver Medals.

The college has got both Boys and Girls NCC wings and our Cadets have participated in the National Independence and Republic Day parades.

The college has also got a strong NSS team with about 500 volunteers and the college has adopted few villages around Coimbatore. In four villages, 51 group houses have been constructed **under Indira Awas Yojana (IAY) scheme** for the welfare of the under privileged people. The college has also provided individual toilet facilities to the houses in the adopted village. The NSS and YRC volunteers are actively involving in various Eye checkup camp, Health camp, Tree plantation camp, Blood donation camp and many awareness programmes which includes the inculcation of the various beneficiary schemes of Central Government (**Unnat Bharat Abiyan, Swatch Bharat etc.,**) to the public.

The institution was chosen by the Sathish Dhawan Space Center SHAR, Sriharikota to organise the World Space Week Celebrations in October 2023 which had a grand exhibition of the

various achievements of ISRO. The institution also hosted the Youth Y20 Summit as a part of G20 in the month of September 2023.

Future Programmes:

1. Curriculum enrichment through scholar- in residence programme.
2. Internationalization of research and academic programmes.
3. Foster Industry- Academia tie-ups through case studies and joint projects.

LABORATORIES

1. Common Instrumentation Centre
2. Language Lab
3. Math Lab
4. Physics Lab(UG,PG & Research)
5. Chemistry Lab (UG,PG & Research)
6. Botany Lab(UG,PG & Research)
7. Zoology Lab(UG,PG & Research)
8. Biochemistry(UG,PG & Research)
9. Biotechnology (UG,PG & Research)
10. Computer Labs – 8 with 522 Systems
11. Costume Design & Fashion Lab
12. Psychology Lab

ACKNOWLEDGEMENT

We extend our sincere gratitude to the **Department of Biotechnology (DBT), Ministry of Science & Technology, Government of India**, for their generous support through the DBT Star College Scheme. This funding has been instrumental in enhancing the infrastructure of our participatory departments and broader the College. The DBT Star College Scheme has not only fostered a spirit of curiosity among students, but it has also expanded their knowledge of the diverse opportunities available in science education. Approximately 600 undergraduate students and 50 faculty members have directly benefited from this initiative.

We wish to express our deepest appreciation to **Dr. Garima Gupta**, Scientist 'F' and Programme Head at DBT, for her invaluable assistance and continuous guidance throughout the implementation of this scheme. Dr. Gupta's persistent enthusiasm and motivation have been truly remarkable. Additionally, we would like to acknowledge **Dr. R. Rajendran**, Mentor of the DBT Star College Scheme, for his untiring support, guidance, and motivation, which have played a crucial role in our achievements within the scheme.

The DBT Star College Scheme has provided an exceptional platform for students, facilitating their participation in various scientific events and nurturing their research interests. The financial assistance provided has raised awareness about the significance of application-oriented real-time projects, enabling students to actively contribute towards societal challenges. Furthermore, it has encouraged students to pursue higher education in various scientific disciplines. Eventually, the DBT Star College Scheme has empowered both students and faculty members to excel in their academic pursuits and make meaningful contributions to society.

Table of Contents		
S. No.	Title	Page No.
1	Name of the College	8
2	Details of the Coordinator	8
3	Assessment Duration	8
4	Details of Departments Supported	8
5	Advisory Committee Meeting	9
6	Qualitative Improvements due to DBT Support	11
7	Novel Aspect Introduced or Planning to Introduce	13
8	Lessons Learnt / Difficulties faced/Suggestions	15
9	Key Performance Indicators	16
10	Self Evaluation	21
11	Details of Key Performance Indicators – Department wise	
	Department of Physics	23
	Department of Chemistry	41
	Department of Computer Science	54
	Department of Mathematics	71
ANNEXURES		
I	Advisory Committee Members	94
II	Minutes of Advisory Committee Meeting	99
III	Photo Gallery	128

DEPARTMENT OF BIOTECHNOLOGY

PROFORMA FOR SUBMISSION OF ANNUAL PROGRESS REPORT SUPPORTED UNDER STAR COLLEGE SCHEME

- 1. Name of the College** : Kongunadu Arts and Science College
- 2. Name of the Coordinator, Designation** : Dr. D. Vijayalakshmi,
Address, Phone Number : M. Sc., M. Phil., Ph. D., PGDCA
 Assistant Professor of Mathematics,
 Kongunadu Arts and Science College,
 Coimbatore – 641 029,
 Tamil Nadu, India.
 Phone: 9442534761
 E-mail: vijikasc@gmail.com
 vijimaths@kongunaducollege.ac.in

3. Assessment duration : 01/04/2023 to 31/03/2024 Duration in Years : One year

4. Details of Departments Supported, Courses Offered and Faculty Members

Department	Courses Offered					Regular faculty Members	
	UG	PG	Ph. D.	Certificate/ Diploma/ PG Diploma Courses	Job Oriented Courses	With Ph. D	Witho ut Ph. D
Physics	B. Sc. Physics	M. Sc. Physics	Physics	Electronic Instrumentation, Astro Physics, Non – Conventional Energy	Electrical Appliances Maintenance and Servicing	9 +3*	1
Chemistry	B. Sc. Chemistry	-	-	Instrumental Methods of Chemical Analysis, Disaster Management	Pharmaceutic al Chemistry	7	-
Computer Science	B. Sc. Computer Science	-	-	-	-	1	2+1*
Mathematics	B. Sc. Mathemat ics	M. Sc. Mathem atics	Mathematics	Certificate Course in Vedic Mathematics, Diploma in Vedic Mathematics, PGDDA	-	11	-

* - Management Staff

5. Number & Date of Advisory Committee Meeting

Name of the Event	Date	Resource Person	Number of Beneficiaries	Outcome
DBT Advisory Committee Meeting Presentation – A Prequel	27.06.2023	Dr. R. Rajendran Former Principal and Associate Professor, Department of Microbiology, PSG College of Arts and Science, Coimbatore.	Participatory Department Staff Members	All the participatory departments had a mock presentation of their department activities to prepare for the upcoming Advisory Committee Meeting and Onsite Visit. Valuable suggestions and guidance were provided to the participatory departments.
Interface Meeting- DBT Star College Scheme	04.07.2023	Dr. Garima Gupta Scientist – ‘F’, Programme Head Department of Biotechnology Ministry of Science & Technology, Government of India, New Delhi. & Dr. Abhishek Kumar Mehta Scientist – ‘D’, Programme Officer, Department of Biotechnology, Ministry of Science & Technology, Government of India, New Delhi.	Principal, IQAC Co-ordinator, PFMS Co-ordinator and Overall Co-ordinator of DBT Star College Scheme of Kongunadu Arts and Science College, Coimbatore.	Explored more ideas and examined the benefits of DBT Star College Scheme and also gained more knowledge about utilization of recurring and non- recurring fund.
Advisory Committee Meeting	05.07.2023	Dr. Garima Gupta Scientist – ‘F’, Programme Head Department of Biotechnology Ministry of Science & Technology, Government of India,	Overall Co-ordinator, Participatory Department Co-ordinators and HoDs’	Overall Co-ordinator and all the participatory department coordinators presented their department activities very well. Committee Members appreciated about good presentation

		New Delhi. & Dr. Abhishek Kumar Mehta Scientist – ‘D’, Programme Officer, Department of Biotechnology, Ministry of Science & Technology, Government of India, New Delhi.		and their dedication towards this Scheme.
DBT officials – Onsite Visit	06.07.2023	Dr. Garima Gupta Scientist – ‘F’, Programme Head Department of Biotechnology Ministry of Science & Technology, Government of India, New Delhi.	Participatory Department Staff Members and Students	DBT officials visited the Participatory Departments, Laboratories, Math Model Lab followed by students’ interaction. DBT officials highly appreciated the students for their active and enthusiastic participation in the events of DBT Star College Scheme.
Internal Advisory Committee Meeting	22.01.2024	Dr. R. Rajendran Former Principal and Associate Professor, Department of Microbiology, PSG College of Arts and Science, Coimbatore. & Dr. A. K. Vidya Associate Professor and Head, Department of Biochemistry Kongu Arts and Science college, Erode.	Participatory Department Staff Members	To enhance the effectiveness of planning and delivery of various activities under the DBT Star College Scheme with a focused outcomes which stimulate self directed learning regimes for the stake holders.

Name of the Department	Mentor Meeting
Physics	08.08.2023 & 01.02.2024
Chemistry	08.09.2023 & 01.03.2024
Computer Science	18.12.2023 & 17.02.2024
Mathematics	21.09.2023 & 17.02.2024

6. Qualitative Improvements due to DBT Support

i) The **upgraded laboratory infrastructure** provided impetus to refining the skill sets of the students due to additional facilities and equipment which paved way for more hands on training. Further several innovative projects were also accomplished by the students as a cross disciplinary group which has instilled a sense of pursuing higher education and research in their chosen field of Science, Technology and Mathematics (STEM).

ii) Teaching Learning Aspect:

- ❖ Adequate Capacity Building Programmes for the teaching and non teaching faculty have opened up new vistas of alternative pedagogy in teaching learning process which has enhanced the day to day academic transactions with an evident upskilling and reskilling of the students' in their respective field of study.
- ❖ The addition of 570 books in the departmental library of the participatory departments has enhanced the core domain knowledge of the students and made teaching learning process simpler and enjoyable.

iii) **Extending practical activities beyond the syllabus** and Hands on Training on their relevant field enriched the student's knowledge and enabled them to engage in designing around 55 working models and exhibit their ventures in competitions and exhibitions with heightened enthusiasm in various scientific events and bagged prizes in various colleges. **For instance**, the participatory department students engaged in demonstrating various Science models for public and school students in **World Science Week Celebrations** organized by ISRO, Sriharikota. They also won prizes for their working models exhibited in the Celebration done under DBT Star College Scheme.

- iv) Hands on Training, Lecture Series, Lecture Workshops, Seminars and Guest Lectures** by Eminent resource persons from reputed institutes like IIT, IISE, Ramanujan Mathematical Institute, NIT and various other universities instigated the inquisitiveness of students in divergent thinking, resulted in being more interactive with a scientific approach and many of the participatory department students inspired to take up higher studies in various science discipline in reputed institutes.
- v) Onsite Visits and Trainings** at premier Institutions like Regional Science Center, IIT's, Laboratories of National importance, Industries and Start ups have instilled a sense of scientific temper and this real time exposure has made students more creative and innovative so that they involve in accomplishing real time projects and develop solutions to industrial problems through academic research. It helped to develop sense of confidence in the minds of the students so that they aspire to reach greater heights in science and technology after undergraduation.
- vi) Details of Group/Interdisciplinary Projects selected from each department are listed below:**

Project-based learning connects students beyond the classroom and prepares them to meet challenges in the real world. Group/Interdisciplinary Projects undertaken by the students in different fields of science creates an interest to meet the societal challenges.

- ❖ An Interdisciplinary group project was done by the **Department of Physics** in collaboration with **Department of Computer Science** entitled “**Smart Helmet**” in which the students have portrayed that how an ordinary helmet is made as a smart helmet to save individuals life with the help of smart devices.
- ❖ An Interdisciplinary group project was done by the **Department of Physics** in collaboration with **Computer Science** entitled “**Pet feeder using IOT**”. The students understood the importance of feeding pets in the absence of its owner and there by developed such a feeder which will be quite useful for pet lovers.
- ❖ The group project done by the **Department of Physics** entitled “**LiFi Data Transmission**”, LiFi is the short form of Light Fidelity which is a wireless optical networking technology which uses LEDs for data transmission. In this project, the students provided an idea about how the data can be transferred with the help of light.
- ❖ An Interdisciplinary group project was done by the **Department of Computer Science** in collaboration with **Department of Physics** entitled

“Fire Fighting Robot”. The students learnt about devices like firefighting robots which are equipped with sensors that can detect heat, smoke, or other signs of fire. These sensors help them locate the source of the fire quickly and accurately during firefighting operations.

- ❖ The group project done by the **Department of Computer Science** entitled **“Green House Monitoring System”** for the Department of Botany used sensors to sense the surrounding and collect the information related to nature of the soil, temperature and humidity which is also used to monitor the farmlands.
- ❖ An Interdisciplinary group project done by the **Department of Mathematics** in Collaboration with **Department of Computer Science** entitled **“Statistical Analysis using Python”**. Statistical Analysis using Python is an effective way to explore, analyze and interpret data using various Statistical techniques and libraries available in the Python Programming Language.
- ❖ An Interdisciplinary group project done by the **Department of Mathematics** in Collaboration with **Department of Chemistry** entitled **“A Study on Some Molecular Descriptors using Chemical Graph Theory”**. In this project students applied various topological indices which are derived from graph theory to model the geometrical structures and to analyse the physical and biological properties of chemical compounds.

7. Novel Aspects Introduced or Planning to Introduce during the Scheme Duration

Novel Aspect Introduced Under DBT Star College Scheme

- ❖ Hands-on training workshops facilitated through DBT Star College Scheme fund enabled the first year and second year undergraduate students of Physics also to engage in project works along with third year students and they have successfully **completed a total of 18 projects and have developed 15 working models**. These models were showcased in various science exhibitions and scientific events, aimed at promoting science education among school and college students.
- ❖ Under DBT Star College Scheme, the Department of Mathematics conducted One Week **Summer Training Programme in Mathematics** for College students by inviting eminent resource persons to enhance Hands-on Experience and knowledge to build Professional Network to expertise in their relevant field.
- ❖ Hands-on Training/ Workshop on IoT using Arduino, Chip-Level Testing, Debugging for mobile phones and Tablets, Computer Servicing & Troubleshooting and MATLAB were

organised to design and develop real time projects using IOT and MATLAB which helps the students to explore their research knowledge with a multidisciplinary approach to solve modern problems.

- ❖ The Department of Physics and Chemistry conducted **IPR Training programme** to provide basic knowledge on Copyright, Trademark and Patent and to develop new technologies.
- ❖ **Lecture series and Workshops** were conducted to instigate students towards engaging in basic science research and encouraged them to publish research articles in reputable journals even at the undergraduate level. As a result of these efforts, students have presented their research findings, in the form of scientific papers, at various international conferences and bagged the **Best Paper Award**.

Innovative Initiatives by Students

With the aid of DBT Star College Scheme, the students from the participatory departments transferred their innovative ideas into tangible contributions to the society.

- ❖ **Energy audit** executed by Physics students to nearby residential areas for 100 houses may help them to understand the importance of power utilization and wise consumption.
- ❖ Hands on training on Natural Soap making made the students of Chemistry to prepare organic soaps for their own use and also students adopt **Earn while Learn** through these Programmes.
- ❖ Mathematics Students Compiled a formula book **Mathematics Formulae- A Quick reference** which was provided to 10 schools with the motive of helping school students by easing the task of learning mathematics.

Novel Aspect Planned Under DBT Star College Scheme

- ❖ Planned to Publish research articles in reputed International Journals and also to motivated more number of students to present their research papers in International Conferences.
- ❖ Blend conventional academic research in addressing local problems and issues so as to design and develop a viable product/process or solution to an existing problem.

8. Lessons Learnt / Difficulties Faced/ Suggestions if any, in Implementation of the Programme and Utilization of DBT Grant.

Lesson Learnt

Under DBT Star College Scheme

- ❖ Exclusive experiments done individually has greatly **expanded the practical skill** of the students and thereby increasing their self-confidence and interest in the subject.
- ❖ Amplified students' involvement in various **Science Events/ Exhibitions**, showcasing a variety of technical and technological advancements in science among the school students and the public through demonstrations.
- ❖ With funding from the DBT, participating departments organized a wide range of seminars, guest lectures, workshops, and hands-on training sessions by inviting distinguished experts from renowned institutions broaden their networks and provide essential experience.
- ❖ Projects undertaken by students in different fields of their subject, **promotes research quest** and skills related to laboratory work, team work, presentation skills, etc.
- ❖ Students learned about basic research aspects by **presenting scientific papers** at various conferences, sparking an interest in higher education with a scientific approach.
- ❖ Produced industry ready students, with high critical thinking skills and **enhanced technical knowledge**, creating opportunities at global level.

9. Key Performance Indicators

S. No. 1 to 5 – Department wise

DEPARTMENT OF PHYSICS

Batch	1. No. of Students Admitted			2. Pass %				3. Drop-out rates	4. No. of Students Opted for M.Sc.	5. Average Marks
2021-2022	Category	Male	Female	Before DBT(%)		During DBT(%)		2	9	72.31
	SC	2	1	Sem I	100	Sem III	75			
	ST	-	-	Sem II	80	Sem IV	93.75			
	OBC	8	8			Sem V	56.25			
	General	-	-			Sem VI	70.59			
	Total	10	9	Average	90	Average	73.90			
2022-2023	Category	Male	Female	During DBT(%)				2	Not Applicable	68.73
	SC	2	1							
	ST	-	-							
	OBC	6	9	Sem I		89.47				
	General	1	-	Sem II		84.21				
				Sem III		94.44				
				Sem IV		77.78				
	Total	9	10	Average		86.84				
2023-2024	Category	Male	Female	During DBT (%)				-	Not Applicable	62.03
	SC	2	4							
	ST	0	1							
	OBC	10	9	Sem I		72.00				
	General	1	-	Sem II		68.00				
	Total	13	14	Average		70.00				

DEPARTMENT OF CHEMISTRY

Batch	1. No. of Students Admitted			2. Pass %				3. Drop-out rates	4. No. of Students Opted for M.Sc.	5. Average Marks
2021-2022	Category	Male	Female	Before DBT (%)		During DBT (%)		2	15	81.55
	SC	03	03			Sem III	80.77			
	ST	-	-			Sem IV	96.15			
	OBC	10	11	Sem I	100	Sem V	88.46			
	General	-	01	Sem II	88.46	Sem VI	88.46			
	Total	13	15	Average	94.23	Average	88.46			
2022-2023	Category	Male	Female	During DBT (%)				1	Not Applicable	64.53
	SC	09	05	Sem I		36.59				
	ST	01	01	Sem II		75.76				
	OBC	20	06	Sem III		50.00				
	General	01	-	Sem IV		68.75				
	Total	31	12	Average		57.78				
2023-2024	Category	Male	Female	During DBT (%)				6	Not Applicable	65.85
	SC	3	6							
	ST	0	-							
	OBC	23	9	Sem I		59.46				
	General	1	1	Sem II		63.64				
	Total	27	16	Average		61.55				

DEPARTMENT OF COMPUTER SCIENCE

Batch	1. No. of Students Admitted			2. Pass %				3. Drop-out rates	4. No. of Students Opted for M.Sc.	5. Average Marks
2021-2022	Category	Male	Female	Before DBT (%)		During DBT (%)		2	16	72.29
	SC	02	02			Sem III	89.83			
	ST	-	-			Sem IV	94.23			
	OBC	32	20	Sem I	98.33	Sem V	100			
	General	02	02	Sem II	94.92	Sem VI	94.83			
	Total	36	24	Average	96.63	Average	94.72			
2022-2023	Category	Male	Female	During DBT (%)				-	Not Applicable	73.69
	SC	05	03							
	ST	-	-							
	OBC	17	32	Sem I	95.00					
	General	01	02	Sem II	96.67					
				Sem III	96.55					
				Sem IV	91.38					
	Total	23	37	Average	94.90					
2023-2024	Category	Male	Female	During DBT (%)				3	Not Applicable	67.60
	SC	4	10							
	ST	0	1							
	OBC	18	24	Sem I	87.72					
	General	2	1	Sem II	90.38					
	Total	24	36	Average	89.05					

DEPARTMENT OF MATHEMATICS

Batch	1. No. of Students Admitted			2. Pass %				3. Drop-out rates	4. No. of Students Opted for M.Sc.	5. Average Marks
2021-2022	Category	Male	Female	Before DBT (%)		During DBT (%)		1	20	78.60
	SC	-	-			Sem III	81.82			
	ST	-	-			Sem IV	78.79			
	OBC	07	24	Sem I	100	Sem V	96.97			
	General	-	03	Sem II	93.94	Sem VI	93.94			
	Total	07	27	Average	96.97	Average	87.88			
2022-2023	Category	Male	Female	During DBT (%)				2	Not Applicable	72.14
	SC	01	02	Sem I		100				
	ST	-	-	Sem II		90				
	OBC	07	23	Sem III		80				
	General	-	-	Sem IV		90				
	Total	08	25	Average		90				
2023-2024	Category	Male	Female	During DBT (%)				1	Not Applicable	64.32
	SC	2	4							
	ST	0	0							
	OBC	8	15	Sem I		73.33				
	General	2	2	Sem II		83.87				
	Total	12	21	Average		78.6				

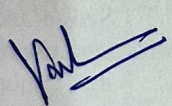
Key Performance Indicators: S. No. 6 to 14

S. No	Indicator	Pre-Support (2021-2022)	During /After Support (2022-2023)	During /After Support (2023-2024)	Remarks
6	No. of Hands-on Experiments being conducted	Physics -- Nil	Physics -- 5	Physics -- 5	
		Chemistry - Nil	Chemistry - 4	Chemistry - 6	
		Computer Science -1	Computer Science -5	Computer Science - 5	
		Mathematics -1	Mathematics -4	Mathematics – 6	
7	No. of New Experiments introduced	Physics -- 1	Physics -- 6	Physics -- 13	
		Chemistry -Nil	Chemistry - 11	Chemistry - 2	
		Computer Science -5	Computer Science -40	Computer Science - 13	
		Mathematics -9	Mathematics -18	Mathematics – 7	
8	Publications (Scopus Indexed) /Patents, if any.	Physics -- 29	Physics -- 19	Physics -- 14	
		Chemistry - Publications - 4 Patents-1	Chemistry- 6	Chemistry- 6	
		Computer Science - Nil	Computer Science - 1	Computer Science - 2	
		Mathematics -27	Mathematics -35	Mathematics – 26	
9	Training received by Faculty	Physics -- 5	Physics -- 18	Physics -- 10	
		Chemistry -1	Chemistry -15	Chemistry - 8	
		Computer Science - Nil	Computer Science - 6	Computer Science - 9	
		Mathematics -5	Mathematics -30	Mathematics – 17	
10	Exhibitions/Seminars /Training Courses Conducted	Physics -- 1	Physics -- 9	Physics -- 11	
		Chemistry -2	Chemistry -4	Chemistry - 12	
		Computer Science - 3	Computer Science - 7	Computer Science - 13	
		Mathematics -3	Mathematics -10	Mathematics – 12	
11	Books/Journals subscribed from Grants	Physics -- 8 books	Physics -- 97 books	Physics -- 22 books	
		Chemistry - 5 books	Chemistry -82 books and one journal	Chemistry - 35 books	
		Computer Science - 10 books	Computer Science - 140 books	Computer Science - 55 books	
		Mathematics -6 books	Mathematics -119 books	Mathematics -20 books	
12	Outreach Activities (Popular lectures)	Physics -- 1	Physics -- 7	Physics -- 6	
		Chemistry -Nil	Chemistry -5	Chemistry - 3	
		Computer Science -1	Computer Science - 5	Computer Science - 2	
		Mathematics -Nil	Mathematics -4	Mathematics – 5	
13	Colleges Mentored to apply for DBT Star College Grants	NIL	Outlined the benefits of DBT Star College Scheme and motivated Dr. SNS Rajalakshmi College of Arts and Science, Coimbatore to apply for the scheme	Outlined the benefits of DBT Star College Scheme and motivated B.V. Raju College, Vishnupur, A.P. to apply for the scheme	
14	Invited Lectures	Physics -- 6	Physics -- 3	Physics -- 7	
		Chemistry -1	Chemistry -7	Chemistry - 4	
		Computer Science - Nil	Computer Science - 2	Computer Science - 3	
		Mathematics -4	Mathematics -6	Mathematics – 9	

10. Self Evaluation

Department	*Objective (as stated in proposal)	% achieved	Reasons for under achievement / If achieved, state in quantitative metrics
Physics	Real time experience has been carried out for the students by industrial training	90	1.9
	The students are motivated to do the laboratory experiments individually	95	1.9
	Various academic events at inter departmental and intercollegiate levels such as paper presentation, quiz, etc., has been conducted to access the knowledge of students	95	1.9
	Organized thematic seminars/ conferences/ Guest Lectures/ workshops	95	1.9
	Students are motivated to design and exhibit science working models	95	1.9
Chemistry	Hands on training on IR spectroscopy, Microscale experiments, finding food adulteration, phytochemical extraction	100	2
	To handle glassware's, chemicals and instruments in safer way and Chemical safety awareness for lab assistants	100	2
	Participation in the Orientation programmes, workshops and National and International conferences and seminars by students and faculties and conduct of Guest lectures and invited talks	100	2
	Outreach activities to nearby school children	100	2
	Student centric Industrial/Lab visits, projects and internships, Competitions and exhibitions	100	2
Computer Science	Students Learnt about Mobile Applications and Development Lab is a specialized facility or environment dedicated to teaching, learning, and conducting research related to mobile app development.	100	2
	Students Learnt about Python makes it a versatile and efficient tool for conducting statistical analysis, from data preprocessing	100	2

	and exploration to hypothesis testing, modeling, and interpretation of results.		
	Students can design robust and scalable IoT architectures using Arduino microcontrollers, enabling a wide range of applications in smart homes, industrial automation, environmental monitoring, healthcare, and more.	100	2
	Society Centric outreach activities to nearby school children, School Faculties and to Society	100	2
	By conducting various academic events at interdepartmental and intercollegiate levels such as poster presentation, quiz, etc., students' knowledge will be assessed	100	2
Mathematics	Lecture series on Algebra and Analysis that provides the strong foundation of the subject	100	2
	Provide hands on training experience on the mathematical softwares and programming languages that are in trend.	100	2
	Outreach activities to school which included book distribution to students that enabled them to overcome fear of Mathematics	100	2
	To inculcate the interest toward Mathematics among school students by conduction various math games and competitions.	100	2
	Faculty members are encouraged to attend the Orientation programmes, Refresher courses, Faculty development programmes and skill development workshops	100	2


Course Coordinator

Dr. D. VIJAYALAKSHMI M.Sc., M.Phil., Ph.D., PGDCA
Assistant Professor in Mathematics
Co-ordinator, DBT STAR COLLEGE SCHEME
Kongunadu Arts and Science College (Autonomous)
Coimbatore - 641 029, TN.




Head of the Institution
PRINCIPAL INCHARGE
KONGUNADU ARTS & SCIENCE COLLEGE
COIMBATORE - 641 029

DETAILS OF KEY PERFORMANCE INDICATORS – DEPARTMENTWISE

DEPARTMENT OF PHYSICS

9.6 No. of Hands-on Experiments being Conducted/ List of Activities Undertaken by Students

i) Hands-on Trainings being Conducted

S. No.	Name of the Event/ Activity	Date	Resource Person	Number of Beneficiaries	Outcome
1	Hands on Training on “Python Programming” .	20-07-2023	Mr. Dinesh Kumar (Project Manager & Mission leader) Mr. Mahesh Kumar (STEM trainer) Mr. Vikram Kumar. M. S (Designing Expert) Big Bodhi Academy Coimbatore.	38 Students 05 Faculty	It provided practical experience and technical skills required for the students in writing Python Program and to implement the same in the relevant field.
2	Hands on Training programme on “Construction of Power Supply”.	21-09-2023	Mr. Shanmugasundaram, Managing Director, Gemini Scientific Company, Chennai.	65 Students	Practical experience was provided to the students in constructing a power supply with multiple voltage output and in circuit design with PCB board.
3	Hands on Training on “MATLAB and its Application in Physical Sciences”.	11-10-2023	Dr. Haresh M. Pandya Associate Professor and Head, Department of Physics Chikkanna Government Arts College, Tiruppur.	62 Students 06 Faculty	Students were trained to use ‘MATLAB’ as a simulation tool. They understood the basics of the software which enables them to apply them in their field.
4	Hands on Training on “Material Characterization” at Indian Institute of Technology, Palakkad.	07-03-2024	Faculties and Skilled Trainees of IIT Palakkad.	49 Students 03 Faculty	Students can apply the knowledge of Sensor technology in agriculture to enhance the quality and quantity of agricultural products. Students will be able to handle many instruments such as Field Emission Scanning Electron Microscopy (FE-SEM), Photoluminescence, Four Probe instrument and Raman Instrument.

5	Hands on Training on “Quantum Computing”.	27-03-2024	Dr. A. R. Usha Devi Professor, Department of Physics, Bangalore University, Bangalore.	114 Students	Students understood the recent innovations in the field of quantum computing such as replacement of Bits by Qubits and quantum Teleportation. Also students learnt to write programs using Python for quantum computation.
---	---	------------	---	--------------	--

ii) List of Activities Undertaken by Students

a) List of Projects Undertaken by Students

- ❖ P. Ahila and D. Selvam of III B.Sc. Physics have done a project entitled **“Synthesis and Characterization of Nd³⁺ doped V₂O₅ Nanoparticles by Co Precipitation Method” (Interdisciplinary).**
- ❖ T. Kannan and R. Shalini of III B.Sc. Physics have done a project entitled **“Exploring the Structural and Electrochemical Characteristics of V₂O₅ Nanostructures for Enhanced Super capacitance Performance” (Interdisciplinary).**
- ❖ S. Sri Velusamy Pandian, S. Dhanabalan and P. Sanjay Kumar of III B.Sc. Physics have done a project entitled **“Construction of thermoelectric setup for the measurement of Seebeck coefficient for thin films”.**
- ❖ Surya Narayana and V. Hemadharshini of III B.Sc. Physics have done a project entitled **“Automatic Car Parking System”.**
- ❖ V.S. Karthick Raja and A. Poovarasan of III B.Sc. Physics have done a project entitled **“TiO₂ Doped Thin films for Solar cell application”.**
- ❖ R. Manoj Kumar and S. Sangavi of III B.Sc. Physics have done a project entitled **“Crystal growth and structural characterization of 2-amino 4-methyl pyridinium diphenyl acetate” (Interdisciplinary).**
- ❖ R. Hema Varna and R. Kumaravel of III B.Sc. Physics have done a project entitled **“Synthesis and Characterization of Manganese Ferrite” (Interdisciplinary).**
- ❖ N. Brindha and R. Subiksha of III B.Sc. Physics have done a project entitled **“Synthesis and characterization of Cr doped CeO₂ nanoparticles” (Interdisciplinary).**
- ❖ P. Sahana and E. Pavithra of II B.Sc. Physics have done a project entitled **“Preparation of electrode using CeO₂ nano particles” (Interdisciplinary).**

Interdepartmental Projects

- ❖ R A Hemavarna of III B.Sc. Physics, G Jaya Deepa, R Shoba, G Narmatha of I M.Sc. Physics and R K Hrithik of II B.Sc. Chemistry have developed a project entitled **“Ferro fluid and non-Newtonian fluid” (Interdepartmental Project with Chemistry).**

- ❖ D Vigneshwar, S Raju, V Gowthamraj of II B.Sc. Physics and P Mukeshkanna of III B.Sc. Computer Science have developed a project entitled **“Firefighting robot” (Interdepartmental Project with Computer Science).**
- ❖ R Shalini of III B.Sc. Physics, S Sowndhariya, A Monisha Prasiy of II B.Sc. Physics and K Harashaparadha of III B.Sc. Computer Science have developed a project entitled **“Smart Helmet” (Interdepartmental Project with Computer Science).**
- ❖ D Selvam of III B.Sc. Physics, S Ramya, S Deepika of I M.Sc. Physics, M Yuvaraj and R Aravind Kandeepan of III B.Sc. Computer Science have developed a project entitled **“Pet feeder using IOT” (Interdepartmental Project with Computer Science).**
- ❖ T Kannan of III B.Sc. Physics, A Sri Varsha and B Dharshana of III B.Sc. Computer Science have developed a project entitled **“Ultra sonic Radar using IOT” (Interdepartmental Project with Computer Science).**
- ❖ A Poovarasana of III B.Sc. Physics, A Bavatharani, D Madhumitha, C Benitta of I M.Sc. Physics and W B Preethi of II M.Sc. Computer Science have developed a project entitled **“Automatic height increasing bridge” (Interdepartmental Project with Computer Science).**
- ❖ S Sindhu, M Ramya of I M.Sc. Physics, S Dhanabalan of III B.Sc. Physics and M Asha Devi of III B.Sc. Computer Science have developed a project entitled **“Anti-Sleep Alarm for Drivers” (Interdepartmental Project with Computer Science).**
- ❖ P Sanjay Kumar of III B.Sc. Physics, A Pranav, N Nareshkumar of I M.Sc. Physics, E K Mukesh of III B.Sc. Physics, V Ranil and P Senthamizhalarasi of III B.Sc. Chemistry have developed a project entitled **“International Space station tracker” (Interdepartmental Project with Chemistry).**
- ❖ S Dinesh, P Hariharan of II B.Sc. Physics, M Anandha Kumar of II M.Sc. Physics and R Tharun Raja of III B.Sc. Computer Science have developed a project entitled **“AI assisted agricultural cultivation” (Interdepartmental Project with Computer Science).**

Projects that have been developed as a Working Model

- ❖ M Karan, G Lara and Y Ajmal of II B.Sc. Physics have developed a project entitled **“Solar water trash bin”.**
- ❖ S Geetha Lakshmi and T Kaviya of II B.Sc. Physics have developed a project entitled **“Train accident prevention system”.**
- ❖ A Jenice and R Pritha of I B.Sc. Physics have developed a project entitled **“Tesla Coil”.**
- ❖ K Hariprasath, R Praneswaran and K Magesh of I B.Sc. Physics have developed a project entitled **“MQ2 gas and smoke sensor module”.**
- ❖ N Boomika and S Gayathri of I B.Sc. Physics have developed a project entitled **“Smart Blind Stick”.**
- ❖ L Sivarajan, S Dhanesh, M Saravanan and S Siva Pranesh of I B.Sc. Physics have developed a project entitled **“Laser Alarm”.**
- ❖ T Rathisha Shree, V Vijayalakshmi and S Sankari of I B.Sc. Physics have developed a project entitled **“Light intensity measuring detector”.**

- ❖ S Sumeth, D S Anish Dev and B Srinivasan of I B.Sc. Physics have developed a project entitled **“LiFi Data Transmission”**.
- ❖ S Suriyaraj, F Praveen and S Sugesh of I B.Sc. Physics have developed a project entitled **“Crystal Radio”**.
- ❖ R S Subiksha and N Brindha of III B.Sc. Physics have developed a project entitled **“Underground Cable Fault detector using IOT”**.
- ❖ A Suryanarayana and V Hemadharshini of III B.Sc. Physics have developed a project entitled **“Automatic Car parking system using Thingspeak”**.
- ❖ B Sri Velsamy Pandian, S Dhanabalan and P Sanjaykumar of III B.Sc. Physics have developed a project entitled **“Construction of Thermo electric setup for the measurement of feedback coefficient for thin films”**.
- ❖ T Rathisha Shree, B Srinivasan of III B.Sc. Physics, S Ruseena, P Aadharshini and K Balalogesh of I M.Sc. Physics have developed a project entitled **“Infinity mirror Hypercube”**.
- ❖ S Jency Gladia of II B.Sc. Physics, B Sri Velsamy Pandian of III B.Sc. Physics, K Leyga, P Praveen and C Kiruba Sri of I M.Sc. Physics have developed a project entitled **“Innovation Solar panel with CD and Solar car with rechargeable battery”**.
- ❖ S Suvetha, Pooja Sri and R Priyadarshini of I BSc Physics have developed a project entitled **“Automatic Fire extinguisher”**.

Innovative Product Designed and Developed

- ❖ **Y.Ajmal of II BSc Physics** student designed a working Prototype entitled **“Solar Grass Cutter”** the working product runs with help of solar power and battery backup which is very useful for environment (Won **I Prize** in **“Model Making Competition at Anu Awareness Programme 2023”** organized by the Department of Physics, PSGR Krishnammal College for Women, Coimbatore).

b) Industrial Visits

S. No	Class	Place of Visit	Date	No. of Beneficiaries	Outcome
1	I, II and III B.Sc. Physics.	Sir C.V. Raman Hall, Bharathiar University Coimbatore-29	13-07-2023	12 Students 02 Faculty	The participants gained knowledge about Tesla Coil/RF Plasma, Electrostatic Confinement, Atmospheric Multi Jet Plasma, Atmospheric Single Jet Plasma, Emission from Plasma Pyrolysis system, Safe Disposal of Biomedical Waste using Plasma Pyrolysis Technology, Plasma Treatment for Textiles, etc.

2	II and III B.Sc. Physics.	Indian Institute of Astrophysics (Kodaikanal Solar Observatory), Kodaikanal.	04-08-2023	26 Students, 02 Faculty, 01 Non-Teaching Lab Assistant	Students gained knowledge on • Solar radiation • Different layers of Sun • Visualization of photosphere of Sun
3	I, II and III B.Sc. Physics.	Kovai Medical Center and Hospital, Coimbatore.	11-08-2023	28 Students 02 Faculty	• Provided a deeper understanding of the practical applications of physics concepts in medical field which motivated the students to take up projects in medical field. • Insight into the interdisciplinary collaboration between physicists and healthcare professionals. • Knowledge of various imaging techniques and their underlying physics principles. Importance of safety measures in using radiation-based equipment.

c) Summer School/ Internship

- ❖ R. Manoj Kumar, S. Sangavi, R. Hemavarna and V. Hemadharshini of III B.Sc. Physics undergone the Internship Training at New Technology, Coimbatore on **“Mobile Phone Troubleshooting”**.
- ❖ V. Sri Velsamy Pandian of III B.Sc. Physics undergone the Internship Training at Janatics Pneumatic, Coimbatore on **“CNC Machine Working”**.
- ❖ R. Shalini of III B.Sc. Physics undergone the Internship Training at Salzer Electronics Ltd, Coimbatore on **“Electronic Manufacturing Solution”**.
- ❖ N. Brindha of III B.Sc. Physics undergone the Internship Training at Frontline Systems, Coimbatore on **“Revolutionizing Ups Solutions for A Sustainable Future”**.
- ❖ P. Ahila and V. S. Karthick Raja of III B.Sc. Physics undergone the Internship Training at New Technology, Coimbatore on **“Advanced Techniques for Smart Phone Troubleshooting”**.
- ❖ D. Selvam of III B.Sc. Physics undergone the Internship Training at Apt Technologies, Coimbatore on **“Design & Fabrication of Flexible Drilling Machine”**.
- ❖ R. S. Subhiksha of III B.Sc. Physics undergone the Internship Training at Janatics Pneumatic, Coimbatore on **“Optimal Pneumatic Power.”**
- ❖ Suryanarayana of III B.Sc. Physics undergone the Internship Training at Teknozo Renew Energy, Coimbatore on **“Optimizing Solar Panel Efficiency for Sustainable Energy Generation”**.
- ❖ Poovarasana of III B.Sc. Physics undergone the Internship Training at Salzer Electronics Ltd, Coimbatore on **“Automated Manufacturing Process of Transformer”**.

d) Conferences / Seminars / Workshops/ Competitions/ Training Attended

- ❖ 50 students of B.Sc. Physics have participated in **“World Space Week-2023 celebrations”** organized by Satish Dhawan Space Centre, Shar, ISRO, Sriharikota from 05.10.2023 to 07.10.2023 as demonstrators for their rocket models to the school and college student visitors.
- ❖ Ms. Hemadharshini V and Mr. Suryanarayana A of III B.Sc. Physics had attended **“DRDO Sponsored National Conference on Advanced Biocompatible Materials and Devices/ Systems for Biomedical Applications, ADMDB-2023”** organised by Sri Ramakrishna Engineering College, Coimbatore from 10.08.2023 to 11.08.2023.
- ❖ Ms. P. Ahila of III B.Sc. Physics has participated in the **“Student Coordinators Introduction Programme”** held on 12.10.2023 organized by Aquasub Engineering, Coimbatore.
- ❖ Mr. T. Kannan and Ms. P. Ahila of III B.Sc. Physics have attended a **“2 days CSIR NET/SET Workshop on Physical Sciences”** organised by PSGR Krishnammal College for Women, Coimbatore on 31.07.2023 and 01.08.2023.
- ❖ Mr. T. Kannan of III B.Sc. Physics has completed a two-day **“Workshop on Astrophysics”** conducted by Ethical Edufabrica Pvt. Ltd. In association with Pravega, **IISc Bangalore** on 04.11.2023 and 05.11.2023.
- ❖ T. Kannan of III B.Sc. Physics has attended **“Two Day India-UK Workshop on Socio-Economic Analysis of Textile Effluent Pollution Impacts in The Noyyal River and Exploration Remediation Through Algae and Graphene Membrane”** on 13.12.2023 and 14.12.2023 organized by KASC.
- ❖ Two students of II B.Sc. Physics and one student of III B.Sc. Physics has participated in **“Training on Spawn Production and Mushroom Cultivation”** organised by Department of Pathology, Tamil Nadu Agricultural University, Coimbatore on 25.08.2023.
- ❖ 2 students of II B.Sc. Physics have participated in **“Model Making Competition at Anu Awareness Programme 2023”** organized by the Department of Physics, PSGR Krishnammal College for Women, Coimbatore on 22.12.2023.
- ❖ 2 students of II B.Sc. Physics have participated in **“Quiz Competition at Anu Awareness Programme 2023”** organized by the Department of Physics, PSGR Krishnammal College for Women, Coimbatore on 22.12.2023.
- ❖ T. Kannan of III B.Sc. Physics has participated in **“State Level Inter-Collegiate Competition”** on 22.01.2024 at Sona College, Salem after clearing Coimbatore zone level competition on 15.12.2023 at KASC, Coimbatore.
- ❖ Y. Ajmal and M. Karan of II B.Sc. Physics has participated and won **I Prize** in **“Model Making Competition at Anu Awareness Programme 2023”** organized by the department of physics, PSGR Krishnammal College for Women, Coimbatore on 22.12.2023.
- ❖ S. Raju, P. Hariharan, Gowthamraj and G. Marisamy of II B.Sc. Physics has participated and won **II Prize** in **“Live Model Design Competition as part of World Space Week-2023 Celebrations”** organized by Satish Dhawan Space Centre Shar, ISRO, Sriharikota from 05.10.2023 to 07.10.2023.

- ❖ S. Monisha of II B.Sc. Physics has participated and won **III Prize** in **“Live Model Design Competition as part of World Space Week-2023 Celebrations”** organized by Satish Dhawan Space Centre Shar, ISRO, Sriharikota from 05.10.2023 to 07.10.2023.

Best Practice of the Department

Dynamic Physics Forum

The forum is actively functioning from the year 2018. The forum is running with creamy layer of Physics UG and PG students. The students meet twice in a week from 9 to 10 am in the smart class room and they discuss about recent Physics happenings, they take seminars on General Science and Physics and participate in Intra and Inter-Science competitions. They are also preparing for competitive exams with the group members.

e) Paper Presentation by Students

- ❖ Ms. P. Ahila of III B.Sc. Physics has presented a paper entitled **“Synthesis and Characterization of Nd³⁺ doped V₂O₅ nanoparticles by Coprecipitation method”** in the Two days National Symposium on Advanced Material and Technology for Future organized by Sri Ramakrishna College of Arts and Science, Coimbatore on 08.02.2024 and 09.02.2024.
- ❖ Ms. R.S. Subhiksha of III B.Sc. Physics has presented a paper entitled **“Synthesis and Characterization of Cr doped CeO₂ Nanoparticles”** in the Two days National Symposium on Advanced Material and Technology for Future organized by Sri Ramakrishna College of Arts and Science, Coimbatore on 08.02.2024 and 09.02.2024.
- ❖ Mr. A. Poovarasan and Mr. V. S. Karthickraja of III B.Sc. Physics have presented a paper entitled **“Doped TiO₂ Thin Films for Solar Cell Applications”** in the Two days National Symposium on Advanced Material and Technology for Future organized by Sri Ramakrishna College of Arts and Science, Coimbatore on 08.02.2024 and 09.02.2024.

f) Inter-Departmental Activities

- ❖ 3 of our students have participated in **“Hands on Training on Basics of MATLAB”**, organized by the Department of Mathematics, KASC on 03.07.2023.
- ❖ 4 of our B.Sc. students has attended a **“Guest lecture on Career Opportunities in Abroad”** organized by the Department of Mathematics on 07.08.2023
- ❖ 13 of our B.Sc. students has attended an **“International seminar on Differential System and its Applications”** organized by the Department of Mathematics on 05.12.2023
- ❖ 5 of our students have participated in **“Capacity Building Programme an Interdisciplinary approach for non-mathematics students”**, organized by the Department of Mathematics, KASC on 11.12.2023.
- ❖ One of our B.Sc. student has participated in **“National Mathematics Day celebrations”** organized by the Department of Mathematics on 09.01.2024

- ❖ 16 of our B.Sc. students has attended a “**Workshop on Phytochemical Extraction from tea leaves**” organized by the Department of Chemistry on 19.2.2024

9.7 No. of New Experiments Introduced

Core Practical - I: Practical - I (24UPH2CL) for I B.Sc. Physics

1. Determination of viscosity of a liquid by Poiseuille's flow method.
2. Determination of surface tension & inter-facial surface tension by drop weight method.
3. Determination of frequency of tuning fork-sonometer

Core Practical - II: Practical - II (24UPH4CM) for II B.Sc. Physics

1. Determination of temperature co-efficient of resistance of a wire –Post office Box

Core Practical - III: General Experiments (24UPH6CN) for III B.Sc. Physics

1. Magnetic properties of Iron rod-I-H Curve apparatus

Core Practical - IV: Electronics (24UPH6CO) for III B.Sc. Physics

1. Verification of inverse square law of radiation

Core Practical - V: Digital Electronics & Microprocessor (24UPH6CP) for III BSc. Physics

1. Wave form generator using 555 IC

Practicals beyond the Syllabus

Core Practical – II: for II B.Sc. Physics

1. Determination of e/m - Thomsons method
2. Determination of e/m – Magnetron method

Core Practical – III: for III B.Sc. Physics

1. Determination of Youngs modulus-elliptical fringes (Cornus method)
2. Determination of Youngs modulus-hyperbolic fringes (Cornus method)

Core Practical – V: for III B.Sc. Physics

1. Music tone generator using 8085 Microprocessor
2. Square wave generator using 8085 Microprocessor

9.8 Publications (Scopus indexed) /patents, if any.

- ❖ Dr. A. Anu Kalliani has published a paper entitled “**Thermochromic and photocatalytic properties of thermally evaporated vanadium oxide–molybdenum oxide mixed oxide thin films**” in the journal J Mater Sci: Mater Electron 34 (2023) 1244.

- ❖ Dr. B. Chandar Shekar has published a paper entitled **“Structural and Resistivity Analysis of ZnO Thin Films Prepared by Thermal Evaporation Method for Possible Optoelectronic Device Applications”** in the Journal of Systems Engineering and Electronics 34 (2024) 120.
- ❖ Dr. M. Seetha has published a paper entitled **“Synthesis and characterization of visible-light-driven novel CuTa₂O₆ as a promising practical photocatalyst”** in the journal Frontiers in Chemistry (2023) DOI 10.3389/fchem.2023.1197961.
- ❖ Dr. M. Seetha has published a paper entitled **“Novel GdTaO₄ phase for efficient photocatalytic degradation of organic dye under visible light irradiation: An X-ray spectroscopic investigation”** in the journal Chemosphere 340 (2023) 139834.
- ❖ Dr. M. Mohamed Ibrahim has published a paper entitled **“Photoelectrochemical Water Splitting Over Decahedron Shaped BiVO₄ Photoanode by Tuning the Experimental Parameters”** in the Journal of Cluster Science 34 (2023) 557.
- ❖ Dr. M. Mohamed Ibrahim has published a paper entitled **“Electrochemical studies on CuBi₂O₄ nanomaterial prepared by hydrothermal technique”** in the Journal International Journal of Current Science (IJCSPUB) 13 (2023) 345.
- ❖ Dr. P. Matheswaran has published a paper entitled **“Thermally processed phase change behavior on the stoichiometric efficacy of quaternary Se_{77.5-X} Te₂₀ Sn_{2.5} Ag_X (X = 2.5, 5, 7.5) thin films”** in the Journal Materials Science in Semiconductor Processing 171 (2024) 108037.
- ❖ Dr. P. Matheswaran has published a paper entitled **“Effect of alkali/alkaline modifiers on Pr³⁺ ions doped lead boro-tellurite glasses for lasing material applications”** in the Journal Optical Materials 143 (2023) 114289.
- ❖ Dr. N. Senthilkumar has published a paper entitled **“Fabrication of crack-free PbS thin films by Jet nebulizer spray pyrolysis technique for enhancing optoelectronic applications: An effect of Ce³⁺ doping concentrations”** in the Journal Surfaces and Interfaces 42 (2023) 103292.
- ❖ Dr. N. Senthilkumar has published a paper entitled **“Insights into structural, vibrational, and chemical shift characteristics, solvents impact (polar and nonpolar) on electronic properties and reactive sites, ADMET predictions, and ligand-protein interactions for antiviral drugs safrrole and isosafrrole: An in-silico approach”** in the Journal Chemical Physics Impact 8 (2024) 100443.
- ❖ Dr. N. Senthilkumar has published a paper entitled **“The Emerging Role of Artificial Intelligence in STEM Higher Education: A Critical Review”** in the International Research Journal of Multidisciplinary Technovation 5(5) (2023).
- ❖ Dr. N. Senthilkumar has published a paper entitled **“Effect of La-doping on NiO photocatalyst for enhancing photocatalytic degradation performance under visible light irradiation: DFT calculations and degradation mechanism”** in the journal Inorganic Chemistry Communications 156 (2023) 111172.
- ❖ Dr. V. Mohan Kumar has published a paper entitled **“II Spacer Effect in Benzimidazole-Quinoline Donor Configuration to Explore Visible Photon Absorption for Dye-Sensitized Solar Cells”** in the journal Materials Letters 360 (2024) 135955.

- ❖ Dr. V. Mohan Kumar has published a paper entitled “**Analyzing the three-dimensional networks of piperazinium hydrogenisophthalate – Insight on the experimental, theoretical, birefringent behavior and nonlinear optical study**” in the journal, Journal of Molecular Structure 1290 (2023) 135845.

9.9 Training Received by Faculty/ List of Activities Undertaken by Faculty

a) Training Received by Faculty

- ❖ **Dr. M. Seetha** and **Dr. P. Matheswaran**, Assistant Professors of Physics, Kongunadu Arts and Science College (Autonomous), Coimbatore have successfully completed “**Two-week refresher Course in Physics**” organized by TLC, Ramanujan College, University of Delhi from 30.08.2023 to 13.09.2023.
- ❖ **Dr. N. Senthilkumar** and **Dr. S. Selvi**, Assistant Professors of Physics, Kongunadu Arts and Science College (Autonomous), Coimbatore have participated in “**UGC sponsored Refresher Course**” organized by UGC-HRDC, Bharathiar University, Coimbatore from 06.12.2023 to 19.12.2023.
- ❖ **Dr. A. Ranjitha**, Assistant Professor of Physics, Kongunadu Arts and Science College (Autonomous), Coimbatore has successfully completed “**Two-week refresher Course in Physics**” organized by TLC, Ramanujan College, University of Delhi from 30.03.2024 to 12.04.2024.
- ❖ **Dr. B. Gokul**, Assistant Professor of Physics, Kongunadu Arts and Science College (Autonomous), Coimbatore has successfully completed “**7 Days Online Faculty Development Programme/ Workshop on DFT Modelling of Materials: Nanoparticles, Unit Cells, Thin Films (DFT-M)**” organized by Centre for Advanced Computational Research, Delhi from 4.3.2024 to 10.3.2024.
- ❖ **Dr. V. D. Nithya**, Assistant Professor of Physics, Kongunadu Arts and Science College (Autonomous), Coimbatore has successfully completed “**Seven Days International Virtual Faculty Development Programme on Research Insights to Academic Excellence**” organized by KPR College of Arts, Science and Research, Arasur, CBE from 03.08.2023 to 09.08.2023.
- ❖ **Dr. M. Seetha, Dr. B. Gokul and Dr. V. Mohankumar**, Assistant Professors of Physics, Kongunadu Arts and Science College (Autonomous), Coimbatore have attended a “**2 days CSIR NET/SET Workshop on Physical Sciences**” organized by PSGR Krishnammal College for Women, CBE on 31.07.2023 and 01.08.2023.

b) Conferences/ Seminars / Workshops Attended

- ❖ **Dr. V. Mohankumar**, Assistant Professor of Physics, Kongunadu Arts and Science College (Autonomous), Coimbatore has participated in the “**Two days Workshop on Multi-Functional Nanomaterials for Water Remediation (MNWR - 2024)**” organized by SSN Research Centre, Sri Sivasubramaniya Nadar College of Engineering, Chennai” during 21 and 22, March 2024.
- ❖ **Dr. V. Mohankumar**, Assistant Professor of Physics, Kongunadu Arts and Science College (Autonomous), Coimbatore has presented a paper entitled “**Metal free sensitizer for solar cell application: Density Functional Theory Investigation**” in the International conference on Recent

Advancement and Multidisciplinary Research in Science and Humanities (ICMRSH) organized by SNS College of Technology, Coimbatore on 23.02.2024 and bagged Best Paper Award.

- ❖ Dr. V. Mohankumar, Assistant Professor of Physics, Kongunadu Arts and Science College (Autonomous), Coimbatore has presented a paper entitled **“Benzimidazole Quinoline-Based Organic Dyes for Dye Sensitized Solar Cells: A Quantum Chemical Method Study”** in the International Conference on Recent Innovations in Modern Science and Technology (ICRIMST) organized by KPR Institute of Engineering and Technology, Coimbatore from 09.01.2024 to 11.01.2024.
- ❖ Dr. V. Mohankumar, Assistant Professor of Physics, Kongunadu Arts and Science College (Autonomous), Coimbatore has participated in **“International Workshop on Energy Materials and Modelling for Future Technology (EMMFT - 2023)”** organized by KPR Institute of Engineering and Technology, Coimbatore on 27.11.2023.
- ❖ Dr. V. Mohankumar, Assistant Professor of Physics, Kongunadu Arts and Science College (Autonomous), Coimbatore has presented a paper entitled **“II Spacer effect in Benzimidazole Quinoline donor configuration to explore visible photon absorption for DSSC”** in the International Conference on Socioeconomic impact of pollution in water bodies and remedial measures organized by KASC, Coimbatore on 18.12.2023.
- ❖ Dr. V. D. Nithya, Assistant Professor of Physics, Kongunadu Arts and Science College (Autonomous), Coimbatore has participated in the **“Two days National Workshop on Electrochemical Devices”** organized by PSGR Krishnammal College for Women, Coimbatore during 22 and 23, August 2023.
- ❖ Dr. V. D. Nithya, Assistant Professor of Physics, Kongunadu Arts and Science College (Autonomous), Coimbatore has attended and presented a paper entitled **“Facile synthesis of NiWO₄ nanoparticles for pseudocapacitors”** in DRDO Sponsored National Conference on Advanced Biocompatible Materials and Devices/ Systems for Biomedical Applications, ADMDB-2023 organised by Sri Ramakrishna Engineering College, Coimbatore from 10.08.2023 to 11.08.2023.

9.10 List of Exhibitions/ Seminars/ Training Courses Conducted

a) Conference/ Seminars / Workshops Organized

S. No.	Name of the Event/ Activity	Date	Resource Person	Number of Beneficiaries	Outcome
1	Seminar on “Futuristic trends and opportunities in Basic Science”.	08-09-2023	Dr. C. Ravidhas Head, Department of Physics, Bishop Heber College, Trichy. Dr. D. Nalini Head, Department of Chemistry, PSGR Krishnammal College, Coimbatore.	195 Students	- Participants understood the various techniques of thin film technology and solar cell fabrication methods. - Awareness about various opportunities in science education was provided.

2	Lecture Workshop on “Problem Solving in Quantum Mechanics for Competitive Examinations”	12-09-2023	Dr. S S Naina Mohammed Assistant Professor Department of Physics, Udumelpet.	120 Students & 8 Faculty	Students acquired basic skills on problem solving in Quantum Mechanics.
3	Webinar on “Awareness Programme on Higher Education and Job Opportunities in Science”.	24-01-2024	Dr. Arunkumar Dorai Foreign Research Fellow, Tohoku University, Japan.	70 Students from B.Sc. Physics and Mathematics	Students acquired information on Scholarships available for higher education and Job opportunities in abroad. Various funding agencies in abroad and about International collaborative programmes.
4	Seminar on “Nanoscience: Greatness of Smallness”.	19-03-2024	Dr. S. Balakumar Professor, National Centre for Nanoscience and Nanotechnology, Chairman, School of Nanoscience and Photonics, University of Madras, Chennai.	259 Students from B.Sc. Physics and Chemistry	Students understood the recent innovations in the field of nanomedicines which inspired some of the students to undertake projects on the same.

b) Exhibition / Competitions Organized

S. No.	Name of the event/Activity	Date	Number of Beneficiaries	Outcome
1	Exhibition in Connection with World Space Week 2023	05-10-2023 and 06-10-2023	More than 1000 School students, College students and school teachers	Students have learnt about the importance of science models and its interesting applications.
2	Ignite the Scientist Within: A School Wide Science Exploration	10-01-2024	64 School Students	Competitions are an excellent platform for students to showcase their critical thinking, public speaking, and analytical skills. It created an awareness among the school students to pursue basic science courses.
3	National Science Day Celebrations- Tesla Fest 2024 Science Exhibition	28-02-2024	More than 1000 College Students from various departments and more than 80 students from nearby schools	Science model exhibition aimed to showcase the innovative ideas of the students.

4	National Science Day Celebrations- Tesla Fest 2024	29-02-2024		Events were aimed to provide a platform for participants to showcase their skills, knowledge and creativity in a fun and engaging way.
	Quiz			
	Debate			
	Adzap			
	Drawing			

c) Training Courses Conducted

S. No.	Name of the event/ Activity	Date	Resource Person	Number of Beneficiaries	Outcome
1	Faculty Development Programme on “Interdisciplinary approaches of Machine Learning”	21-10-2023	Dr. P. Shanmugavadivu Professor, Department of Computer Science, Gandhigram Rural Institute, Dindigul. Mrs. G. Kanimozhi Software Engineer, Gen digital, Chennai.	58 Faculty	The faculty members gained knowledge on machine learning and deep learning for interdisciplinary approaches.
2	Faculty Training Programme on “Correlation of classical dynamics with quantum mechanics”	27-03-2024	Prof. MVN Murthy (Retired) Professor, Institute of Mathematical Sciences, Chennai.	19 Faculties and 38 Students (II M.Sc. Physics), 03 Research Scholars	The faculty understood the mathematical framework for describing dynamical systems, differential equations governing the time evolution of a dynamical system, time evolution described by the flow of the system in phase space.
3	Hands on Training on “Trouble shooting in Power supplies”	21-09-2023	Mr. Shanmugasundaram Managing Director, Gemini Scientific Company, Chennai.	3 Lab Assistants	Practical experience was provided to troubleshoot the power supplies available in the laboratory.

d) Lab Manual

- ❖ A Lab Manual on “**Standard operating Procedure for General Physics**” has been prepared for I B. Sc. Physics students.

e) Mentor Mentee Meeting

- ❖ A **Mentor meeting** was organised by the Department on 08.08.2023 and **Dr. N. Ponpandian**, Professor and Head, Department of Nanoscience and Technology, Coimbatore was the mentor. He

shared his knowledge on DBT star Programme with the department faculty members and also, he has looked into the last year programmes organised by the department and rendered his ideas and suggestions. The total no. of beneficiaries are 13.

- ❖ A **Mentor meeting** was organised by the Department on 01.02.2024 and **Dr. M. Lavanya**, Assistant Professor of Physics, PSGR Krishnammal College for Women, Coimbatore was the mentor. She shared her knowledge on DBT star Programmes with our department student beneficiaries. Also, she has advised the students to utilise the star college scheme effectively for the upliftment of their future career. The total no. of beneficiaries are 58.

9.11 Details of Books and Journals subscribed from DBT Grant

S. No.	Bill No.	Date	Company Name	Publisher	Author	Title	Qty	Amount (Rs.)
1	623	22-02-2024	Pai & Sons	Ane Books Pvt. Ltd.	V. Balakrishnan	Mathematical Physics with Applications Problems And Solutions	1	2995
2	623	22-02-2024	Pai & Sons	Mjp Publishers	S. Mohan, V. Arjunan, M. Selvarani, M. Kanchana Mala,	Laser Physics	1	695
3	623	22-02-2024	Pai & Sons	Maxwell Press	J.J. Thomson	Electricity And Matter	1	525
4	623	22-02-2024	Pai & Sons	Maxwell Press	Sir William Bragg	The World Of Sound	1	595
5	623	22-02-2024	Pai & Sons	Maxwell Press	Robert Andrews Millikan	Mechanics Molecular Physics And Heat	1	595
6	623	22-02-2024	Pai & Sons	Levant Books	Manoj Kumar Pal	General Theory Of Relativity	1	795
7	623	22-02-2024	Pai & Sons	Mjp Publishers	Pushpa Viswanathan	Electron Microscopy	1	2400
8	623	22-02-2024	Pai & Sons	Crc Press Inc.	Valeria Ferrari Leonardo Gualtieri Paolo Pani	General Relativity And Its Applications- Black Holes, Compact Stars And Gravitational Waves	1	2995
9	623	22-02-2024	Pai & Sons	Scientific International (Pvt) Ltd.,	Howard Fawkes	Mechanics For Engineering	1	495
10	623	22-02-2024	Pai & Sons	Scientific International Pvt. Ltd	A.V. Salker	Catalysis: Principles & Basic Concepts	1	495
11	623	22-02-2024	Pai & Sons	Taylor & Francis	Eoin O Reilly	Quantum Theory Of Solids	1	1295

12	623	22-02-2024	Pai & Sons	Crc Press Inc.	Kathleen Sellers, Christopher Mackay, Lynn L. Berge Son, Stephen R. Clough, Marilyn Hoyt, Julie Chen, Kim Henry, Jane Hamblen	Nanotechnology And The Environment	1	1995
13	623	22-02-2024	Pai & Sons	Levant Books	R. Shankar	Fundamentals Of Physics I: Mechanics, Relativity And Thermodynamics	1	1195
14	623	22-02-2024	Pai & Sons	Levant Books	R. Shankar	Fundamentals Of Physics II: Electromagnetism, Optics, And Quantum Mechanics	1	1295
15	623	22-02-2024	Pai & Sons	Oxford Book Company	Manish Kapoor	Nanotechnology Diagnostics And Therapeutics	1	1950
16	623	22-02-2024	Pai & Sons	Institute Of Physics Publishing	Diego A.R. Dalvit, Jaime Frastai, Lan D Lawrie	Problems On Statistical Mechanics	1	1595
17	623	22-02-2024	Pai & Sons	Crc Press Inc.	Kurt Gottfried	Quantum Mechanics Fundamentals (Volume I)	1	2995
18	623	22-02-2024	Pai & Sons	Crc Press Inc.	Murray Sargent 111, Marlan O. Scully, Willis E. Lamb. Jr	Laser Physics	1	2995
19	623	22-02-2024	Pai & Sons	Crc Press Inc.	D. G. C. Jones	Atomic Physics	1	995
20	623	22-02-2024	Pai & Sons	Pearl Books	M. K. Singh	Nuclear Physics	1	600
21	623	22-02-2024	Pai & Sons	Pearl Books	S. K. Mittal	Principles Of Mechanics	1	650
22	623	22-02-2024	Pai & Sons	Oxford University Press	Ta-Pei Cheng Ling-Fong Li	Gauge Theory Of Elementary Particle Physics	1	995
TOTAL							22	31140
LESS 20%								6228
NET TOTAL								24912

9.12 Outreach / Extension Activities

S. No	Name of the Event/Activity	Date	Resource Person	Number of Beneficiaries	Outcome
1	Hands on Physics Experiments to School Students.	04-09-2023	Faculties of Department of Physics.	30 Students 01 Faculty	Through this hands-on training, the students gained more practical experience in the laboratory, particularly trained on the measurement of refractive index, wavelength of light, Zener and Junction Diode, Characteristics and verification of truth table of basic logic gates using IC's along with the basic principles.
2	Outreach Programme to School Students of Grade XI and XII- Govt. Girls Hr. Sec. School, Thondamuthur.	05-09-2023	Dr. M. Seetha Dr. P. Matheswaran Assistant Professors Department of Physics, Kongunadu Arts and Science College, Coimbatore.	100 School students.	Students have learnt about the importance of science education and its future scope. They have also learnt about the job opportunities related to the science disciplines.
3	Hands on training on "Basic Physics Experiments for School Students".	26-12-2023	Faculties of Department of Physics.	55 School Students.	Higher Secondary grade school students of Green Field's Matriculation School, Coimbatore gained hands on training for performing experiments using spectrometer, potentiometer, junction diode, zener diode, simple pendulum, sonometer etc.. which creates an interest towards the subject.
4	Awareness Programme and Competition for School students in science education at corporation higher secondary school, Maniakaranpalayam.	10-01-2024	Dr. N.Senthil kumar & Dr. V. Mohankumar Assistant Professors Department of Physics, Kongunadu Arts and Science College, Coimbatore.	64 School Students.	Science competitions for school students ignite their approach and preference on the science education.

5	Energy Audit to Residential Areas	04-03-2024 to 08-03-2024	I B.Sc. Physics Students	100 Houses	Our students have learnt to save power and educated their neighbours by doing energy audit in their houses. Students insisted them to reduce power by using LED bulbs and also educated them about the importance of saving power.
6	Tuitions for "Tribal students at Seva Kendra", Vadavalli, Coimbatore.	Academic year 2023-24	Dr. V. Mohankumar Assistant Professor, Department of Physics, Kongunadu Arts and Science College, Coimbatore.	20 School students	Tribal students at Seva Kendra, Vadavalli, Coimbatore were benefited out of the Physics tuitions to know more about higher education in science.

9.14 Invited Lectures / Guest Lectures conducted

S. No	Name of the event/Activity	Date	Resource Person	Number of Beneficiaries	Outcome
1	An invited talk on "Societal Implications of Nanotechnology and its Perspectives".	08-08-2023	Dr. N. Ponpandian Professor and Head Department of Nanoscience and Technology, Bharathiar University, Coimbatore.	120 Students 09 Faculty	Students were able to learn the basics of nanotechnology and also got ideas on the applications of nanotechnology which in turn motivated the students to undergo projects in this domain.
2	An Invited talk on "Fundamentals and Applications of Lasers".	14-12-2023	Dr. M. Sivakumar Vice Chairperson, Professor, Department of Sciences, School of Engineering, Amritha Vishwa Vidyapeetham, Coimbatore.	91 Students	Students gained knowledge on the different types of lasers in practice and their wide range of applications.
3	An Invited talk on "The Glow Discharge: An exciting plasma and its applications".	20-12-2023	Dr. G. Shanmugavelayutham Associate Professor Department of Physics, Bharathiar University, Coimbatore.	71 Students	The students were exposed to the knowledge on the production and applications of cold plasma.

4	Invited talk on “Awareness Programme on Higher Education in Physics”	05-02-2024	Mr. Vignesh Research Fellow, Jeju University Republic of Korea.	110 Students	Students acquired knowledge on various opportunities in higher education at different institutions in different countries.
5	Guest Lecture on "Bio-Safety and Ethics for Young Minds”	15-09-2023	Dr. Kumaresan Kuppamuthu Associate Professor, Department of Biotechnology, Kumaraguru College of Technology, Coimbatore	146 Students 05 Faculty	Students gained information about awareness on hand hygiene, prevention of transmission of infectious agents and preventive measures to avoid chemical and radioactive exposure in laboratories.
6	A guest lecture on “Understanding Intellectual Property Rights”	20-09-2023	Dr. Sharmila Chandran Associate Professor and Research Associate in Physics, PSGR Krishnammal College, Coimbatore	110 Students 02 Faculty	The participants were able to understand about the importance of patent and intellectual property rights.
7	A guest lecture on “Laser Tightening and Sun light trapping Schemes in Nano-optics”	21-12-2023	Dr.P.M.Anbarasan Professor, Department of Physics, Periyar University, Salem	93 Students	Students gained knowledge on Basics of Optics, Nano-optics, Laser tightening and Sun light trapping.

DEPARTMENT OF CHEMISTRY

9.6 No. of Hands-on Experiments being Conducted/ List of Activities Undertaken by Students

i) Hands-on Trainings being Conducted

S. No.	Name of the Event/Activity	Date	Resource Person	Number of Beneficiaries	Outcome
1.	Hands on Training on “IR Spectroscopy”	18-12-2023	Dr. S. Senthilkumar Senior Scientist, CSIR – Central Electrochemical Research Institute, Karaikudi. Dr. P. Sakthivel Professor, Department of Nanoscience and Technology Bharathiar University, Coimbatore.	Students - 81 Faculty – 4 Total - 85	Students and faculty were able to understand the handling of IR Instruments and their working principle.
2.	Hands on Training Programme on “Micro Scale Experiments in Inorganic Analysis”	04-01-2024	Dr. A. Jeya Rajendran Associate Professor (Retd.) Department of Chemistry Loyola College Chennai.	Students - 69 Faculty – 07 Total - 76	The participants upgraded their practical skills on detecting the cations, anions and learnt how to eliminate the interfering radicals and to prepare and add the reagents.
3.	Hands on Training Programme on “Micro Scale Experiments in Organic Analysis”	05-01-2024	Dr. S. Murugan Professor and Head (Retd.) Department of Chemistry S. T. Hindu College, Nagerkovil.	Students - 34 Faculty - 07 Total - 41	The participants gained practical skills on detecting the various organic functional groups with less reagents.
4.	Hands on Training on “Finding Food Adulteration”	12-01-2024	Dr. G. Subashini Assistant Professor Department of Chemistry PSGR Krishnammal College for women Coimbatore.	Chemistry students – 44 Physics students – 18 Faculty - 07 Total - 69	Students were taught to identify preservatives, colorants, dyes from different packed food items and to find food adulteration from turmeric, salt, edible oils and spices using chemical techniques.
5.	Hands on Training “Soap Making”	30-01-2024	Dr. K.Poonkodi Assistant Professor & Head, PG Chemistry, Nallamuthu Gounder Mahalingam College, Pollachi.	45 Students	Students learnt about the saponification values of different oils and soap making process which enabled them to make organic soaps individually.

6.	Hands on Training on “Solvent Free microwave assisted irradiation reaction in organic synthesis”	27-02-2024	Dr.D. Karthikumar Assistant professor, Department of Chemistry PSG College of arts and science, Coimbatore.	Chemistry students – 60 Bio Chemistry-13 Botany - 13 Faculty- 7 Total - 93	Students were trained to perform solvent free microwave assisted irradiation reactions to synthesis organic compounds such as Aspirin and quinolone. This type of hands-on training motivated the students to take up projects in organic synthesis.
----	--	------------	--	--	--

ii) List of Activities Undertaken by Students

a) List of Projects Undertaken by Students

- ❖ J.Chandni, Mohanarajan.P, J. Vishnu madesh, Priyanka M of III B.Sc. Chemistry completed a project on **“Synthesis Characterization of Pyroolino carbazole”**.
- ❖ Sriramya A, Abinaya S , Guruprasath S, Mathumitha M of III B.Sc., Chemistry completed a project on **“Photocatalytic activity of guar gum nanoparticles on methylene blue dye”**. (Interdisciplinary)
- ❖ Syed Jaffer Sadiq. S, Lishanthini .S, Vignesh.S, Vimal Kumar S of III B.Sc. Chemistry completed a project on **“Synthesis, characterization of transition metal oxide nano particles”**.
- ❖ Subiksha K, Balaji S, Barath KM, Rithika M of III B.Sc. Chemistry completed a project on **“Beyond lithium: Sodium – ion coin cells with tailored cathods and Graphene anode for next generation energy storage”**. (Interdisciplinary)
- ❖ Ranil V, Senthamizharasi. P, Narmadha V. M, Divya K of III B.Sc. Chemistry completed a project on **“Green synthesis, characterization and biological activity of copper oxide Nanoparticles using Curcuma Amada”**. (Interdisciplinary)
- ❖ Vanyaa Lingi R, Dravid Raja K, Sameera. M of III B.Sc. Chemistry completed a project on **“Effect of temperature and immersion time on the corrosion inhibition of mild steel in sodium hydroxide medium”**.
- ❖ MohanaPriya. M, Ashwini. S.Patrick paul . J of III B.Sc. Chemistry completed a project on **“Synthesis of Indazole substituted Quinoline Scaffolds”**.

Innovative Product Designed and Developed

- ❖ **Natural Soaps** are prepared by students of Chemistry using clay, finely grinded alkaline soil, charcoal, butter and plant based essential oil and it leads to conservation of ecosystem.
- ❖ **Sodium-Ion Coin Cells** with Tailored Cathode and Graphene Anode model for energy storage was prepared by Subiksha .K., Rithika. M.I., Balaji .S., Barath . K.M., Students of Chemisty, which is an economically attractive and efficient alternative to traditional Li-ion batteries.

b) Industrial Visits

S. No	Class	Place of Visit	Date	No. of Beneficiaries	Outcome
1	III B.Sc. Chemistry	Priyadarshini Chemicals, KR Puram, Coimbatore.	30- 10-2023	Students - 26 Lab Assistant-1 Faculty -2 Total-29	Students, faculty and lab assistants understood about the basic qualification and knowledge required to enter into the industry, working environment and various procedures to handle the chemicals.
2	III and II B.Sc., Chemistry	Research lab visit to Avinashilingam University, Coimbatore.	08-12-2023	Students - 66 Faculty -2 Total-68	Students learnt about the working principle of Field Emission Scanning Electron Microscope (FESEM), X-ray Diffractometer (XRD), Nano Spray Dryer, Atomic Absorption Spectrophotometer (AAS), 3D Optical Profilometer, Fourier Texture Analyzer, Plasma Chamber, Spectrophotometer with Color Lab, Turbidity meter, Ultrasonic Homogenizer, UV Biospec, Electrochemical Workstation, Ozonizer , etc., which helps them during their project work.
3	III B.Sc., Chemistry	Research lab visit, Karunya University, Coimbatore.	07-03-2024	Students- 22, Faculty-04, Total - 26	The students and faculty gained knowledge and training on various instruments, operating procedure and its application in various domains.
4	III B.Sc., Chemistry	Research lab visit, UPASI (The United Planters' Association of Southern India), Coonoor.	14-03-2024	Students-26, Faculty-03, Total - 29	The students gathered information about the various stages and steps in tea processing and the importance of fermentation which is very vital in preservation process which in turn saves commercially important cash crops.

c) Summer School/ Internship

- ❖ J. Chandni of II B.Sc. Chemistry underwent an internship in “**Determination of heavy metals in fertilizers and pesticides by analytical methods**” at Upasi Tea Research Foundation, Coonoor.
- ❖ Mohanarajan of II B.Sc. Chemistry underwent an internship in “**Plastic manufacture and testing technology**” at CIPET-IPT Chennai Plastic testing centre.

- ❖ J. Vishnu madesh, Vignesh. S, Ranil V of II B.Sc. Chemistry underwent an internship in “**Metal testing (Iron, Nickel, Zinc, Cobalt, Aluminium and Copper) technology**” at Agro Met Lab, Coimbatore.
- ❖ Vignesh. S, Ranil V, Sameera. M, S. Syedjaffersadiq of II B.Sc. Chemistry underwent an internship in “**Metal testing (Iron, Nickel, Zinc, Cobalt, Aluminium and Copper) technology**” at Bisco electro coatings, Coimbatore.
- ❖ Sriramya A, Lishanthini. S of II B.Sc. Chemistry underwent an internship in “**Domestic water motor lifting, manufacturing and processing**” at Swagath industrial corporation, Coimbatore.
- ❖ Abinaya S of II B.Sc. Chemistry underwent an internship in “**Aavin milk and its milk products**” at Aavin Dairy, Ooty.
- ❖ Vimal Kumar S, Guruprasath S of II B.Sc. Chemistry underwent an internship in “**Laundry Soap Manufacturing techniques**” at Sri Ganga Soap Works, Coimbatore.
- ❖ Dravid Raja of II B.Sc. Chemistry underwent an internship in “**Electro coating and powder coating on Aluminium and Iron metals**” at Pharmafabrikon, Madurai.
- ❖ Ashwini S of II B.Sc. Chemistry underwent an internship in “**Manufacturing of nutraceutical supplements**” at Nvron life science limited, Coimbatore.
- ❖ Balaji S, Barath K M of II B.Sc. Chemistry underwent an internship in “**Gold assay and hallmarking**” at KTC Hallmarking, Coimbatore.
- ❖ Rithika M I of II B.Sc. Chemistry underwent an internship in “**Water quality management**” at Seven hills Aqua Industry Ltd, Salem.
- ❖ Narmadha V. M, Divya K of II B.Sc. Chemistry underwent an internship in “**Hard chrome plating**” at Allied Chrome Tech, Coimbatore.
- ❖ Vanyaa Lingi R, of II B.Sc. Chemistry underwent an internship in “**Quality control techniques used in vaccine manufacturing**” at Human biologicals institute, Ooty.

d) Conferences / Seminars / Workshops/ Competitions/ Training Attended

- ❖ Ezhil, Harish. L, Nithya. C - II B.Sc. Chemistry and Mohamadsafwan, Madhavnaresh – I BSc., Chemistry, Participated in **Chemfusion** and won **Third prize in “Chemposter”**, organized by Department of Chemistry, Sri Ramakrishna Mission Vidhyalaya College of Arts and Science, Coimbatore.
- ❖ Balaji. S, Barath. K.M of III B.Sc. Chemistry participated in “**Recent Innovations in Modern Science and Technology**”, at KPR Institute of Engineering and Technology, Coimbatore

e) Paper Presentation by Students

- ❖ Vimalkumar. S, Syed jaffersadiq, Lishanthini. S, Vignesh. S - III B.Sc., Chemistry participated in the National Conference on Futuristic materials in Science and Technology (NCFMST -2023) and presented a Paper entitled **“Preparation, Characterization and Biological activities of transition metal hydrazine carboxylates”** organized by Department of Chemistry, Bannari Amman Institute of Technology, Sathyamangalam.
- ❖ Abinaya. S, Mathumitha. M, Guruprasath. S, Sriramy.A, Sameera. M, Vannyalangi. R, Dravid raja. K, of III B.Sc., Chemistry students participated in an International Conference on socio economic impacts of pollution in the water bodies and remedial measures (ICPWRM – 2023) and **Presented 8 abstracts**, jointly organised by Kongunadu Arts and Science College, Coimbatore and University of Exeter, UK and Teesside Univerity, UK.
- ❖ Subiksha. K, Rithika. M, Balaji. S Barath. K.M of III B.Sc., Chemistry participated in National Convention Electrochemists on 04/01/2024, 05/01/2024 at SRM University, Chennai and presented a paper entitled **“Beyond lithium: Sodium – ion coin cells with tailored Cathods and Graphene anode for next generation energy storage”**.

f) Inter-Departmental Activities

- ❖ Srikanth. B, Arunkumar. N, Dineshkumar. M, Subieswar. D, Rabah Raj – II B.Sc., Chemistry participated in a **“Guest lecture on Carrier opportunities in Abroad”** organized by Department of Mathematics, under DBT – STAR College, Kongunadu Arts and Science College, Coimbatore on 07.08.2023.
- ❖ 33 Students of II B.Sc., Chemistry participated **“Societal Implications of Nanotechnology and its perspectives”** organized by the Department of Physics, Kongunadu Arts and Science College, Coimbatore on 08.08.2023.
- ❖ 42 students from III & II B.Sc., Chemistry attended a **“Guest lecture on Industrial and Biosafety Ethics for young minds”**, organized by the Department of Physics, Kongunadu Arts and Science College, Coimbatore on 15.09.2023.
- ❖ 40 students of II B.Sc., Chemistry students participated in a **“Workshop on Information Security”**, Jointly Organised by Department of Botany and Chemistry in collaboration with Information Security awareness (ISEA) project phase – II, Ministry of Electronics and Information technology (MEITY) Government of India.
- ❖ 5 of our students have participated in **“Capacity Building Programme an Interdisciplinary approach for non-mathematics students”**, organized by the Department of Mathematics, KASC on 11.12.2023.
- ❖ 4 of our students participated in a Guest Lecture on **“Students Project Ideas- Interdisciplinary Approach”** organized by the Department of Mathematics, KASC on 21.09.2023

9.7 No. of New Experiments Introduced

- ❖ Microscale experimental techniques enhanced for I and II B.Sc., Chemistry students.
- ❖ Isolation of phytochemicals from tea leaves (polyphenols, flavanols, flavone diols, flavonoids) was demonstrated for III B.Sc., Chemistry students.

9.8 Publications (Scopus indexed) /patents, if any.

- ❖ Dr. E. Jayanthi, Assistant Professor of Chemistry published an article entitled **“Quantum Chemical studies on structural, spectral and frontier molecular orbital analysis of Indometacin in aqueous phase”** in the journal, Asian Journal of Chemistry vol.,35 No.10(2023) 2489- 2509.
- ❖ Dr. E. Jayanthi, Assistant Professor of Chemistry published an article entitled **“Green synthesis of metal doped Zinc oxide nanoparticles using *bauhinia racemosa* Lam. extracted and evaluation of their photocatalysis and biomedical applications”**, Applied bio materials, vol.,7 No.4(2024) 2519- 2532.
- ❖ Dr. K. Saminathan, Assistant Professor of Chemistry published an article entitled **“Revolutionizing Hydrogen Fuel Production: Exceptional Hydrogen Evolution Reaction Performance of Metal Oxides Coated Kish Graphite Electrodes with Mathematical Modelling”**, Research Square, 16 June 2023 [https:// doi.org/ 10.21203/rs.3.rs-3054032/v1](https://doi.org/10.21203/rs.3.rs-3054032/v1) PPR: PPR677142.
- ❖ Dr K. Saminathan, Assistant Professor of Chemistry published an article entitled **“Toxic Effect of Lawsonia inermis Leaf Litter on Growth and Reproduction of Earthworm *Eudrilus eugeniae*”**, Journal of Soil Science and Plant Nutrition (IF 3.9) Pub Date: 2023-07-14, DOI:10.1007/s42729-023-01369-2.
- ❖ Dr. K. Chandra Prakash Assistant Professor of Chemistry published an article entitled **“Length-weight relationship of flying fishes (Exocoetidae) from Bay of Bengal, Eastern Indian Ocean”**, Thalassas 2023, 39, 509–512.
- ❖ Dr. K. Chandra Prakash Assistant Professor of Chemistry published an article entitled **“First Record of Redfin Emperor *Monotaxis heterodon* (Lethrinidae) from Indian Waters with Molecular Confirmation”**, J. Ichthyol. 2024, 64, 202–208.

9.9 Training Received by Faculty/ List of Activities Undertaken by Faculties

a) Training Received by Faculty

- ❖ Dr. E. Jayanthi, Assistant Professor of Chemistry completed a **“Faculty Development Programme”** conducted by Teaching Learning Centre, Ramanujan College, University of Delhi from 16.11.23 – 22.11.23.

- ❖ Dr. V. Sangeetha, Dr. R. Manimekalai, Sr. K. Saminathan, Assistant Professors of Chemistry completed **“Online Two-week Refresher Course”** from 15th to 29th December conducted by Teaching Learning Centre, Ramanujam College, University of Delhi in collaboration with Kongunadu Arts and Science College and Kandaswami Kandar’s College, Velur, Tamilnadu
- ❖ Dr. K. Chandraprakash, Assistant Professor of Chemistry completed **“TNSCST Young Scientist Fellowship at CIMAP”**, Bangalore from 25th October to 26th December 2023.
- ❖ Dr. K. Krishnaveni, Assistant Professor of Chemistry attended a **“Six-day faculty development programme on Charging ahead: Exploring next generation Battery technology”** on 14th October 2023 conducted by SRM Institute of Science and Technology, Ramapuram, Chennai.
- ❖ Dr. K. Krishnaveni, Assistant Professor of Chemistry attended a **“Five day International level online Faculty Development programme on Artificial Intelligence in Chemistry: Current trends and futuristic perspectives (AICCTPF- 2023)”**, from 4th – 9th September 2023 conducted by PG and Research Department of Chemistry, Holy Cross College, School of Physical Science, Tiruchirapalli.
- ❖ Dr. K. Krishnaveni, Assistant Professor of Chemistry attended a **“Seven-day International virtual faculty development programme on Emerging trends in Chemical sciences”** from 19th to 25th November 2023 at Seethalakshmi Ramaswami College, Tiruchirapalli.

b) Conferences/ Seminars / Workshops Attended

- ❖ Dr. M. S. Sivaramkumar, Dr. R. Manimekalai, Dr. E. Jayanthi, Dr. K. Chandraprakash, Assistant Professors of Chemistry participated in an **“International Conference on Recent Innovations in Chemical Sciences”**, on 29.09.23 at Sona College of Technology, Salem.
- ❖ Dr. K. Chandraprakash, Assistant Professor of Chemistry, attended an **“Online International conference on Recent Advances in Chemistry – 2023”** at Mother Theresa Women University, Kodaikanal on 13.07.2023 - 14.07.2023 and presented a paper entitled **“Heteroaromatic Quinoline: facile synthesis of Nitro substituted Indolo Quinoline under microwave assisted condition”**.

9.10 List of Exhibitions/ Seminars/ Training Courses Conducted

a) Conferences/ Seminars / Workshops Organized

S. No	Name of the Event/ Activity	Date	Resource Person	Number of Beneficiaries	Outcome
1	Seminar on “Recent Trends in Advanced Materials and their	04-09-2023	Dr. SakthiPandi K Professor & Research Coordinator, SRM Trichy Campus, Tiruchirappalli.	47 Students	Students understood about the applications of various advanced materials like super capacitors, nanocomposites, ceramics, polymers and metals.

	Applications”		Dr. Hemalatha K V Assistant Professor Department of Chemistry, Coimbatore Institute of Technology, Coimbatore.		
2	Seminar on “Futuristic Trends and Opportunities in Basic Sciences”	08-09-2023	Dr C. Ravidass Head, Department of Physics, Bishop Heber College, Trichy. Dr. D. Nalini Head, Department of Chemistry, PSGR Krishnammal College for Women, Coimbatore.	195 Students	The students gained understanding of different methods for preparing thin films, techniques for fabricating solar cells and explored opportunities within various industries, research and development laboratories, as well as higher education prospects in reputable institutions.
3	Seminar on “Current Topics of Interest in Chemical Science Research”	21.09.2023	Dr. Shanmugaraju Sankarasekaran Associate Professor in Chemistry, Indian Institute of Technology Palakkad, Kerala, India Dr. R. Prabhakaran Associate Professor Department of Chemistry Bharathiar University, Coimbatore	64 Students, 7 Faculty Total 71	Various types of Sensor, their uses and applications in numerable areas are covered. The participants understood the concepts of Coupling reactions.
4	Seminar on “Current trends in Pharmaceutical Industry and Futuristic opportunities”	04-03-2024	Lakshmanan Subramaniam Scientific Manager- Analytical R & D, BioconPharma Ltd, Bangalore. Mahendran Krishnan Senior Manager, Somerset Therapeutics Ltd, Budihal, Karnataka.	Students-56 Faculty-07 Total - 63	Students gained insight into recent drug advancements, diverse medication forms, and practical skills encompassing drug formulation, manufacturing, FDA regulations, design, quality control, and progress documentation, enhancing their contribution to a comprehensive science exhibition.
5	Workshop on “In Silico Molecular Design”	11-01-2024	Dr. V. Rajapandian Assistant Professor Department of Chemistry, Sri SRMV, Coimbatore	42 Students	Students became familiar to use Gaussian software for drawing 3D chemical structures and calculations on bond angles and lengths, energy and related parameters in their project work.

6	Workshop on “Phytochemical Extraction from Tea Leaves”	19-02-2024	M. Thennarasu Group Manager Wipro Enterprises limited Kochi, Kerala.	Chemistry students-37 Physics-16, Biochemistry – 06, Botany – 06, Faculty –7, Total - 72	Students gained practical knowledge in isolating phytochemicals such as polyphenols and flavonoids, from tea leaves through chemical techniques and also improved their skills in identifying tea leaf varieties and to operate the rota vapor instrument for extraction.
---	--	------------	---	---	---

b) Exhibition / Competitions Organized

S. No.	Name of the event/Activity	Date	Number of Beneficiaries	Outcome
1	Model Making Competition	28-02-2024	23 students	To motivate internal achievement which is very important for self-learning and optimizing students group activity and self-responsibility.
2	Quiz Competition	28-02-2024	Chemistry students - 10 Botany students - 05 Bio chemistry Students - 17 Total - 32	Students gained insight into various current affairs across different subjects, recognizing the significance of collaborative activities in acquiring new knowledge. They also acquired firsthand experience in preparing for competitive exams, equipping themselves to tackle future challenges with confidence.
3	Interdepartmental Science Exhibition	02-03-2024	120 students	Anticipated outcomes involve disseminating scientific knowledge, developing project management skills, inspiring future pursuits, facilitating networking, recognizing achievements, engaging the public, and documenting progress, contributing to a holistic and impactful science experience.

c) Training Courses Conducted

S. No.	Name of the event/ Activity	Date	Resource Person	Number of Beneficiaries	Outcome
1	Faculty Development Programme “Empowering Science Educators: AI &ML “	06-03-2024	Dr. P.Subashini Professor of Computer Science, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore. Dr.Valliappan Raman Professor & HoD Department of Artificial Intelligence and Data Science, Coimbatore Institute of Technology, Coimbatore.	35 faculty	A groundwork was laid for proficient, ethically-minded educators, integrated curriculum development, influential research contributions, and a collaborative community dedicated to advancing AI/ML education trademark.

2	Faculty Training Programme on “Teaching Pedagogy and Skills”	25-03-2024	Dr. S.K. Krishna , Assistant Professor Department of Chemistry, Chikkaiah Naicker College, Erode.	30 Faculty	Development of interpersonal skills, positivism, fair minded, humour sense, consistent, punctuality which helps for a better classroom environment.
3	Hands on Training on “Handling of new Instruments for lab Technicians”	13-12-2023	Mr. G.K. Shanmugasundram Managing Partner Gemini Scientific Company Chennai.	16 Lab Assistants	Lab Assistants from various scientific disciplines understood about the handling of new instruments like digital potentiometer, colorimeter, rota vapour, Electrodes, hot air oven, etc.

d) Lab Manual

- ❖ Lab manual was **revised** for **Physical Chemistry** practicals for III B.Sc. Chemistry Students
- ❖ Lab manual was **revised** for **Gravimetric Analysis** practicals for III B.Sc. Chemistry Students
- ❖ Lab manual was **revised** for **Application Oriented Practical in Chemistry** for III B.Sc. Chemistry Students
- ❖ Lab manual on **Organic Analysis and Volumetric Analysis** was **revised** for II B.Sc. Chemistry and Allied Botany, Physics and Biochemistry students
- ❖ Lab manual on **Inorganic Analysis and Inorganic Preparations** was **revised** for I B.Sc. Chemistry

d) Mentor Mentee Meeting

- ❖ **Mentor Mentee meeting** were organized on 08.09.2023 and 01.03.2024. **Dr. T. Selvaraju**, Associate Professor, Department of Chemistry, Bharathiar University, Coimbatore-46 and **Dr. T. Nalini**, Associate Professor and Head, Department of Chemistry were the resource persons respectively. The total number of beneficiaries is 7.

9.11 Details of Books and Journals subscribed from DBT Grant

S. No	Bill No.	Date	Company Name	Publisher	Author	Title	Qty	Amount
1	12306	16.03.2024	Shanti Books	Sultan Chand & Sons	Venkateswaran V, Veeraswamy R., Kulandaivelu AR	Basic Principles of Practical Chemistry	2	531
2	12306	16.03.2024	Shanti Books	Willey India (p) ltd	J. D. lee	Concise Inorganic Chemistry	3	2932.50
3	12306	16.03.2024	Shanti Books	New age International Pvt. Ltd	B. Srilakshmi	Food Science	3	1402.50
4	12306	16.03.2024	Shanti Books	Pearson India education services Pvt ltd	James E Hubeey, Ellen A Keiter, Richard l Keiter, Okhil K Medhi,	Inorganic Chemistry Principles Of Structure And Reactivity	3	2728.50
5	12306	16.03.2024	Shanti Books	Himalaya Publishing House P ltd	Gurdeep R Chatwal,shamk.anand	Instrumental methods of chemical Analysis	3	1887
6	12306	16.03.2024	Shanti Books	Pearson India education services Pvt ltd	Robert Thomson Morrison, Robert Neilson Boyd, SaibalKantiBhattacharjee	Organic Chemistry	2	1921
7	12306	16.03.2024	Shanti Books	Pearson India education services Pvt ltd	I. L. Finar	Organic Chemistry-Volume-2 Stereochemistry And The Chemistry Natural Products	3	3085.50
8	12306	16.03.2024	Shanti Books	Pearson India education services Pvt ltd	I.L. Finar	Organic Chemistry Volume 1	3	3136.50
9	12306	16.03.2024	Shanti Books	Bloomsbury Publishing India Pvt Ltd	William kemp	Organic Spectroscopy	1	594.15
10	12306	16.03.2024	Shanti Books	New age International Pvt. Ltd.	P. S. Kalsi	Spectroscopy of organic Compounds	1	505.75
11	12306	16.03.2024	Shanti Books	Pearson India education services Pvt ltd	G.Svehla, B.Sivasankar	Vogels Qualitative Inorganic Analysis	3	1950.75

12	12306	16.03.2024	Shanti Books	Pearson India education services Pvt Ltd	Brian S.Furnis	Vogel's Textbook of Practical Organic Chemistry	3	4207.50
13	12379	26.03.2024	Shanti Books	Krishna Prakashan	B.K. Sharma	Industrial Chemistry Vol 1	2	4250
14	12379	26.03.2024	Shanti Books	Krishna Prakashan	B.K. Sharma	Industrial Chemistry Vol 2	2	4250
15	12379	26.03.2024	Shanti Books	I K International Publishing House Pvt. Ltd	Sulekh Chandra	Concise Inorganic Chemistry	1	293.25
TOTAL							35	33676

9.12 Outreach / Extension Activities

S. No.	Name of the event/Activity	Date	Resource Person	Number of Beneficiaries	Outcome
1.	Exploring science education for young minds (for school students)	07-07-2023	Faculty members of Chemistry.	37 students	Disseminating scientific knowledge among school students further creating thrust to take up science related studies in the college level.
2.	Exploring science education for young minds (School students Programme)	05-10-2023 & 06-10-2023	Dr. K.Krishnaveni Assistant Professor of Chemistry, Kongunadu Arts and Science College, Coimbatore-29	175 School Students, 10 Teachers, Total - 185	The students and teachers gained knowledge in arranging the molecular module design, Preparation method of Soap and Sanitizer.
3.	Hands on "Chemistry experiments for school students (Grade XII)"	01-02-2024	Dr K. Krishnaveni Assistant Professor Department of Chemistry Kongunadu Arts and Science College Coimbatore. Dr K. Chandra Prakash Assistant Professor Department of Chemistry Kongunadu Arts and Science College Coimbatore.	16 Students 1 Teacher Total 17	The participants got training on volumetric analysis and systematic qualitative analysis of organic compounds and functional group analysis which helps them to perform better in their practical examinations.

9.14 Invited Lectures/Guest Lectures Conducted

S. No.	Name of the event/Activity	Date	Resource Person	Number of Beneficiaries	Outcome
1.	Invited lecture on “Recent Advancement and Opportunities in Chemistry”	11-07-2023	Dr R Venkateswaran Assistant Professor Department of Chemistry PSG College of Arts and Science Coimbatore.	63 Students and 07 Faculties	Student came to know about Recent advancement techniques and opportunities in Chemistry.
2	Invited lecture on “Evolution of Concepts of Acids and Bases: Their Applications in Chemical Sciences”	14-09-2023	Prof. I. V. Muthu VijayanEnoch Professor & Head of Nanosciences, Karunya Institute of Technology, Coimbatore.	64 Students 07 Faculties Total - 80	Students gained a deeper understanding of various concepts of acids and bases and their wide range of applications in chemical industries.
3	Invited talk on “Multi functional metal Organic Framework for Environment Application”	22-01-2024	Dr. D. Gangadharan Assistant Professor Department of Sciences AmirtaViswa Vidyapeetham University, Coimbatore.	Students - 56 Faculty - 7 Total - 63	Students curiously learnt how to prepare multi -functional metal organic framework and how it is highly used to conserve aquatic system and environment.
4	Enrichment Programme on “Intellectual Property Rights (EPIPR)”	02-02-2024	Dr. M. Selvakumar Associate Professor, Department of Chemistry, Manipal University, Karnataka.	81 Students	Students and faculty were exposed to their rights in intellectual property as copyright, patent and Trademark.

DEPARTMENT OF COMPUTER SCIENCE

9.6 No. of Hands-on Experiments being Conducted/ List of Activities Undertaken by Students

i) Hands-on Trainings being Conducted

S. No.	Name of the Event/Activity	Date	Resource Person	Number of Beneficiaries	Outcome
1.	Hands-on Training on “Internet of Things (IoT) using Arduino”	24-06-2023	Mr. Mohamed Imam Ali U.S Senior Cloud Developer, JNET Technologies, Coimbatore.	59 students	Students understood the concepts and functionalities of the devices and the usage of Arduino Board, Sensors which are more useful in developing real time projects.
2.	Crafting Memorable User Experiences: A Hands-on-Training on “High Quality Interfaces”	10-10-2023	Mrs. N. V. Brindha Assistant Professor of Computer Science, Suguna College of Arts and Science, Coimbatore.	52 students 02 Faculty Total = 54	Students learnt about the concept of User Interfaces and the Characteristics of a High Quality User Interface Design.
3.	A Hands-on Training on “Chip-Level Testing and Debugging for Mobile Phones and Tablets”	22-01-2024	Mr. A. Sajith Mr. R. Karthi Service Technicians & Trainers, New Technology Institutions, Coimbatore	58 students 02 Faculty members Total = 60	The workshop emphasized the importance of quality assurance in mobile device manufacturing, equipping participants with knowledge of compliance standards, best practices, and quality control measures necessary to ensure product reliability.
4.	A Hands-on Training on “Computer Servicing and Trouble Shooting”	23-01-2024	Mr. A. Sajith Mr. L. Raja Service Technicians & Trainers, New Technology Institutions, Coimbatore	46 students 02 Faculty Members Total = 48	Participants developed practical skills in hardware installation, software diagnosis, data backup, and network troubleshooting.
5.	A Hands-on Training on “Empowering Insights: Unleashing the potential of Data with R Programming”	31-01-2024	Dr. C. Nagarani Assistant Professor Department of Computer Science PSG CAS, Coimbatore.	II B.Sc: 47 Faculty members -2 Total = 49	Students learnt about the features of R studio and R studio Interface. Students practically learned about creating plots, dataframes and graphs which are used in their projects.

ii) List of Activities Undertaken by Students

a) List of Projects Undertaken by Students

- ❖ D. Vigneshwar, S. Raju, V. Gowthamraj of II-B.Sc. Physics and P. Mukesh Kanna of III-B.Sc. Computer Science developed a project entitled **“Fire Fighting Robot” (Interdepartmental Project with Physics)**.
- ❖ D. Selvam of III-B.Sc. Physics, S. Ramya (of I-M. Sc. Physics, S. Deepika of I-B.Sc. Physics, M. Yuvaraj and R. Aravind Kandeepan of III-B.Sc. Computer Science developed a project entitled **“Pet feeder using IoT” (Interdepartmental Project with Physics)**.
- ❖ T. Kannan of III-B.Sc. Physics, A.S. Shri Varsha and B. Dharshana of III-B.Sc. Computer Science developed a project Entitled **“Ultrasonic Radar Using IoT” (Interdepartmental Project with Physics)**.
- ❖ R. Shalini of III-B.Sc. Physics, S. Sowndhariya, A. Monisha Prasiy of II-B.Sc. Physics, K. Harshapradha of III-B.Sc. Computer Science developed a project entitled **“Smart Helmet” (Interdepartmental Project with Physics)**.
- ❖ B. Dharshana of III-B.Sc. Computer Science developed a project entitled **“Smart Street Lighting System” (Interdisciplinary Project)**.
- ❖ Saranya Priya and S. Sridurgeswari of III-B.Sc. Computer Science developed a project entitled **“Anti-sleep alarm for drivers” (Interdisciplinary Project)**.
- ❖ K. Therasa and J. Ajish Ruban of III-B.Sc. Computer Science developed a project entitled **“Indoor Air Quality Monitoring System” (Interdisciplinary Project)**.
- ❖ G. Aarthi Priya and K. Harsha Pradha of III-B.Sc. Computer Science developed a project entitled **“Green House Monitoring System” (Interdisciplinary Project)**.
- ❖ S. Shri Varsha and S. Savitha of III-B.Sc. Computer Science developed a project entitled **“Secure Fingerprint Bank Locker System” (Interdisciplinary Project)**.
- ❖ S. K. Manoj Kumar and R. A. Sakthi of III-B.Sc. Computer Science developed a project entitled **“Medical Pill-Box Remainder” (Interdisciplinary Project)**.
- ❖ K. Induja and S. Dhanalakshmi of III-B.Sc. Computer Science developed a project entitled **“Smart Vacuum Cleaner Robot” (Interdisciplinary Project)**.
- ❖ R. R. Vijay and B. Vignesh of III-B.Sc. Computer Science developed a project entitled **“Smart Dustbin” (Interdisciplinary Project)**.
- ❖ S. Aacika and S. Priyanka of III-B.Sc. Computer Science developed a project entitled **“Automatic roof Control” (Interdisciplinary Project)**.
- ❖ R. Dhanya and N. Kiruthika of III-B.Sc. Computer Science developed a project entitled **“LPG Leakage Detecting System” (Interdisciplinary Project)**.
- ❖ K. Abarnath and V. Sivendra of III-B.Sc. Computer Science developed a project entitled **“Smart Blind Stick” (Interdisciplinary Project)**.

- ❖ R.V Pooja Padmashree and M. Asha devi of III-B.Sc. Computer Science developed a project entitled **“IV Bag Monitoring and Alert System” (Interdisciplinary Project)**.
- ❖ Mohammed Tariq and R. Aravind Kandeepan of III-B.Sc. Computer Science developed a project entitled **“Water Level Monitoring System” (Interdisciplinary Project)**.
- ❖ M. Jangan and R. Ram Pradhap of III-B.Sc. Computer Science developed a project entitled **“Smart Parking System” (Interdisciplinary Project)**.
- ❖ S. Ranjith Kumar and M. Sibi Vasan of III-B.Sc. Computer Science developed a project entitled **“Breathing level Monitoring and Alerting System” (Interdisciplinary Project)**.
- ❖ S. Kannan and S. Blessy Jeba Sijho of III-B.Sc. Computer Science developed a project entitled **“IoT Based Industry Protection System” (Interdisciplinary Project)**.
- ❖ R. Anbazhagan and V. Balaji of III-B.Sc. Computer Science developed a project entitled **“Fire Alarm Security System” (Interdisciplinary Project)**.
- ❖ Vel Murugan and K. Nithiyanantham of III-B.Sc. Computer Science developed a project entitled **“IoT Based CAM Laser Light Security System” (Interdisciplinary Project)**.
- ❖ M. Kiruthika of III-B.Sc. Computer Science developed a project entitled **“Laser Security System” (Interdisciplinary Project)**.
- ❖ R. Sibiraj and S. Adharsh of III-B.Sc. Computer Science developed a project entitled **“Coin Based Charging System Using Arduino” (Interdisciplinary Project)**.
- ❖ Keerthana, S. Arthi, S. Swathi of III-B.Sc. Mathematics, V. Balaji of III-B.Sc. Computer Science developed a project entitled **“Statistical Analysis Using Python” (Interdepartmental Project with Mathematics)**.

Innovative Product Designed and Developed

- ❖ **Bus Safari** is an innovative prototype aiming to revolutionize public transportation through technology. This project is used to enhance the daily commute by providing real time bus tracking and a suit of other user-centric features (**This model is incubated as a startup at CIET Cultive8 Incubation Centre**).
- ❖ **IV Bag Monitoring System** is an embedded device developed using integrated circuit like ESP 32, Water level sensor to check the liquid level and the I2C LCD (Liquid Crystal Display) is used to display the liquid level present in the IV bag.
- ❖ **Secure Fingerprint Bank Locker** includes an electronic embedded device developed using integrated circuits like Arduino Uno with a Microcontroller and R307 Fingerprint sensor.
- ❖ **IOT Based Greenhouse Monitoring System** aims to create an intelligent and automated greenhouse environment using Arduino technology using various sensors. (**Won First Prize in National Science Day Celebration- Tesla Fest 2024**).

- ❖ **Hand Gesture Controlled Car** is an electronic embedded device developed using Integrated circuits like NodeMCU(Micro Controller Unit).
- ❖ **Automatic Roof Control on Detecting Rain for Harvested Crops Protection** is an electronic embedded device developed using integrated circuits. Implementing an automatic roof control system can protect harvested crops from rain damage, ensuring better preservation and market value.
- ❖ **IOT Based Smart Street Lighting System** revolutionizes urban lighting infrastructure by integrating advanced technologies to enhance energy efficiency, safety, and sustainability.
- ❖ **Indoor Air Quality Monitoring System** is an electronic embedded device developed using integrated circuit like Arduino Uno.
- ❖ **LPG Leakage Detection System** is an electronic embedded device developed using Arduino Uno. This detection system is designed to ensure safety in environments where Liquefied Petroleum Gas (LPG) is used.
- ❖ **Antisleep Alarm for Drivers** introduces an innovative Internet of Things (IoT) solution Aimed at mitigating the risks associated with drowsy driving by developing an Anti-sleep alarm system.

b) Industrial Visits

S. No	Class	Place of Visit	Date	No. of Beneficiaries	Outcome
1	III B.Sc. Computer Science	Cutting-edge labs at KPR Institute of Engineering and Technology, Coimbatore.	20-12-2023	50 students 02 Faculty members Total = 52	Students visited the following Innovative Laboratories: 1. Robotics Lab Students gained knowledge about designing and creation of robots. 2. Mechatronics Lab (Electric Vehicle Lab) Students witnessed and attained knowledge about cars. 3. Ekki Pumps Lab Students were exposed to the evolution of various types of pumps. 4. Drone Robotics Acquired knowledge about controlling the Drones remotely and usage of drones namely in aerial photography, agriculture, surveying and delivery. 5. MAAC Lab Obtained knowledge about Game Designing and Animation.

2	II B.Sc. Computer Science students	Research Lab Visit to Bannari Amman Institute of Technology, Erode.	01-02-2024	28 students 02 Faculty members Total = 30	1. Haritha lab: Students learnt about “Scratch” a new programming language for developing animation and games software. 2. Mechatronics Robotics Lab: Acquired knowledge about the basic components used in assembling a robot. Students built a working model of a line following robot. 3. Research Park and AI lab: Learnt about the concept of transforming ancient manuscripts written on palm leaves into digital form.
3	II B.Sc. Computer Science Students	BSNL office, Coimbatore.	20-02-2024	38 students 02 Faculty members Total = 40	Students acquired knowledge on working principles of telecommunication and various operations of mobile services.
4	I -B.Sc. Computer Science Students	Regional Science Centre and Science Museum, Coimbatore	22-02-2024	52 students 03 Faculty members Total = 55	Students experienced the application of science in various domains which enriched the students' technical knowledge and fostered creativity and innovative thinking in the minds of the students.
5	III-B.Sc. Computer Science	“Tech By Heart” & “Visvesvaraya” Industrial and Technological Museum, Bengaluru.	28-02-2024 to 01-03-2024	40 students 2 Faculty members Total = 42	Students learnt the life cycle of the software development and were exposed to the functionalities of various departments of IT industry.

c) Summer School/ Internship

- ❖ M. Yuvaraj, W.B. Preethi, S.V. Shri Varsha of (III- B.Sc. Computer Science), R. M. Sakthi Pooja, P. Mithun, S. Thrishok, P. Monish of (II-B.Sc. Computer Science), K.S. Suriya (I-B.Sc. Computer Science) underwent “**Internship Training Programme**” at Brain O Vision.
- ❖ 25 Students of II-B.Sc. Computer Science underwent Internship Training Programme at Gate Way Software Solutions have completed his/her internship on “**Python With Data Science**”.
- ❖ S. Blessy Jeba Sijho, M. Mahalakshimi, R. Tharunraja, V. Gobikrishna, S. Abinaya, R. Sibiraj, V. Balaji, S. Adharsh, M. Gowtham, V. Shivendra, B. Vignesh, K. Indhuja, S. Dhanalakshmi, R.R. Vijay, P. Prajusha, (II-B.Sc. Computer Science) - 15 Students underwent Internship Training Programme at Gate Way Software Solutions have completed his/her internship on “**Web Development**”.
- ❖ R. Dhanya, G. Sounder Kumar, E. Srikanth, K. Abarnarth, N. Kiruthika, C.S. Aacika, R.V. Pooja Padmasree (II-B.Sc. Computer Science) - 7 Students underwent Internship Training Programme at Gate Way Software Solutions have completed his/her internship on “**Embedded / IoT**”.

- ❖ S. Harish as attended Internship Program at Sakthi InfoTech on “**Full Stack Development**”.
- ❖ M. Janagan, K. Nithyanantham, M. Sibivasan, S. Praveen Mathesh, S. Ranjith Kumar, S. Kannan, C. Velmurugan, R. Anbazhagan - 9 Students Underwent Internship Training Programme in the field of “**Full Stack Developer Trainee**” at Insource Technologies.
- ❖ B. Dharshana underwent Internship Programme on “**Roots Products Information System**” at Roots Industries India Limited.

d) Conferences / Seminars / Workshops/ Competitions/ Training Attended

- ❖ K. Harsha Pradha of III-B.Sc. Computer Science participated and won **I Prize** in the Science Exhibition for the “**National Science Day Celebration, TESLA FEST-2024**” conducted by the Department of Physics, Kongunadu Arts and Science College on 28-02-2024.
- ❖ K. Priyadharshan of II-B.Sc. Computer Science, Won the **First Prize** in the Code Debugging event at the “**National Level Technical Symposium - GENIX’24**” conducted by the Department of Computer Science (SF) & CS with Data Analytics, KASC on 21-02-2024.
- ❖ G. Sounderkumar and R. Tharunraja of III-B.Sc. Computer Science Won the **First Prize** in the Discover (Quiz) event at the “**National Level Technical Symposium - GENIX’24**” conducted by the Department of Computer Science (SF) & CS with Data Analytics, KASC on 21-02-2024.
- ❖ B. Dharshana and P. Mukesh Kanna of III-B.Sc. Computer Science, P. Ajai Selvam, P. Monish, V. Deepak, V. Vikram, K. Sri Durga Devi, V. Mirdhula of II-B.Sc. Computer Science participated in Code Debugging, Dumb charades, Discover (Quiz), Connect Tech at the “**National level Technical Symposium-24 GENIX’24**” conducted by the Department of Computer Science & CS with Data Analytics, KASC on 21-02-2024.
- ❖ B. Dharshana, P. Mukesh Kanna, M. Kiruthika, M. Sakthi Subashree, G. Sounderkumar of III-B.Sc. Computer Science attended the “**National Level Hands-on workshop on Business Intelligence Platform from Data Integration to Visualization**” organized by the Department of Information Technology at Karpagam College of Engineering on 26-09-2023.
- ❖ 22 students of II-B.Sc. Computer Science participated in various competitions including Quiz, Connection, Debugging, Treasure Hunt in “**BYTE BLAST ’24 an Inter Departmental Technical Fest**” Organized by the Department of Information Technology at Kongunadu Arts and Science College on 13-03-2024.
- ❖ P. Monish of II-B.Sc. Computer Science and R. Tharunraja of III-B.Sc. Computer Science have won **II place** in “**Top Code event in KNOCK-IT’24**” organized by the Department of Computer Studies at Sri Ramakrishna Mission Vidhyalaya College of Arts and Science on 6th March 2024.

- ❖ P. Monish of II-B.Sc. Computer Science, R. Tharunraja and G. Sounder Kumar of III-B.Sc. Computer Science have participated in **“Valorize and Castalia-2024 National Level Tech and Management fest”** organized by Sri Venkateswara Institute of IT and Management.
- ❖ Rahul and R. Athira of II-B.Sc. Computer Science won **I place** in **“Debugging at the Inter Departmental Technical Fest (Byte Blast’24)”** organized by the Department of IT at KASC held on 13.03.2024.
- ❖ V. Mirdhula and J. Madhumitha II-B.Sc. Computer Science won **III place** in **“Debugging at the Inter Departmental Technical Fest (Byte Blast’24)”** organized by the Department of IT at KASC held on 13.03.2024.
- ❖ R. Tharunraja, G. Soundar Kumar of III-B.Sc. Computer Science has won **I prize** in **“Technical Quiz at the State Level Intercollegiate XIANZE”** organized by Department of Software Systems and Computer Science (PG) at KG college of Arts and Science on 24.02.2024.
- ❖ M. Ravivarma of I-B.Sc. Computer Science has won **II place** in **“CHESS organized by SNS College of Technology-SNS Colors”** (A National Design Thinking Contest and Festival) on 12.09.2023.
- ❖ M. Agalya of II – B.Sc. Computer Science and Preethi Williams. W.B of III-B.Sc. Computer Science participated in the **“World Space Week Celebration 2023”** conducted by Satish Dhawan Space Centre Shar, Sriharikota, Indian Space Research Organization and Kongunadu Arts and Science College from 5-10-2023 to 7-10-2023.
- ❖ M. Ravivarma of I-B.Sc. Computer Science has won **II place** in **“Antiquity and Continuity Collage Making Competition Siruvani Youth Literary Festival-2024”** organized by Directorate of School Education and Public Library
- ❖ M. Ravivarma I-B.Sc. Computer Science has won **III place** in **“Extempore (Tamil)”** competition as **“World Space Week Celebration 2023”** conducted by Satish Dhawan Space Centre Shar, Sriharikota, Indian Space Research Organization and Kongunadu Arts and Science College from 5-10-2023 to 7-10-2023.

e) Inter-Departmental Activities

- ❖ P. Monish, P. Ajay Selvam, K. Priya Darshan of II-B.Sc. Computer Science have participated in **“Career Opportunities in Abroad”**, organized by Department of Mathematics, KASC on 07.08.2023.
- ❖ P. Monish, S. Thrishok, R. Prasanth. R. Srinath, K. Priya Darshan of II-B.Sc. Computer Science had participated in **“Hands on Training on Basics of MATLAB”**, organized by Department of Mathematics, KASC on 03.07.2023.
- ❖ Few of our students have participated in the **“Guest lecture on Understanding Intellectual Property Rights”** organized by the Department of Physics, KASC on 20.09.2023.

- ❖ K. Induja, S. Abinaya, P. Prajusha, B. Darshana, K. Therasa, P. Mukesh Kanna, V. Gobi Krishna, M. Yuvaraj, E. Srikanth, R. Tharunraja, G. Soundar Kumar of III-B.Sc. Computer Science had participated in “**Students project idea – Interdisciplinary Approach**”, organized by Department of Mathematics, KASC on 21.09.2023.
- ❖ M.K. Sushmitha, R.M. Sakthi Pooja, K. Sri Durga Devi, A. Diviya, A. Benita of II-B.Sc. Computer Science and E. Srikanth, G. Soundar Kumar, R. Tharunraja of III-B.Sc. Computer Science had participated in “**Capacity Building Programme an Interdisciplinary approach for non-mathematics students**”, organized by Department of Mathematics, KASC on 11.12.2023.

9.7 No. of New Experiments Introduced

Core practical – C programming lab - 23UCS1CL

List of Practical Programs beyond the syllabus

1. Write a program to arrange a set of numbers in DESCENDING ORDER using SELECTION SORT.
2. Write a C program to Print Pascal’s Triangle
3. Write a program to implement BINARY SEARCH and find a particular name in the list of names.
4. Write a C Program to Print Boundary Elements of a Matrix

Core Practical – Java Programming Lab - 23UCS3CN

List of Practical Programs beyond the syllabus

1. Write a java program to create graphics animation with applet
2. Write a java program to create Mirror Image Triangle Pattern

Core Practical – Visual Basic Lab- 23UCS4CO

List of Practical Programs beyond the syllabus

1. Design a form for speed control program using scroll bars.
2. Design a form using shape control to display signal and change it timely using timer control.
3. Design form to create a font dialog box using combo/ list, text, option buttons, and check box control.

Core Practical – PHP Programming Lab - 23UCS6CQ

List of Practical Programs beyond the syllabus

1. Develop a PHP script to validate an email address entered by the user
2. Write a PHP script to find the first character that is different between two strings.
3. Develop a PHP program to find the LCM of two numbers using user defined functions.
4. Write a PHP Script to sort the given associative array in descending order according to key

9.8 Publications (Scopus indexed) /Patents, if any.

- ❖ Dr. A. Kavitha, M. Usha Devi, Dr. A. Marimuthu, Dr. S. Santhana Megala as Published a Paper entitled **“Bipartite Graph Matching in Donor-Recipient Using Enhanced Drpm Algorithm for Liver Transplantation”** by Res Militaris Published, Volume 13, Issue 02 January 2023 (Scopus Database).
- ❖ Dr. A. Kavitha, K. Manimekalai published a **Book Chapter** on “IOT – Enable Convolutional Neural Networks: Techniques and Applications” under the topic **Classification of Myocardial Infarction in ECG Signals Using Enhanced Deep Neural Network Technique** on 2023.

9.9 Training Received by Faculty/ List of Activities Undertaken by Faculties

a) Training Received by Faculty

- ❖ Dr. A. Kavitha has attended **“One-week online FDP on Visual Intelligence: Exploring Image Processing and Computer Vision”**, organized by Department of Computer Science and Engineering in association with Computer Society of India (CSI)-SB, CVR College of Engineering, Hyderabad from 26th March to 30th March 2024.
- ❖ Dr. A. Kavitha has attended **“7 Days National Level FDP on Future Prospects of Innovations in Computational Intelligence”** organised by Department of Computer Studies (CS/CA/IT/CT/CGS/AIML), Hindustan College of Arts and Science, Coimbatore from September 20 to September 27, 2023.
- ❖ Dr. A. Kavitha has attended **“12 Days Virtual Faculty Development Programme on Development Human Potentials in Emerging Technologies in Computer Science”** organised by School of Computer Science, Kongunadu Arts and Science College, Coimbatore between 04.09.2023 to 16.09.2023.

- ❖ Dr. A. Kavitha has attended **“6 Days Professional Development Programme on Upskilling Core Competencies for Computer Science Professionals”** organised by School of Computer Science, Kongunadu Arts and Science College, Coimbatore between 09.10.2023 to 14.10.2023.
- ❖ Dr. A. Kavitha has attended **“One-Week National Level Faculty Development Programme on Cloud Infrastructure (AWS)”** organised by Karpagam College of Engineering, Coimbatore in collaboration with Brain O vision Solutions India Pvt Ltd and All India Council for Technical Education (AICTE) During the period of 21st to 25th August, 2023.
- ❖ Dr. A. Kavitha has attended **“NSE India (National Stock Exchange of India Ltd) Sponsored online investor Awareness Programme on Introduction of Financial Planning”** organised by Brighture Edu Tech Solutions.
- ❖ Dr. A. Kavitha has participated in a **“Faculty Development Programme on Computational Mathematics Using Python and Scilab”** organized by the Department of Computer Science (Aided) and Department of Mathematics, KASC under DBT Star College Scheme on 12/01/2024.
- ❖ Dr. A. Kavitha has attended the **“One Week International Faculty Development Programme on Emerging Trends in Information Technology”** Organized by the Internal Quality Assurance Cell (IQAC) and School of Computational Science held from 04.12 2023 to 11.12.2023, Shri Shankarlal Sundarbai Shasun Jain College for Women, Chennai -17.
- ❖ Mr. P. Kaliraj attended **“A Twelve days Virtual Faculty Development Programme on Developing Human Potentials in Emerging Technologies in Computer Science”** Organized by School of Computer Science, Kongunadu Arts and Science College, Coimbatore-29 From 04.09.2023 to 16.09.2023.

b) Conferences/ Seminars / Workshops Attended

- ❖ Mr. P. Kaliraj has participated in **“ACM Webinar in title of ChatGPT A Step Forward to Conversational Excellence (online)”** held on 6th July 2023 Organized by Yelagiri Hills ACM Professional Chapter and PG Department of Computer Science, Don Bosco College (Co-Ed) Yelagiri Hills, Tirupattur District.
- ❖ Mr. P. Kaliraj has participated in **“International Webinar on Application of MATLAB”** Organized by Department of Mathematics and Statistics on 13.7.2023 ST. Francis College, Koramangala, Bengaluru.
- ❖ Mr. P. Kaliraj has participated in **“2 Days NAAC Collaborated National Virtual Seminar on Holistic and Multidisciplinary Approach towards National Higher Education Quality Framework”** Organized by Cauvery College for Women, Annamalai Nagar, Trichy on 05.07.2023 to 06.07.2023.

9.10 List of Exhibitions/ Seminars/ Training Courses Conducted

a) Conference/ Seminars / Workshops Organized

S. No.	Name of the Event/ Activity	Date	Resource Person	Number of Beneficiaries	Outcome
1	Two days Workshop on “Arduino Based Application Development”	31-08-2023 & 01-09-2023	Dr. K. Subramanian Technical Lead, Enthi Technology Solutions India Pvt. Ltd., Coimbatore. Mr. Dinesh Babu. S Technical Engineer, Enthi Technology Solutions India Pvt. Ltd., Coimbatore.	III B.Sc. - 54 II B.Sc. - 56 Faculty Member - 1 Total = 111	The concepts and the working principles of IoT and the functionalities of different types of sensors were clearly explained to the students along with the demonstration of the experiments using Arduino board, IoT sensors and actuators. This type of workshops motivates the students to undergo more projects related to IoT.
2	Workshop on “Unlocking the Future: Bridging NLP and Open AI for Intelligent Communication”	12-09-2023	Mr. T. Nandha Kumar Software Developer, MECHPRO Technologies, Coimbatore.	III B.Sc. - 43 Faculty Member - 1 Total = 44	Awareness about the recent advancements in AI such as capabilities, content creation, language translation, coding, and creative endeavors of ChatGPT were provided
3	A Seminar and Demonstration on “Demystifying Networking Essentials”	12-10-2023	Mr. B. Meinathan Technical Consultant, Macro vision Telnet, Karnataka	III B.Sc. - 45 Faculty members -2 Total = 47	The functions of switches and different types of routers were narrated clearly with a demonstration. The characteristics of various types of hackers and the security features of mobile phones and apps were explained.
4	Workshop on “Mobile Application Development”	10-01-2024	Mr. C. Surendar Corporate Trainer & Software developer, Aakam Institute, Coimbatore	III B.Sc. - 01 II B.Sc. - 55 Faculty members -03 Total = 59	Students learnt about: • Concepts of frameworks and designs to create Applications. • Steps in mobile Development. • Usage of emulators.

b) Exhibition / Competitions Organized

S. No.	Name of the event/Activity	Date	Number of Beneficiaries	Outcome
1	Exhibition for School Students “IoT Devices”	07-07-2023	47 students	- School students were motivated towards science education. - Students experienced the practical learning of IoT devices.
2	Exhibition for School Students “Network Communication”	05-10-2023 and 06-10-2023	513 students	- The working models of Robot, Smart Agriculture and Earth Quake Alarm were demonstrated. - Created awareness about different types of sensors that can be used in IoT.
3	Competition for School Students in Python and PHP (for XII Standard students of Green Fields Matriculation School)	27-12-2023	45 students	Students’ interest towards learning more computer science areas was kindled. The competition sparked students' enthusiasm for delving into various computer science domains, broadening their understanding of the programming world.
4	Competitions for School Students (Quiz, Drawing, Essay Writing and Oratorical)	11-01-2024	58 students	- Students were motivated to learn advanced developments in science subject. - The competitive spirit among the students ignited their minds towards science education.
5	Inter Departmental Competition, Poster Presentation on “Igniting Scientific Thinking”	26-03-2024	12 students	- Explored Interdisciplinary connections between mathematics, engineering and other science domains. - Encouraged team work and presentation skills. - Promoted Critical Thinking in young minds of the students.

c) Training Courses Conducted

S. No.	Name of the event/ Activity	Date	Resource Person	Number of Beneficiaries	Outcome
1	Faculty Development Programme on “Inter disciplinary Approaches of Machine Learning”	21-10-2023	Dr. P. Shanmuga vadivu, Professor of Computer Science and Applications, The Gandhigram Rural Institute Gandhigram, Dindigul.	58 Participants from various Colleges got Benefited.	The participants acquired knowledge about Artificial Intelligence, Machine Learning and Data Science.

			Mrs. G. Kanimozhi, Software Engineer, Gen Digital (Norton LifeLock Software and Services), Chennai.		They were exposed to Machine Learning models, Training algorithms and Evaluation metrics for machine learning and its applications
2	Faculty Development programme on “Computational Mathematics using Python and Scilab”. (Organized along with Department of Mathematics)	12-01-2024	Dr.V. Parthipan Assistant Professor of Mathematics, Vellore Institute of Technology, Chennai Campus, Chennai. Dr.T. Senthil Kumar, Associate Professor, School of Computing, Amritha Vishwa Vidhyapeetham Coimbatore	44 Participants from various Colleges got Benefited.	The participants were taught about the salient features of Python and SCILAB for scientific computing along with their applications.
3	School Teachers Induction Programme (Organized along with Department of Mathematics)	13-02-2024	Mr.N. Tamilselvan Assistant Headmaster & PG Assistant in Mathematics, Government Higher Secondary School, Kalapatti, Coimbatore Dr. V. Chandran Former Headmaster, CSI Boys Higher Secondary School, Erode, Former Dean(S&H), RVS Technical Campus, Coimbatore	20 Participants from various schools got benefited.	Empowered teachers with the skills and tools to design innovative lesson plans, to develop interactive learning experiences and to integrate computer science and mathematical concepts, promoting interdisciplinary learning and critical thinking skills among students.

4	Hands-on Training on “Upskilling Networking Skills for Lab Technicians”	16-03-2024	Mr. K. J. Bhagavathy , System Engineer, Precision Infomatic Pvt Ltd, Coimbatore	16 Lab Technicians	Equipped the lab technicians with knowledge and tools to troubleshoot and intricate networks.
---	---	------------	--	--------------------	---

d) Lab Manual

- ❖ SOP & Lab Manual prepared for **Java Programming** for II B.Sc. Computer Science.
- ❖ SOP & Lab Manual prepared for **Python Programming and IoT** for III B.Sc. Computer Science.

e) Mentor Mentee Meeting

- ❖ **Mentor Mentee Meeting** was held on 18.12.2023 **Dr. S. Karpagavalli**, Associate Professor and Head, Department of Computer Science, PSGR Krishnammal College for Women, Coimbatore- 641 004, mentored the session and 6 Faculty members are benefited regarding utilization of recurring budget for Internships, Projects, Workshops, Lab Manual, Hands-On training and Industrial Visits.
- ❖ **Mentor Mentee Meeting** was held on 17.02.2024 **Dr. S. Karpagavalli**, Associate Professor and Head, Department of Computer Science, PSGR Krishnammal College for Women, Coimbatore- 641 004, **Dr. S. K. Jayanthi**, Principal, Vellalar College for Women (Autonomous), Thindal, Erode - 638 012, mentored the session and 5 Faculty members are benefited regarding utilization of recurring budget for Internships, Projects, Workshops, Lab Manual, Hands –On-training and Industrial Visits.

9.11 Details of Books and Journals subscribed from DBT Grant

S. No	Bill No.	Date	Company name	Publisher	Author	Title	Qty	Amount
1	SINV0 3214	09.02.2024	TBH Publishers and distributors	Pearson India Education Services Pvt. Ltd.,	Harvey M. Deitel	Operating System	4	3978
2	SINV0 3214	09.02.2024	TBH Publishers and distributors	Mc Graw Hill Education India Pvt Ltd,	Steven Holzner,	PHP: The Complete Reference	2	1870.44
3	SINV0 3214	09.02.2024	TBH Publishers and distributors	Pearson India Education Services Pvt. Ltd.,	Dan. W. Patterson	Introduction To Artificial Intelligence and Expert Systems	3	1579.50

4	SINV03214	09.02.2024	TBH Publishers and distributors	Pearson India Education Services Pvt. Ltd.,	George F. Luger	Artificial Intelligence Structures and Strategies for Complex Problem Solving	3	2340
5	SINV03214	09.02.2024	TBH Publishers and distributors	Pearson India Education Services Pvt. Ltd.,	David. E. Simon	An Embedded Software Primer	3	2620.80
6	SINV03214	09.02.2024	TBH Publishers and distributors	Cambridge University Press	Peter Flach	Machine Learning	3	4434.30
7	SINV03214	09.02.2024	TBH Publishers and distributors	Crc Press Taylor & Francis Group.,	Stephen Marsland,	Machine Learning: An Algorithmic Perspective	3	3030.30
8	SINV03214	09.02.2024	TBH Publishers and distributors	Mc Graw Hill Education India Pvt Ltd	Roger S. Pressman, Bruce R. Maxim	Software Engineering: A Practitioners Approach	5	3896.10
9	SINV03214	09.02.2024	TBH Publishers and distributors	Mc Graw Hill Education India Pvt Ltd	E. Balagurusa my	Introduction to Computing and Problem-Solving Using Python	4	1747.20
10	SINV03214	09.02.2024	TBH Publishers and distributors	Mc Graw Hill Education India Pvt Ltd	Raj Kamal	Embedded Systems	4	3182.40
11	SINV03214	09.02.2024	TBH Publishers and distributors	Pearson India Education Services Pvt Ltd	Lan Sommervill e	Software Engineering	3	2468.70
12	SINV03214	09.02.2024	TBH Publishers and distributors	Pearson India Education Services Pvt Ltd	Jochen H.S chiller	Mobile Communications	3	2340
13	SINV03214	09.02.2024	TBH Publishers and distributors	Universities Press	Arshdeep Bahga, Vijay Madiseti,	Internet Of Things: A Hands-on Approach	3	2223
14	SINV03214	09.02.2024	TBH Publishers and distributors	Pearson India Education Services Pvt Ltd	Charles P Pfleeger, Shari Lawrence Pfleeger, Jonathan Margulies,	Security In Computing	4	3603.60
15	SINV03214	09.02.2024	TBH Publishers and distributors	Pearson India Education Services Pvt Ltd	Ramez Elmasri, Shamkant B Navathe,	Fundamentals Of Database Systems	3	2468.70

16	SINV03214	09.02.2024	TBH Publishers and distributors	Tata Mc Graw Hill Education Pvt. Ltd.,	Rajkumar Buyya, Christian Vecchiola, S. Thamaraise lvi	Mastering Cloud Computing	2	1513.70
17	SINV03214	09.02.2024	TBH Publishers and distributors	Vijay Nicole Imprints Pvt Ltd	Alex Leon, Mathews Leon	Essential Of Database Management System	2	928.20
18	SINV03214	09.02.2024	TBH Publishers and distributors	Mc Graw Hill Education India Pvt Ltd	Behrouz A Forouzan	Data Communications and Networking with Tcp/Ip Protocol Suite	1	775.32
TOTAL							55	45000

9.12 Outreach / Extension Activities

S. No.	Name of the Event/Activity	Date	Resource Person	Number of Beneficiaries	Outcome
1	Workshop on “Empowering Young Minds: Building Resilience in students”	24-08-2023	Mr. P. Nanda Kumar Emotional wellness Coach and Author, Member ICF, International Coach Federation, Coimbatore.	80 students	This workshop created an awareness towards empowering and shaping young minds.
2	Hands-on-Training Programme in “Python and PHP”	27-12-2023	B. Dharshana W. B. Preethi III B.Sc. Computer Science	58 students	Students learnt about: - Advantages and applications of Python and PHP. - Basic Concepts and syntax of Python and PHP through Quiz.

9.14 Invited Lectures/Guest Lectures Conducted

S. No.	Name of the event/Activity	Date	Resource Person	Number of Beneficiaries	Outcome
1.	A Guest Lecture on “Securing the Future: IoT and Big Data in the Cloud Navigating the Realm of Cloud Computing and Security”	14-09-2023	Dr. G. Kalpana Associate Professor, Department of Computer Science, Sri Ramakrishna College of Arts and Science for Women, Coimbatore.	III B.Sc. - 52 Faculty members -2 Total = 54	The participants acquired the basic and advanced concepts of cloud computing and cloud security and learnt how IoT is used in cloud computing.

2.	Guest Lecture on “Unveiling the Distinctions and Insights into Virtual Reality, Augmented Reality and Mixed Reality”	18-12-2023	Dr. S. Karpagavalli Associate Professor and Head, Department of Computer Science, PSGR Krishnammal College for Women, Coimbatore	III B.Sc. -53 Faculty member 1 Total = 54	Students gained insight into Virtual Reality (VR), Augmented Reality (AR), and Mixed Reality (MR), through clear examples and demonstrations. They also acquired knowledge about the applications of Augmented Reality.
3.	Guest lecture on “Securing the Digital Frontiers: Exploring the Latest Trends and Applications in Cyber Security”	21-12-2023	Dr. S. Marutha Vijayan Assistant Professor, School of Excellence of Law University, The Tamil Nadu Dr. Ambedkar Law University, Chennai.	III B.Sc. - 58 Faculty Member =1 Total = 59	Students were exposed to some of the Cyber Laws and various applications of Cyber Security such as Network Security Surveillance, Identification, Access control etc.,

DEPARTMENT OF MATHEMATICS

9.6 No. of Hands-on Experiments being Conducted/ List of Activities Undertaken by Students

i) Hands-on Trainings being Conducted

S. No.	Name of the Event/Activity	Date	Resource Person	Number of Beneficiaries	Outcome
1.	Hands on Training on “Basics of MATLAB”	03.07.2023	Dr. R. Krishnasamy Department of Applied Mathematics and Computational Sciences, Assistant Professor (SG), PSG College of Technology, Coimbatore.	Maths: 47 Physics: 3 Chemistry: 4 Computer Science: 4 Total: 58	The programme helped the participants in improving the usage of MATLAB software by covering the basics and functions of the software. This helped them to use this software in their projects and research.
2.	Hands on Training on “R-Programming”	23.02.2024	Dr. V. Kaviyarasu Associate Professor of Statistics, Bharathiar University, Coimbatore.	44 Students	The students gained knowledge of data analysis, statistical modeling, visualization and interpretation of various statistical data through R-programming tools and packages.
3.	Hands on Training on “LaTeX”	06.03.2024	Dr. J. Vernold Vivin Assistant Professor of Mathematics, Anna University Regional Campus, Coimbatore.	PSGR: 4 KASC: 39 Total: 43	The students learnt how to use the software for writing, drawing and documentation works.
4.	Hands on Training on “Mathematical Modelling using MATLAB”	14.03.2024	Dr. L. Shangerganesh Assistant Professor & Head, Department of Applied Sciences, National Institute of Technology, Goa.	43 students	It helped the students to gain practical skills on using MATLAB for data processing, implementing algorithms, conducting experiments and analyzing research findings.
5.	Hands on Training on “Microsoft Power BI”	27.03.2024	Dr. V. Radhamani Assistant Professor, Department of Mathematics, J. K. K. Nataraja College of Arts and Science, Komarapalayam, Namakkal.	35 students	The students gained knowledge on how to fetch the data, clean it, and process it in POWER BI which is useful in decision-making in data analytics.

6.	Hands on Training on “Data Analysis”	28.03.2024	Dr. Rajkumar Rajasekaran Associate Professor, School of Computer Science and Engineering, Vellore Institute of Technology, Vellore	KASC: 31 Govt Arts College: 6 Total: 37	Participants understood the concepts of data collection, data cleaning, data analysis and visualization using Python and R programming languages.
----	--------------------------------------	------------	---	---	---

ii) List of Activities Undertaken by Students

a) List of Projects Undertaken by Students

- ❖ S. Swathi and M. Saranya Devi completed a project on a “**Smoke Detector using Arduino Sensor (UNO)**” (Interdisciplinary).
- ❖ A. Arul, M. Durairaj, and S. Santhoshini completed a project on the “**Analysis of Epidemic using SIR Model**” (Interdisciplinary).
- ❖ R. Sanmathi, M. Sruthi and M. Divya completed a project on “**Image transformation and enhancement using MATLAB**” (Interdisciplinary).
- ❖ R. Vishnu, P. Sowndarya, and K. Jayasurya completed a project on “**Application of prime numbers in Cryptography using MATLAB**” (Interdisciplinary).
- ❖ S. Vishnu Priya, V. Deepa, and C. Sabitha completed a project on “**Data Analytics on Indian agriculture using R-Programming**” (Interdisciplinary).
- ❖ V. M. Sasthasai, R. Yogapriya, and M. Abishek completed a project on “**Water Pollution analysis through MATLAB**” (Interdisciplinary).
- ❖ P. Keerthana, G. Sujitha and S. Keerthana completed a project on the “**Computation of Golden Ratio using MATLAB**” (Interdisciplinary).
- ❖ R. Srimathi, R. Brindha and S. Thirisha completed a project on “**A Study on tomato price prediction against rainfall status using Machine learning techniques**” (Interdisciplinary).
- ❖ Y. Swetha, S. Sivadharshini, and M. Saranya Devi completed a project on “**Exploring statistics in Banking Sector**” (Interdisciplinary).
- ❖ S. Dharshini, K. Subasri, and U. Gokila completed a project on “**Visual cryptography using MATLAB**” (Interdisciplinary).
- ❖ B. Keerthana, S. Arthi, S. Swathi and B. Balaji completed a project on “**Statistical Analysis using Python**” (Interdepartmental Project with Computer Science).
- ❖ R. Mathavan, S. Harini, S. Sakthi Packia Rathna, and S. Lishanthini completed a project on “**A Study on Some Molecular Descriptors using Chemical Graph Theory**” (Interdepartmental Project with Chemistry).

Innovative Product Designed and Developed

- ❖ III B.Sc. Mathematics students **S. Swathi** and **M. Saranya Devi** have designed a **Smoke Detector using Arduino(UNO)** devices which is very essential safety device used to alert individuals of a potential fire in their home or building.

b) Industrial Visits

S. No	Class	Place of Visit	Date	No. of Beneficiaries	Outcome
1	I and II B.Sc. Mathematics	Regional Science Center and Science Museum, Coimbatore	15.12.2023	Faculty - 4 I UG- 26 II UG – 29 Total: 59	The students come to know about various aspects of the existence of science in day-to-day life and to gain mathematical knowledge practically.
2	III B.Sc. Mathematics	Educational field trip to GD Museums, Coimbatore	23.01.2024	Faculty - 3 III UG- 32 Total: 35	The students were exposed to the wide range of applications of mathematical concepts in daily life and were taught about the practical nature of the subjects.
3.	II B.Sc. Mathematics	Mathematics Research Lab, Bannari Amman Institute of Technology, Sathyamangalam, Erode District.	01.02.2024	Students - 27 Faculty - 02 Total - 29	The visit helped the students in improving their creative thinking, problem-solving skill and intellectual exchange and it created more interest towards the subject among the students.
4.	B.Sc. Mathematics	Industrial Visit to Mysore, Coorg and Chikkmangaluru	21.02.2024 - 24.02.2024	Students - 32 Faculty - 05 Total - 37	The students were able to witness the practicality of Mathematics in almost every aspect of life which in turn will help them to learn in a different perspective.

c) Summer School/ Internship

- ❖ S. Sivadharshini of III B.Sc. Mathematics underwent an internship on “**Basics of Auditing**” at PPS Associates, Tirupur.
- ❖ R. Yogapriya, S. Harini, S. Keerthana, G. Sujitha and P. Keerthana of III B.Sc. Mathematics underwent an internship on “**Applications of Mathematics using MATLAB**” at Aakam Industrial Training and Research Institute, Coimbatore.
- ❖ V. M. Sastha Sai of III B.Sc. Mathematics underwent an internship in “**Python Programming**” at Neelavathi Software Solutions, Coimbatore.
- ❖ M. Abhishek of III B.Sc. Mathematics underwent an internship in “**Java Programming**” at Sangam Soft Solution, Coimbatore.

- ❖ R. Mathavan, A. Arul, K. Jayasurya, R. Vishnu of III B.Sc. Mathematics underwent an internship in **“Photoshop (Effects)”** at Accent Techno Soft, Coimbatore.
- ❖ S. Thirisha, R. Srimathi, and R. Brindha of III B.Sc. Mathematics underwent an internship in **“Machine learning”** at Internshala Training, Coimbatore.
- ❖ M. Durairaj of III B.Sc. Mathematics underwent an internship in **“Finance”** at Blaze Trust, Coimbatore.
- ❖ Santhoshini of III B.Sc. Mathematics underwent an internship on **“Accounts”** at GS & Company, Coimbatore.
- ❖ P. Sowndharya of III B.Sc. Mathematics underwent an internship in **“Finance”** at Sakthi Finance, Coimbatore.
- ❖ S. Sakthi Packia Rathna of III B.Sc. Mathematics underwent an internship on **“A Study on Deposits and Interest”** at Sakthi Finance, Coimbatore.
- ❖ R. Sanmathi of III B.Sc. Mathematics underwent an internship on **“Basic of Mathematical functions in MATLAB”** at Aakam Industrial Training and Research Institute, Coimbatore.
- ❖ M. Srurthi of III B.Sc. Mathematics underwent an internship in **“Introduction to MATLAB with plotting”** at Aakam Industrial Training and Research Institute, Coimbatore.
- ❖ S. Arthi and S. Vishnupriya of III B.Sc. Mathematics underwent an internship in **“Data Analytics using R-Programming”** at Aakam Industrial Training and Research Institute, Coimbatore.
- ❖ U. Gokila of III B.Sc. Mathematics underwent an internship on **“Introduction to MATLAB”** at Aakam Industrial Training and Research Institute, Coimbatore.
- ❖ B. Keerthana of III B.Sc. Mathematics underwent an internship on **“Data Basis in R-Programming”** at Aakam Industrial Training and Research Institute, Coimbatore.
- ❖ Y. Swetha of III B.Sc. Mathematics underwent an internship on **“Calculation of Cibil Report”** at Blaze Trust, Coimbatore.
- ❖ M. Divya of III B.Sc. Mathematics underwent an internship in **“Introduction to MATLAB and SIMULINK”** at Aakam Industrial Training and Research Institute, Coimbatore.
- ❖ M. Saranya Devi and V. Deepa of III B.Sc. Mathematics underwent an internship in **“Procedures of Accounting”** at Prismatic Engineers India Private Limited, Coimbatore.
- ❖ S. Swathi of III B.Sc. Mathematics underwent an internship in **“Management Information Systems in Insurance”** at the Oriental Insurance Company Limited, Coimbatore.
- ❖ C. Sabitha of III B.Sc. Mathematics underwent an internship in **“Finance”** at Micro Mini Finance, Thiruchengode.
- ❖ S. Dharshini of III B.Sc. Mathematics underwent an internship in **“Auto Finance”** at Sri Lakshmi Finance, Mulanur.

d) Conferences / Seminars / Workshops/Competitions/ Training Attended

- ❖ S. Swathi and M. Saranya Devi of III B.Sc. Mathematics participated in “**A Two day State Level workshop on LaTeX**” organized by Sri Ramakrishna College of Arts and Science held on 03.08.2023 – 04.08.2023.
- ❖ R. Vishnu, A. Arul, M. Durairaj, K. Jayasuriya and M. Abhishek of III B.Sc. Mathematics participated in the “**National level seminar on Joy of Mathematics in Music**” organized by Coimbatore Institute of Technology held on 04.09.2023.
- ❖ K. Jayasurya, S. Dharshini, C. Sabitha, S. Swathi, and B. Keerthana of III B.Sc. Mathematics attended the “**Python Foundation Course**” organized by Zenteiq Edtech, Bangalore held from 15.09.2023 to 17.09.2023.
- ❖ S. Santhoshini and K. Jayasurya participated in III B.Sc. Mathematics participated in “**VIT – MATHFEST 2023**” organized by Vellore Institute of Technology, Vellore held on 18.12.2023.
- ❖ S. Vishnupriya, S. Dharshini, B. Keerthana, A. Arthi, M. Sruthi, S. Santhoshini and C. Sabitha of III B.Sc. Mathematics participated in “**State Level Inter-Collegiate Competitions**” organized by RVS College of Arts and Science and S. Dharshini, C. Sabitha won **II place** in the Rangoli Competition held on 20.12.2023.

e) Paper/ Poster Presentation by Students

- ❖ K. Jayasurya presented a paper on “**Prime Numbers in Cryptography**” at the International Conference on Emerging Trends in Mathematics and Statistics organized by Sri Ramakrishna College of Arts & Science, Coimbatore on 23.02.2024.
- ❖ K. Jayasurya presented a paper on “**Python Program to generate Topology with the aid of a basis**” at the National Conference on Mathematical Modeling and Computation organized by PSGR Krishnammal College for Women, Peelamedu on 14.03.2024 – 15.03.2024.
- ❖ S. Dharshini and C. Sabitha presented a paper on “**Monitoring the level of Water Pollution using Dilutional Factors**” at the International Conference on Socioeconomic Impact of Pollution in Water Bodies and Remedial Measures organized by Kongunadu Arts and Science College on 18.12.2023.
- ❖ S. Sakthi and S. Santhoshini presented a paper on “**Detection of Water Pollution using Mathematical formula**” at the International Conference on Socioeconomic Impact of Pollution in Water Bodies and Remedial Measures organized by Kongunadu Arts and Science College on 18.12.2023.
- ❖ K. Jayasurya and M. Abhishek presented a paper on “**Mathematical approach to Water pollution control**” at the International Conference on Socioeconomic Impact of Pollution in Water Bodies and Remedial Measures organized by Kongunadu Arts and Science College on 18.12.2023.

- ❖ S. Sakthi presented a paper **“On Grundy Coloring of Join graph of Path graph with Star graph Families and Complete graph”** at the 7th International Conference on Current Scenario in Pure and Applied Mathematics (ICCSPAM 2024) organized by Kongunadu Arts and Science College, Coimbatore on 30.01.2024 – 31.01.2024 and bagged the **Best Paper Award**.
- ❖ S. Swathi presented a paper **“An In-Depth Fundamental Assessment of Tata Powers Financial Factors”** at the 7th International Conference on Current Scenario in Pure and Applied Mathematics (ICCSPAM 2024) organized by Kongunadu Arts and Science College, Coimbatore on 30.01.2024 – 31.01.2024.
- ❖ S. Arthi presented a paper **“Analyzing the Stock price movement of Tata power - A Comprehensive Technical Analysis for Investment Decisions”** at the 7th International Conference on Current Scenario in Pure and Applied Mathematics (ICCSPAM 2024) organized by Kongunadu Arts and Science College, Coimbatore on 30.01.2024 – 31.01.2024
- ❖ Richard Edison. M, Pawan Krishnan. B, Prathiksha. M and Arthi. N presented a poster on the theme **“Igniting Scientific Thinking”** organized by the Department of Computer Science, Kongunadu Arts and Science College on 26.03.2024.

Online Courses

- ❖ 27 Students have successfully completed the course **“Body Language in SWAYAM MOOCs”** – NPTEL platform.
- ❖ 1 Student has successfully completed the course **“Design Thinking – A Primer in SWAYAM MOOCs”** – NPTEL platform.

f) Inter-Departmental Activities

- ❖ B. Keerthana, S. Dharshini, S. Arthi, S. Santhoshini, S. Vishnupriya, P. Sowndarya participated in an International Webinar on **“Awareness Programme on Higher Education and Job Opportunities in Science”** organized by Department of Physics under DBT Star College Scheme on 24-01-2024.
- ❖ Few of our students attended a Seminar on **“Futuristic trends and opportunities in Basic Science”** organized by the Department of Physics under DBT Star College Scheme on 08.09.2023
- ❖ Six of our students attended a Webinar on **“Awareness Programme on Higher Education and Job Opportunities in Science”** organized by the Department of Physics on 24.01.2024
- ❖ UG Students from Department of Mathematics participated in the **“National Science Day celebrations- Tesla Fest 2024”** organized by the Department of Physics on 28.02.2024
- ❖ 5 students from our department attended a guest lecture on **“Understanding Intellectual Property Rights”** organized by the Department of Physics on 20.09.2023

9.7 No. of New Experiments Introduced

III B.Sc. Mathematics – Core Practical - Programming in C - Practical

1. Program to calculate value of nCr using recursion
2. Program to find the Geometric mean of n numbers
3. Program to find the Harmonic mean of n numbers

Program done beyond the syllabus

1. Image segmentation using MATLAB
2. Visual cryptography using MATLAB
3. Preparation of Research Papers using LaTeX Template of various Journals
4. Prepare various documents as per the Templates of Overleaf in www.overleaf.com

9.8 Publications (Scopus indexed) /patents, if any.

- ❖ E Thilakraj, K Kaliraj, **C Ravichandran**, M Manjula published a paper entitled “**New Investigation on controllability of sobolev-type Volterra-Fredholm integro-differential equation with non-local condition**”, in the journal Results in Control and Optimization, Vol:15 (2024) 100418 with the **acknowledgement of DBT fund of grant no HRD-1101/30/2021-HRD-DBT**
- ❖ K Damodharan, **M Vigneshwaran**, published a paper entitled “**N-Closure and N-Interior in Neutrosophic Topological Spaces**”, in the journal Neutrosophic Sets and Systems, Vol:66 No:1 (2024) 07.
- ❖ T Nandhini, **M Vigneshwaran**, “**On $\alpha g^\# \psi \mu^*$ -closed sets and $\alpha g^\# \psi \mu^*$ -continuous in hereditary generalized topological spaces**”, Asian-European Journal of Mathematics, Vol:16 No:8 (2023) 2350149.
- ❖ H. Agustin, A Irin Feno, K Abirami, **M Venkatachalam**, Dafik, N. Mohanapriya, published a paper entitled “**On r-dynamic Coloring of Ladder Graph and Tadpole Graph Using m-shadow Operation**”, in the journal Contemporary Mathematics, Vol:5 No:1 (2024) 827-843.
- ❖ Raúl M Falcón, **M Venkatachalam**, S Julie Margaret, published a paper entitled “**Solving the b-coloring problem for subdivision-edge neighborhood coronas**”, in the journal Discrete Mathematics, Algorithms and Applications, Vol:16 No:2 (2024) 2350009.
- ❖ A Irin Feno, **M Venkatachalam**, Laxmi Rathour, İsmail Cangül, K Abirami, published a paper entitled “**On r-dynamic k-coloring of ladder graph families**”, in the journal Discrete Mathematics, Algorithms and Applications, 2024.
- ❖ Dafik, K Rajalakshmi, **M Venkatachalam**, S. Lavanya, I. H. Agustin, published a paper entitled “**An encryption method for optimizing replical's in cloud computing platform**”

using packing coloring", in the journal Proceedings of the Jangjeon Mathematical Society, Vol:27 No:1 (2024) 17-28.

- ❖ Raúl Manuel Falcón Ganfornina, **Mathiyazhagan Venkatachalam**, Sathasivam Gowri, Gnanasekaran Nandini, published a paper entitled **"The r-dynamic edge coloring of a closed helm graph"**, in the journal Revista de la Unión Matemática Argentina, Vol:65 No:2 (2023) 331-346.
- ❖ C Anusha, **C Ravichandran**, Kottakkaran Sooppy Nisar, Suliman Alsaheed, Shankar Rao Munjam, published a paper entitled **"Periodic Boundary Value problem for the Dynamical system with neutral integro-differential equation on time scales"**, in the journal Partial Differential Equations in Applied Mathematics, Vol:10 (2024) 100691.
- ❖ Arunachalam Selvam, Sriramulu Sabarinathan, Kottakkaran Sooppy Nisar, **Chokkalingam Ravichandran**, Beri Venkatachalapathy Senthil Kumar, published a paper entitled **"Results on Ulam-type stability of linear differential equation with integral transform"**, in the journal Mathematical Methods in the Applied Sciences, Vol:47 No:4 (2024) 2311-2323.
- ❖ K Munusamy, **C Ravichandran**, Kottakkaran Sooppy Nisar, Shankar Rao Munjam, published a paper entitled **"Investigation on continuous dependence and regularity solutions of functional integrodifferential equation"**, in the journal Results in Control and Optimization, Vol:14 (2024) 100376.
- ❖ V Vijayakumar, **Chokkalingam Ravichandran**, Kottakkaran Sooppy Nisar, Kishor D Kucche, published a paper entitled **"New discussion on approximate controllability results for fractional Sobolev type Volterra-Fredholm integrodifferential systems of order $1 < r < 2$ "**, in the journal Numerical Methods for Partial Differential Equations, Vol:40 No:2 (2024) e22772.
- ❖ Kottakkaran Sooppy Nisar, K Jothimani, **C Ravichandran**, published a paper entitled **"Optimal and total controllability approach of non-instantaneous Hilfer fractional derivative with integral boundary condition"**, in the journal Plos one, Vol:19 No:2 (2024) e0297478.
- ❖ M Sivashankar, S Sabarinathan, Kottakkaran Sooppy Nisar, **C Ravichandran**, BV Senthil Kumar, published a paper entitled **"Stability, numerical simulations, and applications of Helmholtz-Duffing fractional differential equations"**, in the journal Chaos, Solitons & Fractals: X, Vol:12 (2024) 100106.
- ❖ Kottakkaran S Nisar, Veliappan Vijayaraj, Shyni U Kumaran, **Chokkalingam Ravichandran**, Poh Soon JosephNg, M Abdel-Aty, published a paper entitled **"Existence Results on Mittag-Leffler Kernel of Fractional Integro-Differential Inclusion Problem Under Boundary Conditions"**, in the journal Progress in Fractional Differentiation & Applications, Vol:10 No:1 (2024) 149-160.

- ❖ Ahmed Morsy, C Anusha, Kottakkaran Sooppy Nisar, **C Ravichandran**, published a paper entitled “**Results on generalized neutral fractional impulsive dynamic equation over time scales using nonlocal initial condition**”, in the journal AIMS Mathematics, Vol:9 No:4 (2024) 8292-8310.
- ❖ Kottakkaran Sooppy Nisar K. Kaliraj, U.Aswini, **C. Ravichandran**, K. Logeswari, published a paper entitled “**An investigation of Fractional Mixed Functional Integro-Differential Equations with Impulsive Conditions**”, in the journal Discontinuity, Nonlinearity, and Complexity, Vol:13 No:1 (2024) 189-202.
- ❖ Kottakkaran Sooppy Nisar, C Anusha, **C Ravichandran**, published a paper entitled “**A non-linear fractional neutral dynamic equations: existence and stability results on time scales**”, in the journal AIMS Mathematics, Vol:9 No:1 (2024) 1911-1925.
- ❖ V Vijayaraj, **C Ravichandran**, Kottakkaran Sooppy Nisar, N Valliammal, K Logeswari, Wedad Albalawi, A Abdel-Aty, published a paper entitled “**An outlook on the controllability of non-instantaneous impulsive neutral fractional nonlocal systems via Atangana–Baleanu–Caputo derivative**”, in the journal Arab Journal of Basic and Applied Sciences, Vol:30 No:1 (2023) 440-451.
- ❖ Kottakkaran Sooppy Nisar, R Jagatheeshwari, **C Ravichandran**, P Veeresha, published a paper entitled “**An effective analytical method for fractional Brusselator reaction-diffusion system**”, in the journal Mathematical Methods in the Applied Sciences, Vol:46 No:18 (2023) 18749-18758.
- ❖ K Jothimani, N Valliammal, S Alsaeed, Kottakkaran S Nisar, **C Ravichandran**, published a paper entitled “**Controllability Results of Hilfer Fractional Derivative Through Integral Contractors**”, in the journal Qualitative Theory of Dynamical Systems, Vol: 22 No:4 (2023) 137.
- ❖ Kottakkaran Sooppy Nisar, R Jagatheeshwari, **C Ravichandran**, P Veeresha, published a paper entitled “**High performance computational method for fractional model of solid tumour invasion**”, in the journal Ain Shams Engineering Journal, Vol:14 No:12 (2023) 102226.
- ❖ Kottakkaran Sooppy Nisar, K Logeswari, **C Ravichandran**, S Sabarinathan, published a paper entitled “**A new frame of fractional neutral ABC-derivative with IBC and mixed delay**”, in the journal Chaos, Solitons & Fractals, Vol:175 No:2 (2023) 114050.
- ❖ **C Ravichandran**, K Logeswari, Aziz Khan, Thabet Abdeljawad, JF Gómez-Aguilar, published a paper entitled “**An epidemiological model for computer virus with Atangana–Baleanu fractional derivative**”, in the journal Results in Physics, Vol:51 (2023) 106601.

- ❖ K Kalaiselvi, N Mohanapriya, V Aparna, published a paper entitled “**r--Dynamic chromatic number of subdivision-edge neighborhood corona of certain graph families**”, in the journal Discrete Mathematics, Algorithms and Applications, Vol:16 No:03 (2024) 2350026.
- ❖ Raúl M Falcón, Venkatachalam Aparna, Nagaraj Mohanapriya, published a paper entitled “**Optimal secret share distribution in degree-splitting communication networks**”, in the journal Networks & Heterogeneous Media, Vol:18 No:4 (2023) 1713–1746.

9.9 Training Received by Faculty/ List of Activities Undertaken by Faculties

a) Training Received by Faculty

- ❖ Dr. N. Mohanapriya has participated in the “**One Week International Faculty Development Programme on Mathematics in Real, Applied and Computational Domain**” organized by the Department of Mathematics, School of Science and Humanities, Sathyabama Institute of Science and Technology, Chennai from 03.07.2023 – 08.07.2023.
- ❖ Dr. C. Ravichandran, Dr. N. Mohanapriya, and L. Vidyarani has participated in the “**UGC Sponsored Refresher course in Mathematics and Computational Science**” conducted by the Department of Mathematics, School of Mathematical Sciences, KBC North Maharashtra University, Jalgaon from 25.10.2023 – 07.11.2023.
- ❖ Dr. D. Vijayalakshmi and Dr. M. Vigneswaran has participated in the “**UGC Sponsored Refresher course in Mathematics and Statistics**” conducted by UGC – Human Resource Development Centre, Bharathiar University held on 17.08.2023 – 30.08.2023.
- ❖ Dr. M. Venkatachalam and Dr. M. Vivekprabu has completed “**Online 8th Refresher course in Mathematics**” organized by UGC – Malaviya Mission Teacher Training Centre, Deen Dayal Upadhyaya Gorakhpur University, Gorakhpur held on 08.12.2023 – 21. 12. 2023.
- ❖ Dr. D. Vijayalakshmi, Dr. P. Sathishmohan and Dr. E. Prakash has participated in the “**Five-Day International Virtual Faculty Development Programme on Mathematics and its Application**” organized by the Department of Mathematics (PG), PSGR Krishnammal College for Women, Coimbatore from 11.03.2024 – 15.03.2024.
- ❖ Dr. E. Prakash and Dr. P. Sathishmohan has participated in the “**Two-week Refresher Course in Mathematics**” conducted by Teacher Learning Centre, Ramanujam College, University of Delhi held on 31.03.2024 – 13.04.2024.
- ❖ Dr. D. Vijayalakshmi has participated in Faculty Training Programme on “**Teaching Pedagogy and Skills**” organized by Department of Chemsitry, Kongunadu Arts and Science College under DBT Star college Scheme on 25.03.2024.

- ❖ Dr. D. Vijayalakshmi has participated in **Faculty Development programme on “Computational Mathematics using Python and Scilab”** organized by Department of Computer Science, Kongunadu Arts and Science College under DBT Star college Scheme on 12.01.2024.
- ❖ Dr. D. Vijayalakshmi has participated in **Faculty Development Programme on “Interdisciplinary approaches of Machine Learning”** organized by Department of Physics, Kongunadu Arts and Science College under DBT Star college Scheme on 21.10.2023.
- ❖ Dr. D. Vijayalakshmi has participated in **Faculty Training Programme on “Correlation of classical dynamics with quantum mechanics”** organized by Department of Physics, Kongunadu Arts and Science College under DBT Star college Scheme on 27.03.2024.

b) Conferences/ Seminars / Workshops Attended

- ❖ Dr. N. Mohanapriya has participated in the **“5-Day National Workshop on Applied Mathematics and Computing”** organized by the Department of Engineering Mathematics and Computing, Madhav Institute of Technology and Science, Gwalior, Madhya Pradesh from 12.07.2023 – 16.07.2023.
- ❖ Dr. N. Mohanapriya has participated in the two-day **“Online Workshop on AI Tools for Effective Research”** organized by the Indian Mathematics Professors Association and Infinity Research & Development Institute, Coimbatore held from 15.07.2023 – 16.07.2023.
- ❖ Dr. C. Ravichandran presented a paper entitled **“Optimal and total controllability access of non-instantaneous Hilfer fractional derivative with integral boundary condition”** at the DST SERB Sponsored International Conference on Mathematical Modelling and Emerging Trends in Computing held on 23.06.2023 – 25.06.2023 at School of Technology, Woxsen University, Hyderabad.
- ❖ Dr. D. Vijayalakshmi participated in the **“Webinar on: Applications of Differential Equations”** organized by KPR Institute of Engineering and Technology held on 28.10.2023.
- ❖ Dr. N. Mohanapriya has participated in the **“2nd International Conference on Neural Networks and Machine Learning”** conducted by the University of Jember, Indonesia from 07.11.2023 – 08.11.2023.
- ❖ Dr. M. Vivek Prabu has virtually participated in **“9th Mexican Workshop on Applied Geometry and Topology”** organized by CIMAT held on 10.11.2023, 13.11.2023 – 15.11.2023.
- ❖ Dr. E. Prakash attended the **“Two-Day International Conference on Analysis and Applied Mathematics”**, organized by J. J. College of Arts and Science (Autonomous), Pudukkottai held on 01.02.2024 and 02.02.2024.

- ❖ Dr. P. Sathishmohan attended the “**Two-Day International Conference on Analysis and Applied Mathematics**”, organized by J. J. College of Arts and Science (Autonomous), Pudukkottai held on 01.02.2024 and 02.02.2024.
- ❖ Dr. S. P. R. Priyalatha attended the “**International Conference on Mathematical Modelling, Simulation, and Nonlinear Dynamics**”, organized by Bharathiar University, held on 15.02.2024 and 16.02.2024.
- ❖ Dr. D. Vijayalakshmi participated in the “**National Conference on Mathematical Modelling and Computation (NCMMC 2024)**” organized by PSGR Krishnammal College for Women held on 14.03.2024 and 15.03.2024.
- ❖ Dr. M. Vivek Prabu has participated in “**A Five Days Online Hands-on Workshop to Mastering Python Programming with Mathematics**” organized by Indian Mathematics Professors Association and Infinity Research & Development Institute, Coimbatore held on 01.05.2024 - 05.05.2024.

c) Any other

- ❖ All the 11 faculty members participated in the “**World Space Week Celebrations – 2023**” at Kongunadu Arts and Science College held on 05.10.2023 – 07.10.2023.
- ❖ Dr. D. Vijayalakshmi acted as a Session Chair at the International Conference on Emerging Trends in Mathematics and Statistics organized by Sri Ramakrishna College of Arts & Science, Coimbatore on 23.02.2024.
- ❖ Dr. N. Mohanapriya “**Delivered a lecture for students**” from Marushapandiyar College on values education held on 05.04.2024.

9.10 List of Exhibitions/ Seminars/ Training Courses Conducted

a) Conferences/ Seminars / Workshops Organized

S. No.	Name of the Event/ Activity	Date	Resource Person	Number of Beneficiaries	Outcome
1.	International Seminar on “Differential System and Its Applications”	05.12.2023	Dr. Md. Golam Hafez Professor, Department of Mathematics, Chittagong University of Engineering and Technology, Chattogram-4349, Bangladesh.	Maths: 49 Physics: 13 Total: 62	Participants gained basic knowledge about differences between linear and non-linear equations, the Stability of the system and applications of Mathematical modeling in various biological domains.

			Dr. R. Sakthivel Professor, Department of Applied Mathematics, Bharathiar University, Coimbatore		
2.	Capacity Building Programme “An Inter disciplinary Approach for Non-Mathematics Students”.	11.12.2023	Dr. M. Thiruchelvi Department of Mathematics, Assistant Professor & Head, Sankara College of Science and Commerce, Coimbatore. Dr. M. Parimala Department of Mathematics, Assistant Professor & Head, Bannari Amman Institute of Technology, Erode.	Maths: 7 Physics: 5 Chemistry-2 Computer Science: 8 B. Com PA: 22 B. Com IT: 5 BBA CA: 20 Total: 69	- Students were taught to overcome math anxiety and to develop a mathematical mindset to take up higher education in science courses. - They were advised to develop competencies in different skills of mathematical thinking that enhances problem solving skills and Brainstorming activity.
3.	National Mathematics Day Celebrations - Contribution s of Srinivasa Ramanujan	22.12.2023	Dr. K. Balachandran Professor & Head (Retd.), Department of Mathematics, Bharathiar University, Coimbatore.	101 Students	Students learnt about the contributions of Srinivasa Ramanujan in the field of Mathematics which instilled interest toward the subject among the students.
4.	7 th International Conference on “Current Scenario in Pure and Applied Mathematics ”	30.01.2024 31.01.2024	Dr. Dafik Professor of Mathematics, Combinatorics, Graph Theory and Network, Topology, Research Group, University of Jember, Indonesia. Prof. Dr. Raúl M. Falcón Professor of Mathematics, University of Seville, Spain	63 participants	The participants enriched their knowledge and learned to exchange research ideas involving theoretical and applied developments in thrust areas of Mathematics. Also, ICCSPAM-2024 served as a platform for UG students to showcase their research outcomes and facilitate the exchange of insights into Mathematical analysis and Applications.

			Prof. Dr. Ismail Naci Cangul Department of Mathematics, Faculty of Arts and Science, Bursa Uludag University, Bursa, Turkey Dr. V. Lokesha Department of Studies in Mathematics, Vijayanagara Sri Krishnadevaraya University, Ballari, Karnataka Dr. Sivaraman Eswaran Computing (Cyber Security), Department of Electrical and Computer Engineering, Curtin University, Malaysia Prof. Dr. M. H. Rahmani Doust Department of Mathematics, University of Neyshabur, Neyshabur, Iran.		
5.	National level Seminar on “Vedic Mathematics ”	26.03.2024	Dr. Shiram Chauthaiwale All India Convener, Department of Vedic Mathematics, Shiksha Sanskriti Uthn Nyas, New Delhi.	92 participants	The students were taught to do speedy mathematical calculations which improve their critical and logical thinking that helps them to face various competitive exams.

b) Exhibition / Competitions Organized

S. No.	Name of the event/Activity	Date	Number of Beneficiaries	Outcome
1.	Math Model Exhibition – School Students Visit	05.10.2023	35 School Students	The students of grade IX – XII from various schools visited the Mathematical model displayed in the department of Mathematics and explored the innovations. The visit made them develop creative thinking towards the subject and understand the basic concept clearly.
2.	National Mathematics Day Celebrations Inter-Departmental Competitions	09.01.2024	Mathematics: 34 Chemistry: 6 Physics: 1 Botany: 1 B. Com: 5 AI & ML: 5 Total:55	Participants got a platform to exhibit their skills and enhance their subject knowledge in mathematics.
3.	National Mathematics Day Celebrations Inter-School Competitions			
	Manculator		77 School Students	
	Math Model		62 School Students	
	Sudoku Star		86 School Students	
	War of Words		35 School Students	
	Formula Master		77 School Students	
	Brain Teaser		60 School Students	
	Master Mind		34 School Students	
	Math Art		88 School Students	
	Math Connection		88 School Students	
	Chess Wizard		107 School Students	
				School students were able to showcase their mathematical abilities, learn and explore interesting math games

c) Training Courses Conducted

S. No.	Name of the event/ Activity	Date	Resource Person	Number of Beneficiaries	Outcome
1.	FDP on “Teaching Pedagogy”	21.10. 2023	Dr. M. Balasubramanian Assistant Professor Department of Education Bharathiar University, Coimbatore. Dr. B. Selvaraj Controller of Examinations, Government Arts College, Coimbatore.	36 Faculties from various Colleges.	Participants were able to enhance the skills/ techniques involved in using ICT class room teaching.
2.	FDP on Computational Mathematics using Python and SCILAB (Organized along with Department of Computer Science)	12.01. 2024	Dr. V. Parthiban Assistant professor, School of Advanced Sciences, Vellore Institute of Technology, Chennai Campus. Dr. T. Senthil Kumar Associate Professor, School of Computer, Amirtha Vishwa Vidhyapeetham, Coimbatore.	44 faculty	The faculty were exposed to and trained on the concepts of Mathematics which can be employed effectively by using Python and SCILAB.
3.	Teacher Induction Programme (Organized along with Department of Computer Science)	13.02. 2024	Mr. N. Tamilselvan Assistant Headmaster & P.G. Assistant in maths, Government Higher Secondary School, Kalapatti, Coimbatore. Dr. A. Chandran Former Head Master, CSI Boys Higher Secondary School, Erode. Former Dean(S&H), RVS Technical Campus, Coimbatore.	20 teachers from various Schools and colleges	School Teachers interacted with the Resource persons and learnt the art of effective classroom teaching.
4.	Summer Training Programme on “Pure and Applied Mathematics”	18.03. 2024 to 22.03. 2024	Prof. Dr. K. N. Ragavan Professor of Mathematics, The Institute of Mathematical Sciences, Chennai.	KASC Students: 65 Other college: 11 Faculty : 11 Total: 87	This training programme will help the students to equip themselves with mathematical techniques, Analytical, logical, and

			Prof. Dr. M. Sampath Assistant Professor of Mathematics, Periyar University, Salem. Prof. Dr. M. Ganesh Kumar Assistant Professor of Mathematics, School of Engineering, AmirtaVishwa Vidyapeetham, Coimbatore. Prof. Dr. K. Kaliraj Assistant Professor of Mathematics, Ramanujan Institute for Advanced Study in Mathematics, Chennai. Prof. Dr. G. Nagamani Assistant Professor of Mathematics, The Gandhigram Rural Institute, Dindugul.		computational skills in various areas of Mathematical domains. This in turn encourages the students to pursue higher education in this subject.
--	--	--	--	--	---

d) Mentor Mentee Meeting

- ❖ **Mentor-Mentee Meeting** was conducted on 21.09.2023 and the resource person was **Dr. D. Sasikala**, Associate Professor, Department of Mathematics, PSGR Krishnammal College for Women, Coimbatore. 11 faculties attended to discuss about the activities planned and purchase of Books under the DBT Star College Scheme.
- ❖ **Mentor Mentee Meeting** was conducted on 17.02.2024 and the resource person was **Dr. R. Parvathi**, Associate Professor and Head, Department of Mathematics, Vellalar College for Women (Autonomous), Erode. 11 faculties attended to discuss the review of the various activities done under the Star College Scheme.

9.11 Details of Books and Journals subscribed from DBT Grant

S. No.	Bill No.	Date	Company name	Publishers	Author	Title	Qty	Amount
1	12307	16.03.2024	Shanti Books	Crc Press Inc.	George F. Simmons	Differential Equations with Applications and Historical Notes	1	1100.75
2	12307	16.03.2024	Shanti Books	Tata Mcgraw Hill Publishing Co.Ltd.	Walter J. Meyer	Concepts of Mathematical Modeling	1	1976.91
3	12307	16.03.2024	Shanti Books	Dover Publications	Edward A. Bender	An Introduction to Mathematical Modeling	1	1243.36
4	12307	16.03.2024	Shanti Books	Springer-Verlag	Sarge Lang	Introduction to Linear Algebra	1	4185.05
5	12307	16.03.2024	Shanti Books	Springer-Verlag	Theodore. Gamelin	Complex Analysis	1	4487.26
6	12307	16.03.2024	Shanti Books	Springer-Verlag	Sunil Jacob John	Soft Sets: Theory and Applications	1	7479.25
7	12307	16.03.2024	Shanti Books	Birkhauser Boston	Tyn Myint U, Lokenath Debnath,	Linear Partial Differential Equations for Scientists and Engineers	1	9723.26
8	12307	16.03.2024	Shanti Books	Springer-Verlag	Ethan D Bloch	The Real Numbers and Real Analysis	1	4262.86
9	12307	16.03.2024	Shanti Books	Springer-Verlag	M. Braun	Differential Equations and Their Applications	1	5609.25
10	12307	16.03.2024	Shanti Books	Wave Books	William Snow Burnside Arthur William Panton	The Theory of Equations	1	396
11	12307	16.03.2024	Shanti Books	A John Wiley & Sons	J. L. Meriam, L. G. Kraige, J. N. Bolton	Engineering Mechanics Statics, Volume-1	1	798.15
12	12307	16.03.2024	Shanti Books	A John Wiley & Sons	J. L. Meriam, L. G. Kraige, J. N. Bolton	Engineering Mechanics, Dynamics, Volume-II	1	798.15
13	12307	16.03.2024	Shanti Books	Wiley India (P). Ltd	William E. Boyce, Richard C. Dprima, Douglas B. Meade	Boyce Elementary Differential Equations and Boundary Value Problems	1	849.15

14	12380	26.03.2024	Shanti Books	Pearson India Education Service Pvt. Ltd.,	Irwin Miller, Marylees Miller,	John E. Freunds Mathematical Statistics with Applications	1	1049.75
15	12380	26.03.2024	Shanti Books	Pearson India Education Service Pvt. Ltd.,	Stephen H. Friedberg, Arnold J. Insel, Lawrence E. Spence	Linear Algebra	1	505.75
16	12380	26.03.2024	Shanti Books	National Academic Press	W. S Burnstine, A. W. Panton	Theory of Equations	2	792
18	12380	26.03.2024	Shanti Books	Dover	Edward A. Bender	An Introduction to Mathematical Modelling	1	1243.37
19	12380	26.03.2024	Shanti Books	Dover	Walter J. Meyer	Concepts of Mathematical Modeling	1	1976.92
20	12380	26.03.2024	Shanti Books	Dover	C. V. Durell, A. Robson	Advanced Trigonometry	1	1463.43
TOTAL							20	49940

9.12 Outreach / Extension Activities

S. No.	Name of the event/ Activity	Date	Number of Beneficiaries	Outcome
1.	Awareness Programme on Mathematics & Applications of Math Model for School Students	07-07-2023	42 School Students	The students at the school found engaging applications and concepts of mathematics in everyday life through innovative models and diagrams, igniting their curiosity and enthusiasm for learning the subject.
2.	Outreach Activity- School Visit- Books Distribution	02.09.2023	50 School Students	Book distribution to schools can contribute significantly to educational outcomes by enriching learning experiences, fostering academic achievement, and empowering students to reach their full potential.
3.	Youth Awakening Day 2023	16.10.2023	65 Students from various departments	The students learnt about the life of Dr. A. P. J. Abdul Kalam who serves to be a perfect example of how a human should develop into an individual and then into an influential leader.
4.	Activity Based Learning for Basic Mathematics	02.03.2024	175 School Students	School students actively participated in the activities and learned the concepts in Mathematics with more interest.
5.	Mathematics Formula Book – ISBN	27.03.2024 30.03.2024	400 School Students	The students of Mathematics department prepared a Formula Book which would serve as a reference source for the students to face their higher secondary examination with good confidence.

9.14 Invited Lectures/Guest Lectures Conducted

S. No.	Name of the event/Activity	Date	Resource Person	Number of Beneficiaries	Outcome
1.	Guest lecture on “Career Opportunities in Abroad”	07.08.2023	Mr. Bagavathiannan Palanisamy Software Deliver Manager DZS GmbH, Hannover, Germany	Maths: 65 Botany: 2 Physics: 4 Chemistry: 4 Computer Science: 4 Total: 79	Participants can able to identify various opportunities to pursue higher education in various science related courses abroad.
2.	Guest Lecture on “Applications of Mathematics in Image Processing”	30.08.2023	Dr. Suresh Rasappan Professor, Mathematics section, Department of Information Technology, University of Technology and Applied Sciences- IBRI Sultanate of Oman.	Mathematics (I UG: 11 II UG: 30 III UG: 32 Total: 73	The students learnt about image processing, Importing and Exporting images, Enhancing image, Detecting edges and shapes, Segmenting objects based on their color and texture in MATLAB which are widely used in their project works.
3.	Lecture Series on Algebra & Analysis I	20.09.2023	Dr. M. Sambath Assistant Professor of Mathematics, Periyar University, Salem.	49 Students	The students studied the basic concepts of complex analysis and various techniques to solve mathematical problems.
4.	Guest Lecture on “Students Project Ideas- Interdisciplinary Approach”	21.09.2023	Dr. D. Sasikala Assistant Professor, Department of Mathematics, PSGR Krishnammal College for Women, Coimbatore	Mathematics : 54 Chemistry: 4 Computer Science: 11 Total: 69	The students were able to identify the problem, approach and analyze the problem and to learn the inter-disciplinary applications of the problem in various fields.
5.	A Lecture on “Design Thinking”	22.09.2023	Mr. M. Vivek Kumar Department of ECE, Innovation Head, Sri Eshwar College of Engineering, Coimbatore.	Mathematics : 58 Botany: 1 Total: 59	To aid design teams to create feasible and user focused solution to complex problems in design.
6.	A Guest Lecture on “Stress Management”	18.10.2023	Thiru. Sivakumar Yoga Therapist, Girinath Yoga Centre, Coimbatore.	Supportive Staff: 26	Participants were able to enhance their skills/ techniques to manage the stress effectively in their working environment.

7.	Lecture Series on Algebra and Analysis –II	29.01.2024	Dr. R. Rakkiyappan Assistant Professor, Department of Mathematics, Bharathiar University, Coimbatore -46	67 Students	Students were able to grasp the fundamental knowledge of Algebra and Analysis which forms the basic foundation to solve the mathematical problems.
8.	Lecture Series on Algebra and Analysis –III	13.03.2024	Dr. Gopikrishnan Chirappurathu Remesan Assistant Professor of Mathematics, Indian Institute of Technology, Palakkad.	55 Students	The UG students learnt the basic concepts of Linear Algebra that will help them to build a strong foundation on the subject.
9.	Lecture Series on Algebra and Analysis –IV	15.03.2024	Dr. K. Palpandi Assistant Professor (Grade II), Department of Mathematics, National Institute of Technology Calicut, Calicut - 673 601	60 Students	The B.Sc. Mathematics students studied the important concepts of Algebra through examples and problems.

Details of Recurring Expenditure DBT grant – Department wise

DEPARTMENT OF PHYSICS

S. No.	Particulars	Amount (Rs.)
1	Internship, Staff & Students Activities	27,032
2	Training Programme	44,655
3	Industrial Visit	18,450
4	Conference/ Seminars / Workshops/Guest lectures	43,439
5	FDP's	9,525
6	Inter departmental/ Intercollegiate Competition/ Exhibition	14,440
7	Projects	60,501
8	Consumables	49,993
9	Books and Journal	24,912
10	Lab Manual and others	1,429
11	Outreach Programme and Mentor meetings	5,624
Total		Rs. 3,00,000

DEPARTMENT OF CHEMISTRY

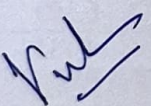
S. No.	Particulars	Amount (Rs.)
1	Internship, Staff & Students Activities	20,222
2	Training Programme (FTP only)	7,600
3	Hands on Training Programme	36,845
4	Industrial Visit	18,500
5	Conference/ Seminars / Workshops/Guest lectures	65,000
6	FDP	5,000
7	Inter departmental/ Intercollegiate Competition/ Exhibition	4,677
8	Mentor meeting	6,505
9	Outreach activities	4,131
10	Projects	38,419
11	Consumables (Chemicals)	59,425
12	Books	33,676
Total		Rs. 3,00,000

DEPARTMENT OF COMPUTER SCIENCE

S. No.	Particulars	Amount (Rs.)
1	Internship, Staff & Students Activities	16,697
2	Training Programme	3,580
3	Industrial Visit	54,106
4	Conference/ Seminars / Workshops/Guest lectures	85,066
5	FDP's	19,293
6	Inter departmental/ Intercollegiate Competition/ Exhibition	10,304
7	Projects	30,617
8	Consumables	35,337
9	Books	45,000
Total		Rs. 3,00,000

DEPARTMENT OF MATHEMATICS

S. No.	Particulars	Amount (Rs.)
1	Internship, Staff & Students Activities	15,440
2	Training Programme	68,188
3	Industrial Visit	48,285
4	Conference/ Seminars / Workshops/Guest lectures	46,687
5	FDP's	14,739
6	Interdepartmental/ Intercollegiate Competition/ Exhibition	26,198
7	Projects	9,788
8	Consumables	5,000
9	Books	49,940
	Mathematics formula Book –ISBN	1,575
	Mathematics Formulae – A Quick Reference Book	14,160
Total		Rs. 3,00,000/-


Course Coordinator

Dr. D. VIJAYAKSHMI M.Sc., M.Phil., Ph.D., PGDCA
Assistant Professor in Mathematics
Co-ordinator, DBT STAR COLLEGE SCHEME
Kongunadu Arts and Science College (Autonomous)
Coimbatore - 641 029, TN.




Head of the Institution
PRINCIPAL INCHARGE
KONGUNADU ARTS & SCIENCE COLLEGE
COIMBATORE - 641 029

KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

DBT STAR COLLEGE SCHEME

DETAILS OF ADVISORY COMMITTEE MEMBERS

CHAIRPERSON

Dr. M. Lekshmanaswamy M.Sc., M.Phil., Ph.D., B.Ed., FSISC., FISEC.
Principal and Head, Department of Zoology,
Kongunadu Arts and Science College,
Coimbatore -641 029, Tamil Nadu, India.
Phone (Off): 0422-2642095
E-mail: principal@kongunaducollege.ac.in

DBT REPRESENTATIVES

- **Dr. Garima Gupta**, Scientist – ‘F’,
Programme Head,
Department of Biotechnology,
Ministry of Science & Technology,
Government of India, New Delhi.
- **Dr. Abhishek Kumar Mehta**, Scientist – ‘D’,
Programme Officer,
Department of Biotechnology,
Ministry of Science & Technology,
Government of India, New Delhi.

EXTERNAL EXPERTS

- **Dr. R. Rajendran** M.Sc., PGDEM., MBA., PhD.
Former Principal & Associate Professor, Department of Microbiology,
PSG College of Arts and Science,
Civil Aerodrome (post), Coimbatore – 641 014, Tamil Nadu, India.
Phone: (Off) 0422-4397901 to 905, Mobile: +91- 9443751400
E-mail: rrajendranmicro@yahoo.co.in
- **Dr. A. K. Vidya** M.Sc., M.Phil., PGDBI., SLET., Ph.D.
Associate Professor and Head, Department of Biochemistry,
Kongu Arts and Science college,
Erode-638107, Tamil Nadu, India.
Phone: 9360018644
E-mail: vidhya_ak@hotmail.com

OVERALL CO-ORDINATOR-MEMBER SECRETARY

Dr. D. Vijayalakshmi M.Sc., M.Phil., Ph.D., PGDCA.
Assistant Professor, Department of Mathematics,
Kongunadu Arts and Science College,
Coimbatore-641029, Tamil Nadu, India.
Phone: 9442534761
E-mail: vijikasc@gmail.com

WORKING COMMITTEE MEMBERS

- Dr. E. Prakash M.Sc., Ph.D., Assistant Professor of Mathematics
- Dr. K. Chandra Prakash M.Sc., Ph.D, Assistant Professor of Chemistry
- Dr. S.P.R. Priyalatha M.Sc., M.Phil., Ph.D, Assistant Professor of Mathematics
- Dr. S. Selvi M.Sc., Ph.D, Assistant Professor of Physics

CO-ORDINATORS OF ALL PARTICIPATORY DEPARTMENTS

- Dr. M. Seetha M.Sc., Ph.D, Assistant Professor (Physics - Department Coordinator)
- Dr. R.Manimekalai, M.Sc., M.Phil., Ph.D, Assistant Professor (Chemistry - Department Coordinator)
- Mr. K.Kaliraj MCA., M.PhilAssistant Professor (Computer Science - Department Coordinator)
- Dr. C. Ravichandran M.Sc., M.Phil., Ph.D, Assistant Professor (Mathematics - Department Coordinator)

LIST OF MENTORS

DEPARTMENT OF PHYSICS

- **Dr. M. Lavanya** M.Phil., Ph.D.
Assistant Professor, Department of Physics,
PSGR Krishnammal college for women,
Peelamedu, Coimbatore-641004, Tamil Nadu, India.
Phone:
E-mail: lavanyam@psgrkcw.ac.in
- **Dr. N. Ponpandian** M.Sc., M.Phil., Ph.D.
Professor and Head, Department of Nano science and Technology,
Bharathiar university,
Coimbatore-641046, Tamilnadu, India.
Phone: 0422-2428421, Mobile: 9443552271
E-mail: ponpandian@buc.edu.in

DEPARTMENT OF CHEMISTRY

- **Dr. T. Selvaraju** M.Sc., M.Phil., Ph.D.
Associate Professor, Department of Chemistry
Bharathiar University,
Coimbatore-641046, Tamilnadu, India.
Phone: 0422-2428315, Mobile: 9443023600
E-mail: selvaraju@buc.edu.in ; veluselvaraju@gmail.com
- **Dr. D. Nalini** Ph.D.
Assistant Professor and Head, Department of Chemistry,
PSGR Krishnammal College for Women,
Peelamedu, Coimbatore-641004, Tamil Nadu, India.
Mobile: 9843822004
E-mail: nalinichemistry@gmail.com ; nalini@psgrkcw.ac.in

DEPARTMENT OF COMPUTER SCIENCE

- **Dr. S.K. Jayanthi** M.Sc., PGDCA., M.Phil, Ph.D.
Principal and Head, Department of Computer Science,
Vellalar College for Women (Autonomous),
Erode-638012, Tamilnadu, India.
Phone: 9442350901
E-mail: jayanthi.sk@vcw.ac.in
- **Dr. S. Karpagavalli** M.Sc., M.Phil., Ph.D.,
Associate Professor and Head, Department of Computer Science,
PSGR Krishnammal College for Women,
Peelamedu, Coimbatore-641004, Tamil Nadu, India.
Phone:
E-mail: karpagavalli@psgrkcw.ac.in

DEPARTMENT OF MATHEMATICS

- **Dr. R. Parvathi** M.Sc., M.Phil., Ph.D., PGDCA., B.Ed.
Associate Professor and Head, Department of Mathematics,
Vellalar College for Women (Autonomous),
Erode-638012, Tamilnadu, India.
Phone:
E-mail: parvathi@vcw.ac.in

- **Dr. D. Sasikala** M.Sc., M.Phil., Ph.D.,
Assistant Professor, Department of Mathematics,
PSGR Krishnammal College for Women,
Peelamedu, Coimbatore-641004, Tamil Nadu, India.
Phone:
E-mail: dsasikala@psgrkcw.ac.in

FACULTY MEMBERS OF ALL PARTICIPATING DEPARTMENTS

DEPARTMENT OF PHYSICS

- Dr. A. Anu Kaliani M.Sc., M.Phil., Ph.D, Associate Professor and Head
- Thiru. K. Karuppuswamy M.Sc., M.Phil., B.Ed., PGDCA (SLST), Associate Professor
- Dr. B. Chandar Shekar M.Sc., M.Phil., Ph.D, Associate Professor
- Dr. K. Saravanakumar M.Sc., Ph.D, Associate Professor
- Dr. M. Seetha M.Sc., Ph.D, Assistant Professor (Department Coordinator)
- Dr. P. Matheswaran M.Sc., Ph.D, Assistant Professor
- Dr. M. Mohamed Ibrahim M.Sc., Ph.D, Assistant Professor
- Dr. A. Ranjitha M.Sc., Ph.D, Assistant Professor
- Dr. N. Senthil Kumar M.Sc., M.Phil., Ph.D, Assistant Professor
- Dr. S. Selvi M.Sc., Ph.D, Assistant Professor
- Dr. B. Gokul M.Sc., M.Phil., Ph.D, Assistant Professor
- Dr. V. D. Nithya M.Sc., Ph.D, Assistant Professor
- Dr. V. Mohankumar B.Ed., M.Sc., M.Phil., Ph.D, - Assistant Professor

DEPARTMENT OF CHEMISTRY

- Dr. V. Sangeetha M.Sc., Ph.D, Associate Professor and Head
- Dr. M. S. Sivaramkumar M.Sc., M.Sc., MA., MA., M.Ed., M.Phil., Ph.D., PGDCHI, Assistant Professor
- Dr. R. Manimekalai M.Sc., M.Phil., Ph.D, Assistant Professor (Department Coordinator)
- Dr. K. Saminathan M.Sc., Ph.D, Assistant Professor
- Dr. E. Jayanthi M.Sc., M.Phil., Ph.D, Assistant Professor
- Dr. K. Krishnaveni M.Sc., M.Phil., Ph.D, Assistant Professor
- Dr. K. Chandra Prakash M.Sc., Ph.D, Assistant Professor

DEPARTMENT OF COMPUTER SCIENCE

- Tmy. A. Manickathai M.Sc., M.Phil., B.Ed., PGDCA, Associate Professor & Head
- Thiru. A. Sivabalan M.Sc., M.Phil., PGDCA, Associate Professor
- Dr. A. Kavitha MCA, M.Phil., Ph.D, Assistant Professor
- Mr.K.Kaliraj, MCA,M.Phil, Assistant Professor (Department Coordinator)

DEPARTMENT OF MATHEMATICS

- Dr. V. Kokilavani M.Sc., M.Phil., Ph.D, Associate Professor and Head
- Dr. D. Vijayalakshmi M.Sc., M.Phil., Ph.D, PGDCA, Assistant Professor
- Dr. M. Vigneshwaran M.Sc., M.Phil., Ph.D, PGDCA, Assistant Professor
- Dr. M. Venkatachalam M.Sc., M.Phil., Ph.D, Assistant Professor
- Dr. L. Vidyarani M.Sc., M.Phil., Ph.D (SET), PGDCA, Assistant Professor
- Dr. C. Ravichandran M.Sc., M.Phil., Ph.D, Assistant Professor (Department Coordinator)
- Dr. S.P.R. Priyalatha M.Sc., M.Phil., Ph.D, Assistant Professor
- Dr. M. Vivek Prabu M.Sc., Ph.D (SET), Assistant Professor
- Dr. P. Sathishmohan M.Sc., M.Phil., Ph.D, Assistant Professor
- Dr. N. Mohanapriya M.Sc., Ph.D, PGDCA, Assistant Professor
- Dr. E. Prakash M.Sc., Ph.D, Assistant Professor

DBT Star College Scheme

Advisory Committee Meeting



KONGUNADU ARTS AND SCIENCE COLLEGE
(Autonomous)
Re-accredited by NAAC with 'A+' Grade (4th Cycle)
College of Excellence (UGC)
29th Rank among Colleges in NIRF 2023
Coimbatore – 641 029



**DBT Star College Scheme Advisory Committee Meeting Presentation
- A Prequel**

Resource Person

Dr. R. Rajendran M.Sc., PGDEM., MBA., PhD
Former Principal & Associate Professor
Department of Microbiology
PSG College of Arts and Science
Coimbatore – 641 014 Tamil Nadu, India.

Date: 27.06.2023

**Venue: Seminar Hall
Time: 2.00 PM**



KONGUNADU ARTS AND SCIENCE COLLEGE (Autonomous)

Re-Accredited by NAAC with "A+" Grade (4th Cycle)
College of Excellence (UGC)
COIMBATORE - 641 029, TAMIL NADU, INDIA

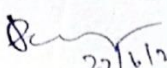
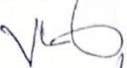
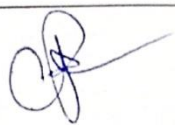
DBT Star College Scheme

Advisory Committee Meeting Presentation – A Prequel

The Advisory Committee Meeting Presentation – A Prequel of DBT Star college scheme is convened on 27.06.2023 at 02.30 P.M at the Seminar Hall, Kongunadu Arts and Science College, Coimbatore.

Members Present:

S.No	Name & Designation	Position	Signature
1	Dr. M. LEKSHMANASWAMY Principal	Chairman	
2	Dr.R.RAJENDRAN, Former Principal & Associate Professor Department of Microbiology PSG College of Arts and Science	External Expert	
3	Dr. D. VIJAYALAKSHMI Assistant Professor Department of Mathematics	DBT STAR College Co-ordinator	
4	Dr. A. Anukalyani, Associate Professor and Head, Department of Physics	Member	 27/6/23
5	Dr.M.Seetha, Assistant Professor, Department of Physics (Department Co- ordinator)	Member	 27/6/2023
6	Dr. V. Sangeetha, Assistant Professor and Head, Department of Chemistry	Member	
7	Dr. E. Jayanthi, Assistant Professor, Department of Chemistry (Department Co- ordinator)	Member	
8	Mrs. A. Manickathai, Associate Professor and Head, Department of Computer Science	Member	

9	Mr. P. Kaliraj Assistant Professor Department of Computer Science (Department Co-ordinator)	Member	 27/4/2023
10	Dr. V. Kokilavani, Assistant Professor and Head, Department of Mathematics	Member	 27/4/23
11	Dr. C. Ravichandran, Assistant Professor, Department of Mathematics (Department Co- ordinator)	Member	



KONGUNADU ARTS AND SCIENCE COLLEGE (Autonomous)

Re-Accredited by NAAC with "A+" Grade (4th Cycle)
College of Excellence (UGC)
COIMBATORE - 641 029, TAMIL NADU, INDIA

DBT Star College Scheme

Minutes of DBT Advisory Committee Meeting Presentation – A Prequel

The meeting of Advisory Committee Mock Presentation – A Prequel was held on 27.06.2023 at 2.30 P.M , Seminar Hall, Kongunadu Arts and Science College, Coimbatore.

- Dr. D. Vijayalakshmi, DBT star college coordinator, Kongunadu Arts and Science welcomed the gathering.
- Dr.M.Lekshmanasamy Principal Presided over the meeting
- Participatory department presented their Progress of Activities under DBT Star college scheme for the academic year 2022 – 2023 under recurring grant .Also they provided the details of the equipments purchased under non recurring grant.

The following were the Details of Presentation

- i) Overall Presentation done by the DBT star college coordinator outlined the general important aspects of all Participatory Departments
(Timing : 8 Minutes)
- ii) Department of Physics Presentatation done was by Dr.M.Seetha
(Timing :16)
- iii) Department of Chemistry t Presentatation was done by Dr.R.Manimegalai(Timing : 11 Minutes)
- iv) Department of Computer Science Presentatation was done by Mrs.A.Manicakatahi (Timing 15)
- v) Mathematics Department Presentatation done by Dr.L.Vidya Rani
(Timing 14 Min)

- **Suggestions/ Recommendation by Dr. R. Rajendran, Expert Member**

- i) **General Suggestions Regarding the Presentation**

- ❖ Appreciated all the departments for their good presentation and also appreciated Computer science department for PM Modi Digital India Scheme.
- ❖ He appreciated very much for good progress in conduct of activities by all the departments.
- ❖ He suggested to keep the library books in the library during the visit.
- ❖ Student Profile can be included by all the departments in the presentation
- ❖ He insisted to add year wise list of Practical programs .
- ❖ Insisted to Maintain Timing to the Max 10 Minutes for all the departments
- ❖ To Remove expenditure details of Recurring and Non Recurring Grant
- ❖ Key Performance indicator bar diagram can be avoided
- ❖ Common Programmes can be shown by any one of the department
- ❖ Future plans to be specific
- ❖ Impact of the star college scheme should be specific avoiding the philosophical statements(Min 2 Or 3 can be listed)
- ❖ Suggested to invite the Resource persons from IIT, IIM, NIT, IISC and well reputed universities/institutes

- ii) **Suggestions Regarding**

- a) **Overall Co-ordinator**

- ❖ Numerical Datas can also be included
- ❖ Library details can be avoided
- ❖ Overall Bar diagram after the implementation of star college can be given.

- b) **Department of Physics**

- ❖ All working model can be given in Table format
- ❖ Key performance indicator can be presented in a single slide
- ❖ For Eg.: Hands on training, Outreach activity to be compiled in a single slide

- c) **Department of Chemistry**

- ❖ To improve Clarity in Pie chart

- d) **Department of Computer Science**

- ❖ Impact of the star college scheme should be specifind Genric Future plans can be avoided .

- **Suggestions/ Recommendation by Dr. R. Rajendran, Expert Member**

- i) **General Suggestions Regarding the Presentation**

- ❖ Appreciated all the departments for their good presentation and also appreciated Computer science department for PM Modi Digital India Scheme.
- ❖ He appreciated very much for good progress in conduct of activities by all the departments.
- ❖ He suggested to keep the library books in the library during the visit.
- ❖ Student Profile can be included by all the departments in the presentation
- ❖ He insisted to add year wise list of Practical programs .
- ❖ Insisted to Maintain Timing to the Max 10 Minutes for all the departments
- ❖ To Remove expenditure details of Recurring and Non Recurring Grant
- ❖ Key Performance indicator bar diagram can be avoided
- ❖ Common Programmes can be shown by any one of the department
- ❖ Future plans to be specific
- ❖ Impact of the star college scheme should be specific avoiding the philosophical statements(Min 2 Or 3 can be listed)
- ❖ Suggested to invite the Resource persons from IIT, IIM, NIT, IISC and well reputed universities/institutes

- ii) **Suggestions Regarding**

- a) **Overall Co-ordinator**

- ❖ Numerical Datas can also be included
- ❖ Library details can be avoided
- ❖ Overall Bar diagram after the implementation of star college can be given.

- b) **Department of Physics**

- ❖ All working model can be given in Table format
- ❖ Key performance indicator can be presented in a single slide
- ❖ For Eg.: Hands on training, Outreach activity to be compiled in a single slide

- c) **Department of Chemistry**

- ❖ To improve Clarity in Pie chart

- d) **Department of Computer Science**

- ❖ Impact of the star college scheme should be specifind Genric Future plans can be avoided .

Dr. E. Jayanthi, Assistant Professor, Department of Chemistry (Department Co-ordinator)
Dr.M.S.Sivaram Kumar, Assistant Professor, Department of Chemistry
Dr.R.Manimegalai, Assistant Professor, Department of Chemistry
Dr. ChandraPrakash, Assistant Professor, Department of Chemistry
Mrs. A. Manicathai, Associate Professor and Head, Department of Computer Science
Mr.A.Sivabalan, Associate Professor, Department of Computer Science
Mr.B.Manogran, Associate Professor, Department of Computer Science
Dr.K.Kaliraj, Department of Computer Science (Department Co-ordinator)
Dr. V. Kokilavani, Assistant Professor and Head, Department of Mathematics
Dr.L.Vidhya Rani, Assistant Professor, Department of Mathematics
Dr.M.Vigneshwaran, Assistant Professor, Department of Mathematics
Dr.M.Venkatachalam Assistant Professor, Department of Mathematics
Dr.N.Mohanapriya Assistant Professor, Department of Mathematics
Dr. S.P.R. Priyalatha Assistant Professor, Department of Mathematics
Dr.E.Prakash Assistant Professor, Department of Mathematics

Coordinator Star College Scheme

Dr. D. VIJAYALAKSHMI

Assistant Professor

Department of Mathematics



KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

Re-accredited by NAAC with 'A+' Grade (4th Cycle)

College of Excellence (UGC)

29th Rank among Colleges in NIRF 2023

Coimbatore – 641 029



DBT Star College Scheme - Advisory Committee Meeting

Department of Physics, Chemistry, Computer Science and Mathematics

Advisory Committee Members

Dr. Garima Gupta

Scientist F

Programme Head

Department of Biotechnology
Ministry of Science & Technology
Government of India, New Delhi.

Dr. Abhishek Kumar Mehta

Scientist C

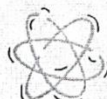
Programme Officer,

Department of Biotechnology
Ministry of Science & Technology
Government of India, New Delhi.



Date: 05.07.2023 (DBT Star College Presentation)

Venue: RVS College Of Arts And Science



Date: 06.07.2023 (DBT Advisory Committee, Onsite Visit)

Venue: Kongunadu Arts and Science College





KONGUNADU ARTS AND SCIENCE COLLEGE

(Autonomous)

Re-Accredited by NAAC with "A+" Grade (4th Cycle)

College of Excellence (UGC)

29th Rank among Colleges in NIRF 2023

Coimbatore - 641 029, Tamil Nadu, India

DBT STAR COLLEGE SCHEME

Minutes of Advisory Committee Meeting and Site Visit

The Advisory Committee meeting of DBT Star College Scheme was convened on **05.07.2023** at 9.00 am at RVS College of Arts and Science, Coimbatore.

The Participatory Departments (1. Department of Physics 2. Department of Chemistry 3. Department of Computer Science and 4. Department of Mathematics) of Kongunadu Arts and Science College, Coimbatore presented the details of various activities such as Guest Lecture, Seminar, Workshop, Hands on Training, Projects, Practicals introduced, Outreach & Extension Activities, Training Programmes, Industrial Visits and Lab visits conducted under DBT Star College Scheme for the year 2022 – 2023 before the Advisory Committee members.

Presentation Schedule:

- i) DBT Star College Scheme Coordinator of our college **Dr.D.Vijayalakshmi** highlighted the significant activities and upgradation of Laboratory infrastructure of all the participatory departments.
- ii) Activities of the **Department of Physics** was presented by Dr.M.Seetha. She highlighted all the activities and enrichment of curriculum in theory and practicals for acquiring more practical skill for the students under this scheme. Also she elaborated about the working models, Interdisciplinary projects, Conduct of Exhibition to College and School students for the promotion of basic science education.
- iii) Activities of the **Department of Chemistry** was presented by Dr.R.Manimekalai. The Faculty clearly explained about the individual practical skill facilitated for the students through the purchase of new and additional equipments. Also she highlighted about the exposure given to the students through Industrial/ Research lab visit and the divergent thinking towards interdisciplinary Projects. In addition more interdisciplinary activities were conducted for other science disciplines.

- iv) Activities of the **Department of Computer Science** was presented by Mrs.A.Manickathai. She explained about various Hands on Training Programmes and Workshops conducted for the students to know about latest trends in ICT tools and its opportunities. She highlighted about Interdepartmental Projects done by the students and Various Skill development programmes conducted for the benefits of the students.
- v) Activities of the **Department of Mathematics** was presented by Dr.L.Vidyanani. She emphasized about the establishment of Math Model Lab and MATLAB under the DBT Star College Scheme. She also highlighted about list of interdepartmental /intradepartmental activities conducted for the benefit of the students. She also elaborated on Faculty development Programmes and in-service training programme to School teachers to create awareness on the aspects of Teaching and learning

Suggestions/ Recommendation by the Advisory Committee Members

- ❖ Appreciated all the participatory departments for their detail and quality presentation and for the progress shown in the conduct of activities.
- ❖ More number of Outreach activities can be conducted for school students to promote Science education among the younger generation.
- ❖ Enhance practical oriented learning by enriching the curriculum in both Theory and Practicals
- ❖ Interdisciplinary/Interdepartmental Projects can be encouraged and Students' project titles should be specific and in detail with interdisciplinary importance.
- ❖ Students' publication and innovative products /models can be forwarded should be acknowledged with prior information from DBT
- ❖ Separate awareness/training programmes can be conducted for Lab Assistant
- ❖ More Hands on training and Workshops can be conducted for the experiments beyond syllabus.
- ❖ Laboratory manuals should have the subject experts feedback
- ❖ Suggested to invite the Resource persons from well reputed universities/institutes.

DBT Advisory Committee Members On-Site Visit on 06.07.2023

Kongunadu Arts and Science College received the DBT Advisory Committee Member and the External Expert to the Onsite Visit under DBT Star College Scheme on 06.07.2023 with a musical retreat.

DBT Advisory Committee Member **Dr. Garima Gupta** and External Expert **Dr. R. Rajendran** had an interactive session with the members of the Management of Kongunadu Arts and Science College, Coimbatore.

An **Interactive session with Students and Faculty** was held in the conference hall .

- ❖ **Dr. M. Lekshmanasamy**, Principal, Kongunadu Arts and Science welcomed the Advisory committee members.
- ❖ **Dr. Garima Gupta**, Scientist F, Department of Biotechnology, Ministry of Science & Technology, New Delhi delivered the keynote address.
- ❖ **Dr. R. Rajendran**, Former Principal & Associate Professor of Microbiology, PSG College of Arts and Science addressed the students about the importance of Star College Scheme.

Students and Faculty members of Department of Physics, Chemistry, Mathematics, and Computer Science participated in the meeting. **Dr. Garima Gupta** welcomed the feedback on the benefits of DBT star college scheme.

- Students from all four participatory departments (**Physics, Chemistry, Mathematics, and Computer Science**) shared their experience and knowledge gained through DBT Star College Scheme.

The students highlighted the following:

- Individual experiments were conducted to acquire individual practical skill in the laboratory with the help of various instruments/equipments procured through DBT Star College Scheme.
- Industrial/Institute visits enabled to bridge the Industry-Academia gap by enriching technical and technological knowledge about Industry.

- Establishment of smart classrooms enriched the visual imaging and creative thinking.
- Hands on training and workshop improved the more practical/Technical skill.
- Seminars, workshops and conferences enriched the knowledge in core domain.
- Gained multi-disciplinary knowledge through Interdisciplinary/Interdepartmental projects.

➤ The financial support received by the students to attend various seminars/ conference outside campus/ state was highlighted by a faculty member.

The Interaction session came to an end, with the formal vote of thanks by Dr. D. Vijayalakshmi, DBT Star College Coordinator, Kongunadu Arts and Science, Coimbatore.

After the Interaction with the students and Faculty members the Advisory Committee Visited the Participatory departments (**1.Department of Physics 2. Department of Chemistry 3. Department of Computer Science and 4. Department of Mathematics**) and respective Laboratories and inspected the equipments procured under Non Recurring Grant. They also verified the Stock & Accession Register related to the purchase of equipments of the respective departments.

The Committee was highly impressed with display of Models and Products done by the students of the participatory departments with the support of DBT Star College Scheme. The students enthusiastically elaborated about their innovative ideas /models/products to their Satisfaction.

The Committee Members appreciated the efforts of Students and Faculty Members of the Participatory departments and suggestions were given by the members for further improvement of the DBT Star College Scheme.

The Management, Staff Members and Students wholeheartedly submit sincere Thanks and Gratitude to the officials of the DBT Star College Scheme, Department of Biotechnology, Government of India, New Delhi for all the support provided through this Scheme.

Members Present

CHAIRPERSON

Dr. M. Lekshmanaswamy M.Sc., M.Phil., Ph.D., B.Ed., FSISC., FISEC.

Principal and Head, Department of Zoology,

Kongunadu Arts and Science College,

Coimbatore -641 029, Tamil Nadu, India.

DBT OFFICIALS

- **Dr. Garima Gupta**, Scientist –‘F’,
Programme Head,
Department of Biotechnology,
Ministry of Science & Technology,
Government of India, New Delhi.
- **Dr. Abhishek Kumar Mehta**, Scientist – ‘D’,
Programme Officer,
Department of Biotechnology,
Ministry of Science & Technology,
Government of India, New Delhi.

EXTERNAL EXPERTS

- **Dr. R. Rajendran** M.Sc., PGDEM., MBA., PhD.
Former Principal & Associate Professor, Department of Microbiology,
PSG College of Arts and Science,
Civil Aerodrome (post), Coimbatore – 641 014, Tamil Nadu, India.
- **Dr. A. K. Vidya** M.Sc., M.Phil., PGDBI., SLET., Ph.D.
Associate Professor and Head, Department of Biochemistry,
Kongu Arts and Science college,
Erode-638107, Tamil Nadu, India.

OVERALL CO-ORDINATOR-MEMBER SECRETARY

Dr. D. Vijayalakshmi M.Sc., M.Phil., Ph.D., PGDCA.

Assistant Professor, Department of Mathematics,

Kongunadu Arts and Science College,

Coimbatore-641029, Tamil Nadu, India.

CO-ORDINATORS OF ALL PARTICIPATING DEPARTMENTS

- Dr. M. Seetha M.Sc., Ph.D, Assistant Professor (Physics - Department Coordinator)
- Dr. E. Jayanthi M.Sc., M.Phil., Ph.D, Assistant Professor (Chemistry - Department Coordinator)
- Dr. S. Mythili MCA., M.Phil., Ph.D, Assistant Professor (Computer Science - Department Coordinator)
- Dr. C. Ravichandran M.Sc., M.Phil., Ph.D, Assistant Professor (Mathematics - Department Coordinator)

FACULTY MEMBERS OF ALL PARTICIPATING DEPARTMENTS

DEPARTMENT OF PHYSICS

- Dr. A. Anu Kaliani M.Sc., M.Phil., Ph.D, Associate Professor and Head
- Thiru. K. Karuppuswamy M.Sc., M.Phil., B.Ed., PGDCA (SLST), Associate Professor
- Dr. B. Chandar Shekar M.Sc., M.Phil., Ph.D, Associate Professor
- Dr. K. Saravanakumar M.Sc., Ph.D, Associate Professor
- Dr. P. Matheswaran M.Sc., Ph.D, Assistant Professor
- Dr. M. Mohamed Ibrahim M.Sc., Ph.D, Assistant Professor
- Dr. A. Ranjitha M.Sc., Ph.D, Assistant Professor
- Dr. N. Senthil Kumar M.Sc., M.Phil., Ph.D, Assistant Professor
- Dr. S. Selvi M.Sc., Ph.D, Assistant Professor
- Dr. B. Gokul M.Sc., M.Phil., Ph.D, Assistant Professor
- Dr. V. D. Nithya M.Sc., Ph.D, Assistant Professor
- Dr. V. Mohankumar B.Ed., M.Sc., M.Phil., Ph.D, - Assistant Professor

DEPARTMENT OF CHEMISTRY

- Dr. V. Sangeetha M.Sc., Ph.D, Associate Professor and Head
- Dr. M. S. Sivaramkumar M.Sc., M.Sc., MA., MA., M.Ed., M.Phil., Ph.D., PGDCHI, Assistant Professor
- Dr. R. Manimekalai M.Sc., M.Phil., Ph.D, Assistant Professor
- Dr. K. Saminathan M.Sc., Ph.D, Assistant Professor
- Dr. K. Krishnaveni M.Sc., M.Phil., Ph.D, Assistant Professor
- Dr. K. Chandra Prakash M.Sc., Ph.D, Assistant Professor

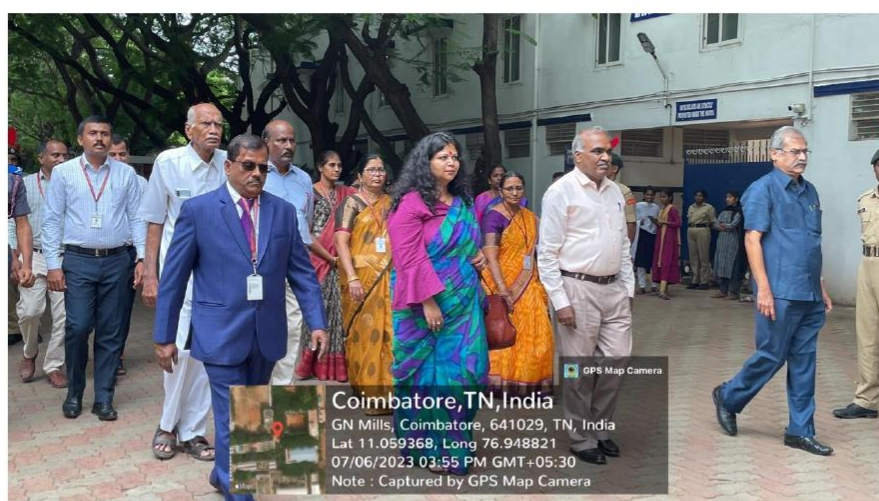
DEPARTMENT OF COMPUTER SCIENCE

- Tmy. A. Manickathai M.Sc., M.Phil., B.Ed., PGDCA, Associate Professor & Head
- Thiru. A. Sivabalan M.Sc., M.Phil., PGDCA, Associate Professor
- Dr. A. Kavitha MCA, M.Phil., Ph.D, Assistant Professor
- Thiru. B. Manogaran MCA, Assistant Professor

DEPARTMENT OF MATHEMATICS

- Dr. V. Kokilavani M.Sc., M.Phil., Ph.D, Assistant Professor and Head
- Dr. M. Vigneshwaran M.Sc., M.Phil., Ph.D, PGDCA, Assistant Professor
- Dr. M. Venkatachalam M.Sc., M.Phil., Ph.D, Assistant Professor
- Dr. L. Vidyarani M.Sc., M.Phil., Ph.D (SET), PGDCA, Assistant Professor
- Dr. S.P.R. Priyalatha M.Sc., M.Phil., Ph.D, Assistant Professor
- Dr. M. Vivek Prabu M.Sc., Ph.D (SET), Assistant Professor
- Dr. P. Sathishmohan M.Sc., M.Phil., Ph.D, Assistant Professor
- Dr. N. Mohanapriya M.Sc., Ph.D, PGDCA, Assistant Professor
- Dr. E. Prakash M.Sc., Ph.D, Assistant Professor

DBT Advisory Committee Onsite Visit (06.07.2023)



**DBT Star College Advisory Committee Member Dr. Garima Gupta welcome by
Kongunadu Arts and Science College**



**DBT Star College Advisory Committee Member Dr. Garima Gupta,
Poorna Kumba Mariyathai by Kongunadu Arts and Science College**



**DBT Star College Advisory Committee Member Dr. Garima Gupta Interact with
Kongunadu Arts and Science College Members**



DBT Star College Advisory Committee Members Dr. Garima Gupta and Dr. R. Rajendran, Interact With Students and Professors



DBT Star College Advisory Committee Members Dr. Garima Gupta Interact With Students and Professors



DBT Star College Advisory Committee Member Dr. R. Rajendran Interact With Students



DBT Star College Advisory Committee Members Dr. Garima Gupta Interact with KASC Professors



DBT Star College Advisory Committee Members Dr. Garima Gupta Interact with Students



Group Photo with DBT Star College Advisory Committee Members Dr. Garima Gupta and Kongunadu Arts and Science College Members

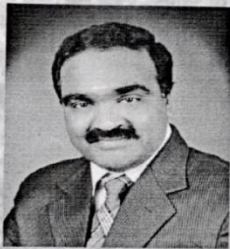
DBT Star College Scheme

Internal Advisory Committee Meeting & Mentor Review Meeting

1/22/24, 12:13 PM IMG-20240122-WA0019.jpg

**KONGUNADU ARTS AND SCIENCE COLLEGE
(AUTONOMOUS)**
Re-accredited by NAAC with 'A+' Grade (4th Cycle)
College of Excellence (UGC)
29th Rank among Colleges in NIRF 2023
G.N. Mills(Po) , Coimbatore 641029

**DBT STAR COLLEGE SCHEME
INTERNAL ADVISORY COMMITTEE MEETING
&
MENTOR REVIEW MEETING**



Dr. R. RAJENDRAN
Mentor & Task Force Member
DBT Star College Scheme
Associate Professor
Department of Microbiology
PSG College of Arts and Science
Coimbatore



Dr. A. K. VIDYA
Associate Professor & Head
Department of Bio-Chemistry
Kongu Arts and Science College
Erode

Participatory Departments

- Physics
- Chemistry
- Computer Science
- Mathematics

22. 01. 2024
2 PM
SEMINAR HALL

WELCOMES YOU ALL

<https://mail.google.com/mail/u/0/#inbox?projector=1> 1/1



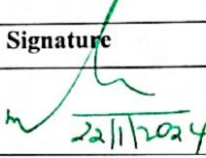
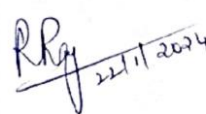
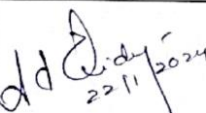
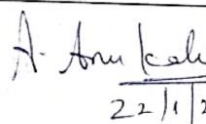
KONGUNADU ARTS AND SCIENCE COLLEGE
(Autonomous)
Re-accredited by NAAC with 'A+ Grade (4th Cycle)
College of Excellence (UGC)
29th Rank among Colleges in NIRF 2023
COIMBATORE – 641029

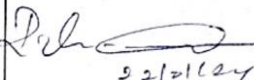
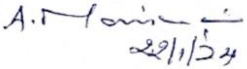
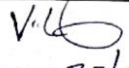
DBT Star College Scheme

Internal Advisory Committee Meeting & Mentor Review Meeting

The Internal Advisory Committee Meeting & Mentor Review Meeting of DBT Star college scheme is convened on 22.01.2024 at 2.00 P.M at the seminar Hall, Kongunadu Arts and Science College, Coimbatore.

Members Present:

S.NO	Name & Designation	Position	Signature
1	Dr. M.LEKSHMANASAMY Principal	Chairman	 22/1/2024
2	Dr. R. RAJENDRAN, Former Principal & Associate Professor Department of Microbiology PSG College of Arts and Science	External Expert	 22/1/2024
3	Dr. A.K.VIDYA, Associate Professor & Head Department of Bio-Chemistry Kongu Arts and Science Erode	External Expert	 22/1/2024
4	Dr. D. VIJAYALAKSHMI Assistant Professor Department of Mathematics	DBT STAR College Co-ordinator	
5	Dr. A. Anukaliani, Associate Professor and Head , Department of Physics	Member	 22/1/24

6	Dr. M.Seetha, Assistant Professor, Department of Physics (Department Coordinator)	Member	 22/01/2024
7	Dr. V.Sangeetha, Assistant Professor and Head, Department of Chemistry	Member	 22/01/2024
8	Dr. R.Manimegalai, Assistant Professor Department of Chemistry	Member	 22/01/2024
9	Mrs. A.Manickathai, Associate Professor and Head, Department of Computer Science	Member	 22/01/2024
10	Mr. P.Kaliraj Assistant Professor Department of Computer Science (Department Co-ordinator)	Member	 22/01/2024
11	Dr. V. Kokilavani, Associate Professor and Head, Department of Mathematics	Member	 22/01/2024
12	Dr. C. Ravichandran, Assistant Professor, Department of Mathematics (Department Co-ordinator)	Member	 22.01.2024

Kongunadu Arts and Science College(Autonomous)

DBT Star College Scheme

Internal Advisory Committee Meeting cum Mentor Review Meeting-

For the financial year 2023-2024

Date:22.01.2024

Venue: Seminar Hall, KASC

Minutes of Internal Advisory Committee Meeting cum Mentor Review Meeting

The Internal Advisory Committee meeting of DBT Star college scheme was convened on 23.01.2024 at 10.00 A.M in the Seminar Hall.

- Dr. M. Lekshmanaswamy, Principal, Kongunadu Arts and Science College welcomed the members of Advisory Committee.
- Dr. D. Vijayalakshmi, DBT overall star college coordinator of Kongunadu Arts and Science College briefly outlined the support provided by the DBT Star college scheme to enhance the UG Departments.
- DBT Coordinator emphasized that the following to the External Experts
 - i)Laboratory has been upgraded with the help of equipments purchased under the Star College Scheme. The increase in number of instruments helped the students to perform the experiments individually and also the purchase of new instruments helped the students to learn more subject specific experiments
 - ii)Department library funded by Star College Scheme facilitated the students and faculty to have immediate access to books/journals
 - iii) Visit to Industries /Institutions enabled the students to gain knowledge about technical, technological development in the industries, to comprehend the **Industry-Academia gap**
- ❖ iv) **Interdisciplinary and Cross-disciplinary projects** at undergraduate level have made the students to know about various theoretical tools and the practical methodologies which motivated them to take up **higher studies and Research in basic sciences**.
- Each Participatory departments presented their action plan under DBT Star college scheme for the academic year 2023 – 2024 under recurring grant

- **Suggestions/ Recommendation of Dr. R. Rajendran, Expert Member**

1. Appreciated all the participatory departments for their detail and quality presentation and for the progress shown in the conduct of activities
2. He emphasized to invite students from other neighbouring institutions.
3. He motivated the staff to attend more training programmes in renowned institutions.
4. Separate awareness/training programmes can be conducted for Lab Assistant
5. More hands on training and Workshops can be conducted for the experiments beyond syllabus.
6. He insisted to add more practical programs in the curriculum.
7. He emphasized to concentrate more on “hands on Training, Workshop, Mini project, Summer training, Internship, Industrial Visit, Field Visit” to enhance the student knowledge.
8. He encouraged the departments to invite speakers/resource persons from IIT and NIT.
9. He motivated to conduct FDP programs for staff members to enhance their skills and acquire knowledge in current trend .
10. Awareness/ Training program can be conducted for non-teaching faculty members.

- **Suggestions/ Recommendation of Dr. A. K. Vidya, Expert Member**

1. She explained about interdisciplinary and cross disciplinary Projects.
 2. She also suggested to prepare Lab Manuals with ISBN number
 3. She insisted to focus more on inter/ cross disciplinary activities.
 4. She motivated to organize Summer/ Winter Training Programmes for other college Students
- All the queries raised by faculty members were clarified by the experts.
 - The meeting came to an end, with the formal vote of thanks by Dr. D. Vijayalakshmi, Assistant Professor of Mathematics, Overall DBT star college coordinator.

Members Present

CHAIRPERSON

Dr. M. Lekshmanaswamy M.Sc., M.Phil., Ph.D., B.Ed., FSISC., FISEC.

Principal and Head, Department of Zoology,

Kongunadu Arts and Science College,

Coimbatore -641 029, Tamil Nadu, India.

EXTERNAL EXPERTS

- **Dr. R. Rajendran** M.Sc., PGDEM., MBA., PhD.

Former Principal & Associate Professor, Department of Microbiology,

PSG College of Arts and Science,

Civil Aerodrome (post), Coimbatore – 641 014, Tamil Nadu, India.

- **Dr. A. K. Vidya** M.Sc., M.Phil., PGDBI., SLET., Ph.D.

Associate Professor and Head, Department of Biochemistry,

Kongu Arts and Science college,

Erode-638107, Tamil Nadu, India.

OVERALL CO-ORDINATOR-MEMBER SECRETARY

Dr. D. Vijayalakshmi M.Sc., M.Phil., Ph.D., PGDCA.

Assistant Professor, Department of Mathematics,

Kongunadu Arts and Science College,

Coimbatore-641029, Tamil Nadu, India.

CO-ORDINATORS OF ALL PARTICIPATING DEPARTMENTS

- **Dr. M. Seetha** M.Sc., Ph.D, Assistant Professor (Physics - Department Coordinator)
- **Dr. E. Jayanthi** M.Sc., M.Phil., Ph.D, Assistant Professor (Chemistry - Department Coordinator)
- **Dr. K.Kaliraj** MCA., M.Phil., Assistant Professor (Computer Science - Department Coordinator)

- Dr. C. Ravichandran M.Sc., M.Phil., Ph.D, Assistant Professor (Mathematics - Department Coordinator)

FACULTY MEMBERS OF ALL PARTICIPATING DEPARTMENTS

DEPARTMENT OF PHYSICS

- Dr. A. Anu Kaliani M.Sc., M.Phil., Ph.D, Associate Professor and Head
- Thiru. K. Karuppuswamy M.Sc., M.Phil., B.Ed., PGDCA (SLST), Associate Professor
- Dr. B. Chandar Shekar M.Sc., M.Phil., Ph.D, Associate Professor
- Dr. K. Saravanakumar M.Sc., Ph.D, Associate Professor
- Dr. P. Matheswaran M.Sc., Ph.D, Assistant Professor
- Dr. M. Mohamed Ibrahim M.Sc., Ph.D, Assistant Professor
- Dr. A. Ranjitha M.Sc., Ph.D, Assistant Professor
- Dr. N. Senthil Kumar M.Sc., M.Phil., Ph.D, Assistant Professor
- Dr. S. Selvi M.Sc., Ph.D, Assistant Professor
- Dr. B. Gokul M.Sc., M.Phil., Ph.D, Assistant Professor
- Dr. V. D. Nithya M.Sc., Ph.D, Assistant Professor
- Dr. V. Mohankumar B.Ed., M.Sc., M.Phil., Ph.D, - Assistant Professor

DEPARTMENT OF CHEMISTRY

- Dr. V. Sangeetha M.Sc., Ph.D, Associate Professor and Head
- Dr. M. S. Sivaramkumar M.Sc., M.Sc., MA., MA., M.Ed., M.Phil., Ph.D., PGDCHI, Assistant Professor
- Dr. R. Manimekalai M.Sc., M.Phil., Ph.D, Assistant Professor
- Dr. K. Saminathan M.Sc., Ph.D, Assistant Professor
- Dr. K. Krishnaveni M.Sc., M.Phil., Ph.D, Assistant Professor
- Dr. K. Chandra Prakash M.Sc., Ph.D, Assistant Professor

DEPARTMENT OF COMPUTER SCIENCE

- Tmy. A. Manickathai M.Sc., M.Phil., B.Ed., PGDCA, Associate Professor & Head
- Thiru. A. Sivabalan M.Sc., M.Phil., PGDCA, Associate Professor
- Dr. A. Kavitha MCA, M.Phil., Ph.D, Assistant Professor
- Thiru. B. Manogaran MCA, Assistant Professor

DEPARTMENT OF MATHEMATICS

- Dr. V. Kokilavani M.Sc., M.Phil., Ph.D, Assistant Professor and Head
- Dr. M. Vigneshwaran M.Sc., M.Phil., Ph.D, PGDCA, Assistant Professor
- Dr. M. Venkatachalam M.Sc., M.Phil., Ph.D, Assistant Professor
- Dr. L. Vidyarani M.Sc., M.Phil., Ph.D (SET), PGDCA, Assistant Professor
- Dr. S.P.R. Priyalatha M.Sc., M.Phil., Ph.D, Assistant Professor
- Dr. M. Vivek Prabu M.Sc., Ph.D (SET), Assistant Professor
- Dr. P. Sathishmohan M.Sc., M.Phil., Ph.D, Assistant Professor
- Dr. N. Mohanapriya M.Sc., Ph.D, PGDCA, Assistant Professor
- Dr. E. Prakash M.Sc., Ph.D, Assistant Professor

PHOTO GALLERY

DEPARTMENT OF PHYSICS

1. TRAINING PROGRAMMES

Hands on Physics Experiment for School Students (Grade XII)



Hands on Training on “Python Programming”



Hands on Training Programme on “Construction of Power Supply”



FDP on Interdisciplinary Approaches of Machine Learning



Training session demonstrating Physics experiments to 12th standard students of VCSM Matric Hr. Sec. School (Green Field Campus), Coimbatore



Hands-on training on Quantum Computing



Faculty Training Programme on “Correlation of classical dynamics with quantum mechanics”



2. INDUSTRIAL VISITS

Visit to the Plasma exhibition held at Bharathiar University Coimbatore



Astronomy Museum at Kodaikanal Solar Observatory, Kodaikanal



Radiology and imaging departments of Kovai Medical Center and Hospital, Coimbatore



Students visited the Agri- Tech (SatCard) and central Instrumentation Laboratory at IIT Palakkad, Kerala



3. CONFERENCES /SEMINARS/ WORKSHOPS CONDUCTED

Invited talk on Societal Implications of Nanotechnology and its Perspectives



Seminar on “Futuristic Trends and Opportunities in Basic Sciences”



A Lecture Workshop on “Problem Solving in Quantum Mechanics”



Resource person explaining the Bio–Safety measures in Laboratories



A Guest Lecture on “Understanding Intellectual Property Rights”



Resource person delivering a lecture on MATLAB Tools



An Invited talk on Fundamentals and Applications of LASERS



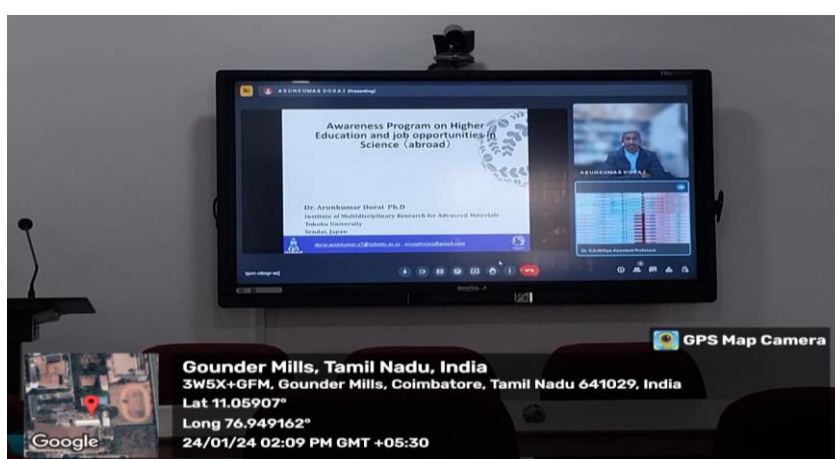
An Invited Talk on The Glow Discharge: An Exciting Plasma and its Applications



A guest lecture on “Laser Tightening and Sun light trapping Schemes in Nano-optics”



Webinar on “Awareness Programme on Higher Education and Job Opportunities in Science”.



Awareness programme on higher education to students

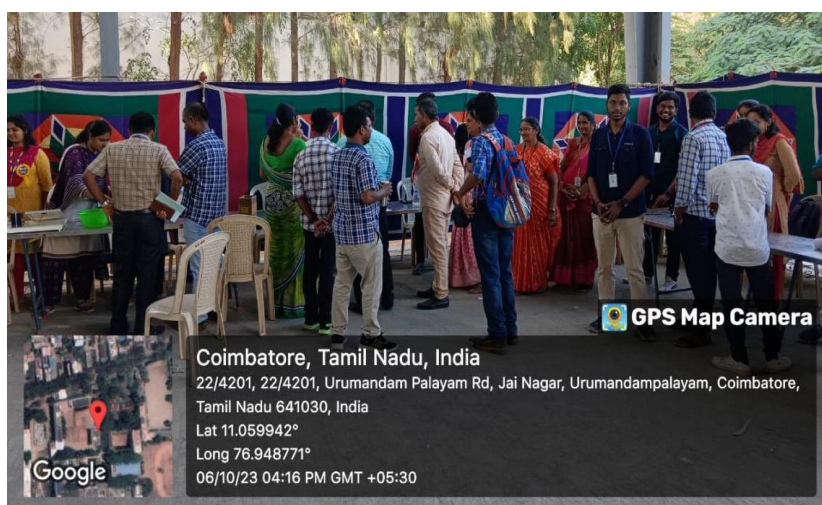


Seminar on “Nanoscience: Greatness of Smallness”



4. EXHIBITIONS / COMPETITIONS CONDUCTED

Exhibition for school students in connection with world space week 2023



Outreach programme for Grade XI and XII students at Government Girls Higher Secondary School, Thondamuthur



Drawing Competition held at Manikarampalayam Higher Secondary School, Coimbatore



Science day celebrations – Tesla Fest 2024 - School students visit to Exhibition



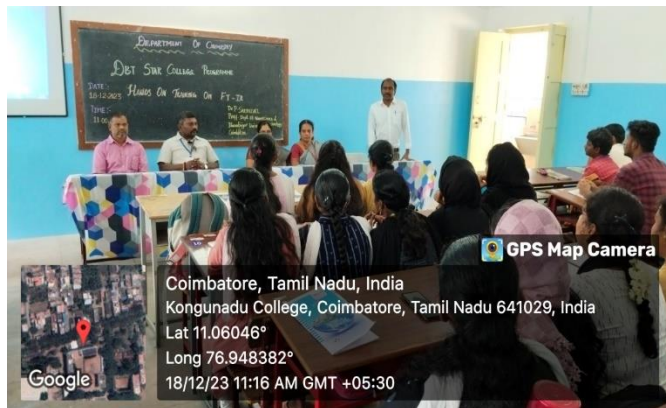
5. MENTOR MEETING



DEPARTMENT OF CHEMISTRY

1. HANDS ON TRAINING PROGRAMMES

Hands on training on IR Spectroscopy



Hands on Training on programme on Micro Scale Experiments in Inorganic Analysis



Hands on Training on programme on Micro Scale Experiments in Organic Analysis



Workshop on In Silico Molecular design



Hands on training on finding food adulteration



Hands on Training on Soap making



Workshop on Phytochemical Extraction from Tea Leaves



Hands on training on solvent free microwave assisted irradiation reaction in organic synthesis



2. INDUSTRIAL VISITS

Industrial visit to Priyadarshini Chemicals, KR Puram Coimbatore.



Research lab visit to Avinashiligam Institute of Higher Education for Women, Coimbatore.



Research lab visit to Karunya University Coimbatore.

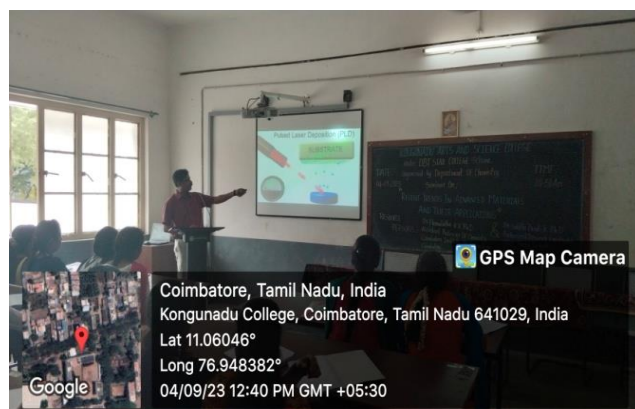


Industrial visit Research lab visit to UPASI, Coonoor, The Nilgris



3. CONFERENCES /SEMINARS/ WORKSHOPS CONDUCTED

Seminar on Recent trends in advanced materials and their applications



Seminar on futuristic trends and opportunities in Basic Sciences



Seminar on Current Trends in Pharmaceutical Industry and Futuristic Opportunities



4. EXHIBITIONS / COMPETITIONS CONDUCTED

Model Making Competition



Quiz competition



Science exhibition

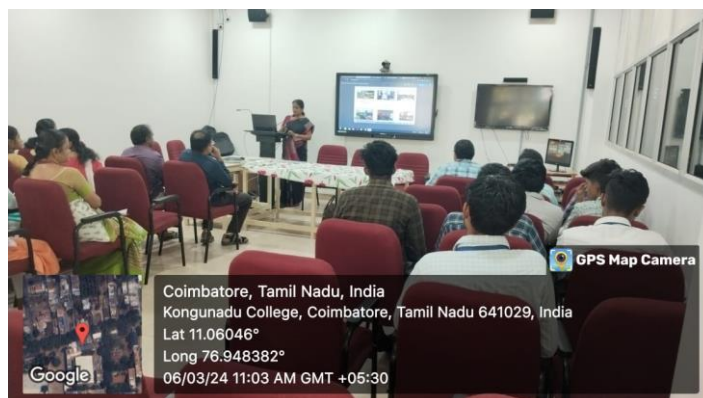


Science exhibition for school students: Exploring science education for young mind

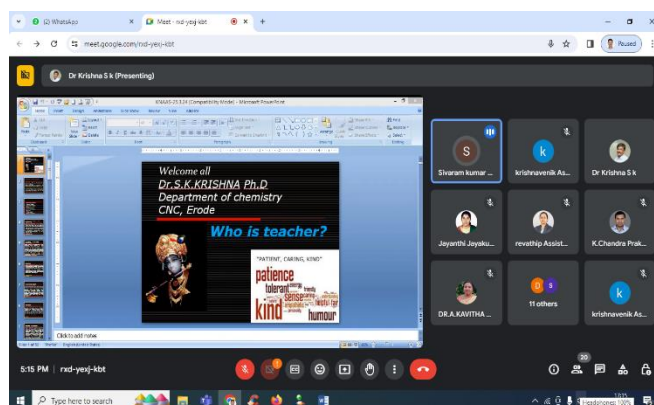
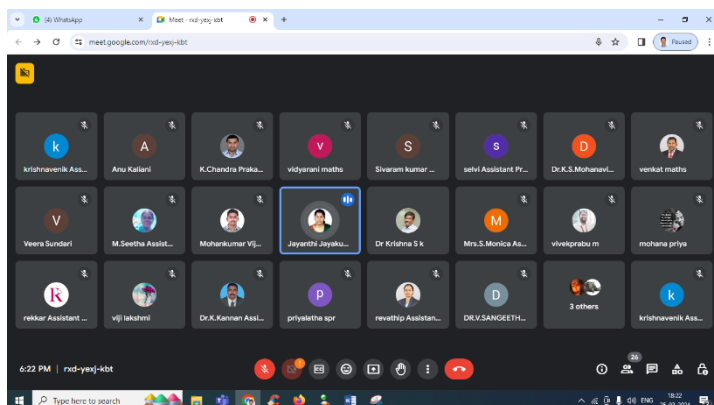


5. TRAINING COURSES

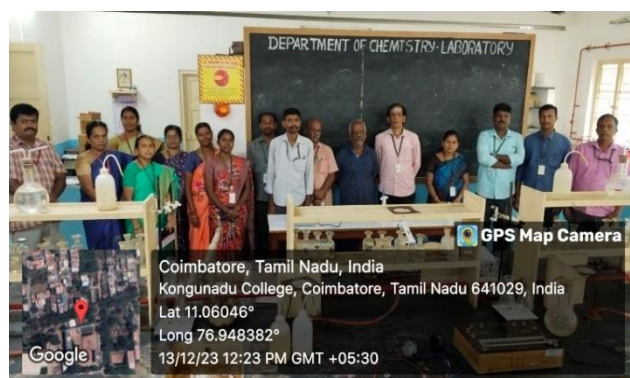
Empowering science educators



Faculty Training Programme on, Contribution of educationalist in nurturing intellectual domain among stakeholders (students)



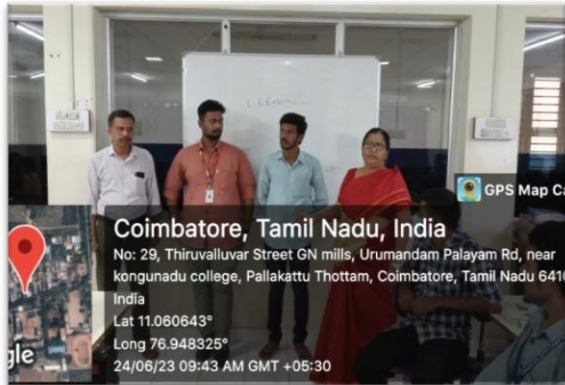
Hands on training on Handling of new Instruments for lab technicians



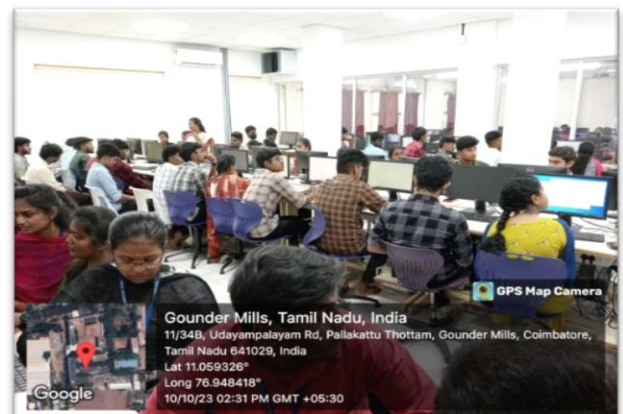
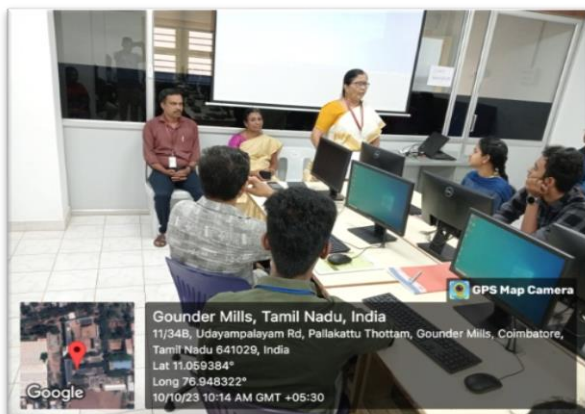
DEPARTMENT OF COMPUTER SCIENCE

1. HANDS ON TRAINING PROGRAMMES

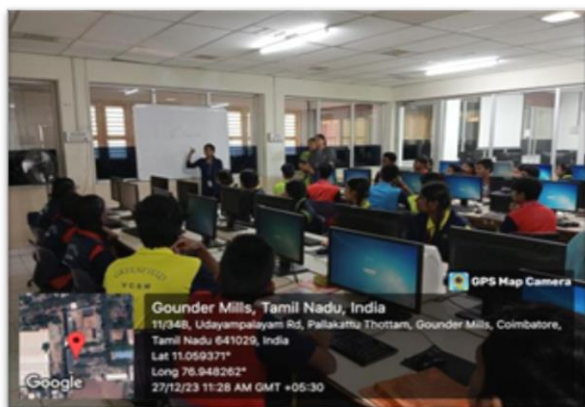
Hands-On Training On Internet Of Things (IoT) Using Arduino



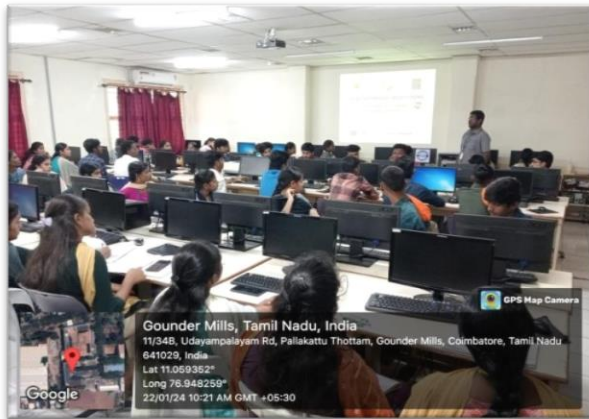
Crafting memorable user Experiences : A hands-on-Training on High Quality Interfaces



Hands-on-Training Programme In Python and PHP to school Students



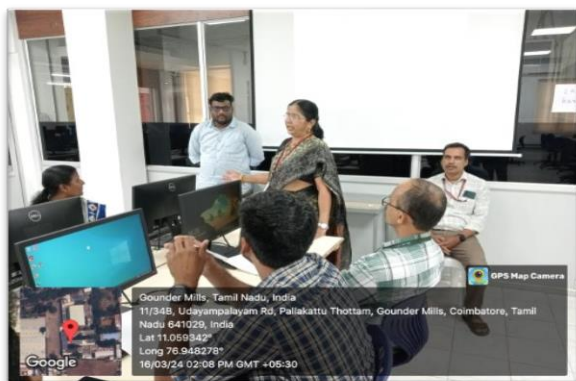
Hands-on Training on “Chip-Level Testing and Debugging for Mobile Phones and Tablets



A Skill Development Programme on Computer Servicing and Troubleshooting



Hands- On- Training On Upskilling Networking Skills For Lab Technicians



2. INDUSTRIAL VISITS

Institutional Visit to KPR College of Engineering and Technology



Institutional Lab Visit at Bannari Amman Institute of Technology



BSNL office SBC, CBT , Saibaba Colony, Coimbatore



Industrial Visit- Regional Science Centre and Science Museum, Coimbatore



Industrial Visit to Bangalore



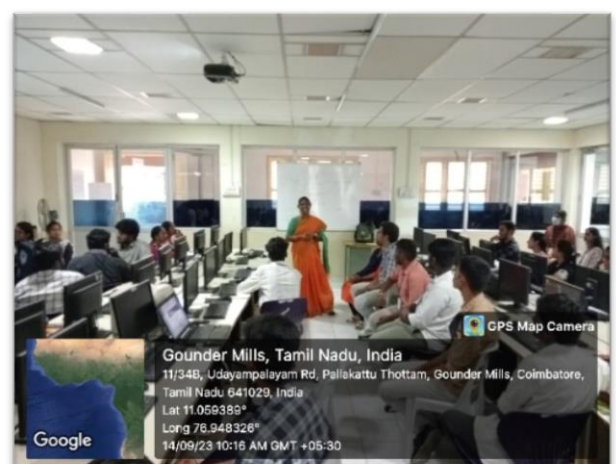
Workshop on Arduino Based Application Development



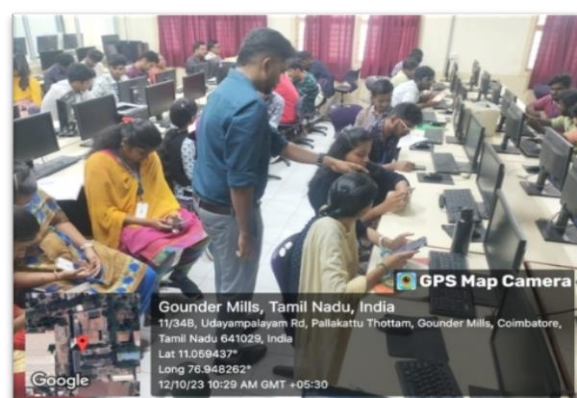
One Day Workshop on Unlocking the Future: Bridging NLP and Open AI for Intelligent Communication



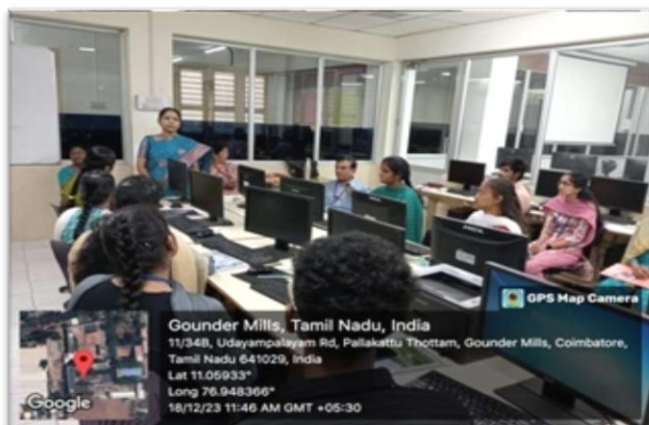
Securing the future: IoT and Big Data in the Cloud-Navigating the Realm of Cloud Computing and Security



A Seminar and Demonstration on Demystifying Networking Essentials



Unveiling the Distinctions and Insights Into Virtual Reality, Augmented Reality, and Mixed Reality.



Securing the Digital Frontiers: Exploring the Latest Trend and Applications in Cyber Security.



Workshop on Mobile Application Development



A Workshop On Unleashing The Potential of Data With R Programming



4. EXHIBITIONS / COMPETITIONS CONDUCTED

Exhibition for School Students



Exhibition for School Students



Corporation High Sec.School, Maniyakaranpalayam, Coimbatore-641 006



Inter Departmental Competition at Kongunadu Arts and Science College,

Poster Presentation on “Igniting Scientific Thinking”

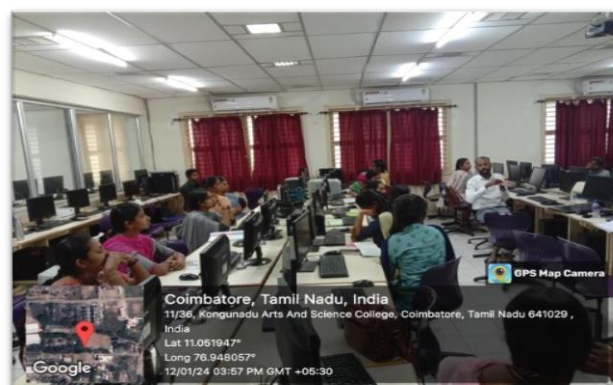


5. FACULTY DEVELOPMENT PROGRAM

Faculty Development Programme On Interdisciplinary Approaches of Machine Learning



FDP On Computational Mathematics Using Python And SciLab



Teacher Induction Programme



6. MENTOR MEETING



7. Innovative Product Designed and Developed

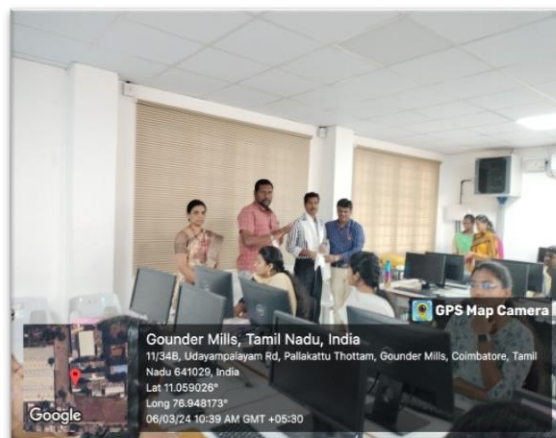
Student start up Bus safari is incubated at CIET Cultive8 on 16.04.2024



DEPARTMENT OF MATHEMATICS

1. HANDS ON TRAINING PROGRAMMES

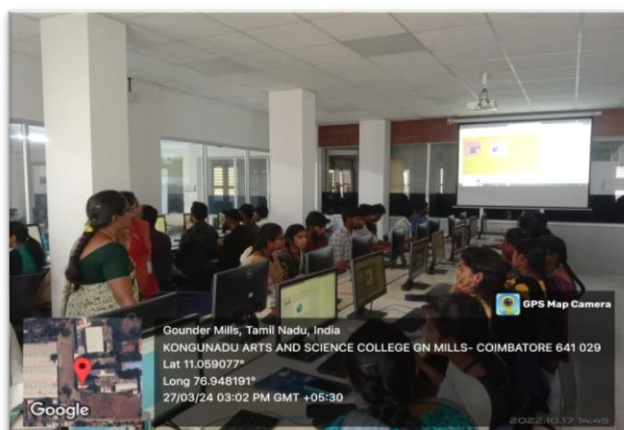
Hands on Training on LaTeX



Hands on Training on Mathematical Modelling MATLAB



Hands on Training on Microsoft Power BI



Hands on Training on R- Programming



Hands on Training on Data Analysis



2. INDUSTRIAL VISITS

Industrial Visit to Mysore, Coorg and Chikkmagaluru



Educational field trip to GD Museums, Coimbatore

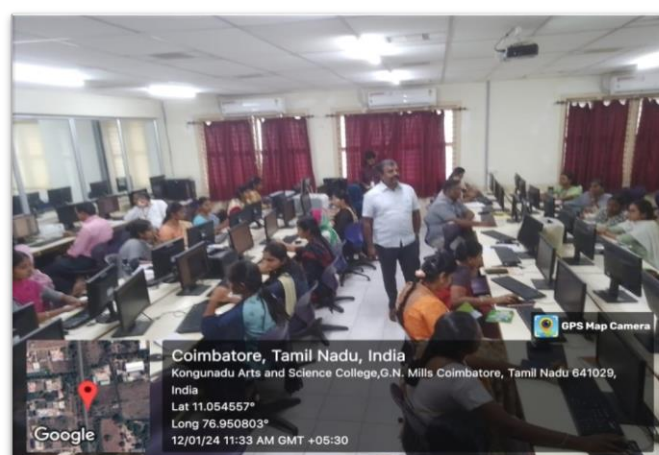
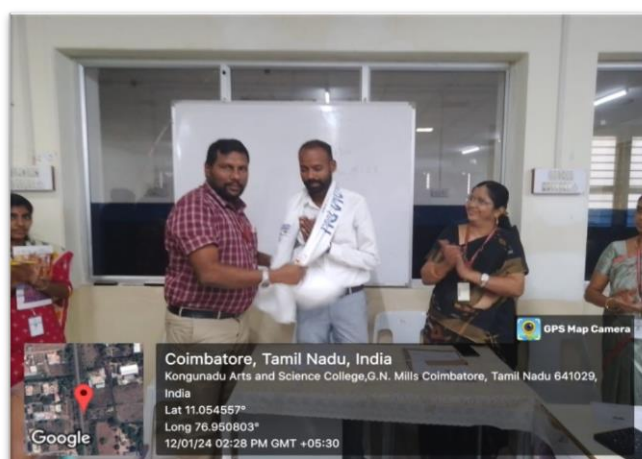


Mathematics Lab, Bannari Amman Institute of Technology, Erode



3. FACULTY DEVELOPMENT PROGRAM

FDP on Computational Mathematics using python and SCILAB

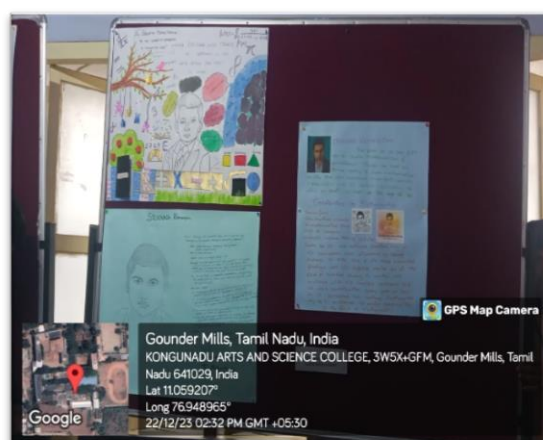


Teacher Induction Programme



4. EXHIBITIONS / COMPETITIONS

National Mathematics Day Celebrations



National Mathematics Day Celebrations Inter-Departmental Competitions



National Mathematics Day Celebrations Inter-School Competitions



5. LECTURES/SEMINARS/WORKSHOPS CONDUCTED

Guest Lecture on Applications of Mathematics in Image Processing



Lecture Series on Algebra & Analysis I



Guest Lecture on Students Project Ideas- Interdisciplinary Approach



A Lecture on Design Thinking



Lecture Series IV- Algebra and Analysis



Summer Training Program on “Pure and Applied Mathematics”



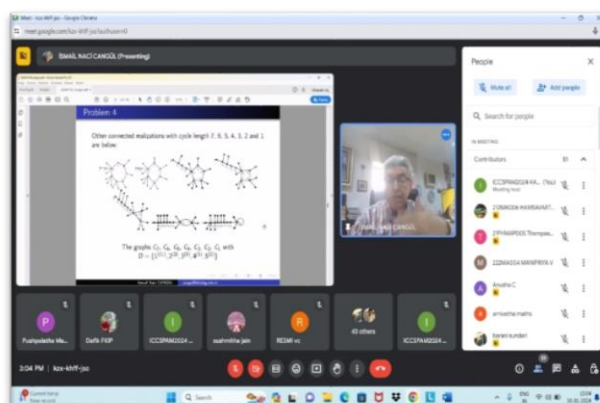
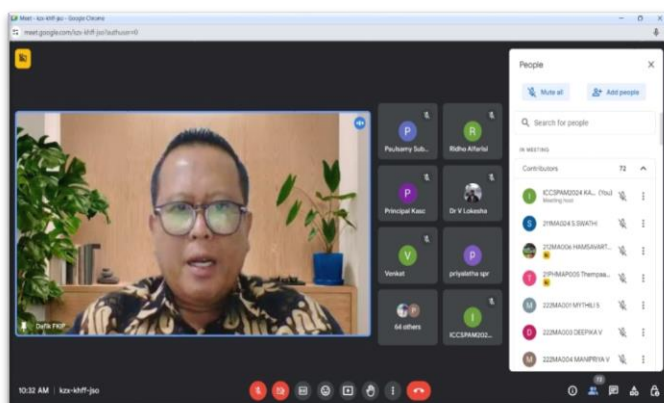
International Seminar on Differential System and Its Applications

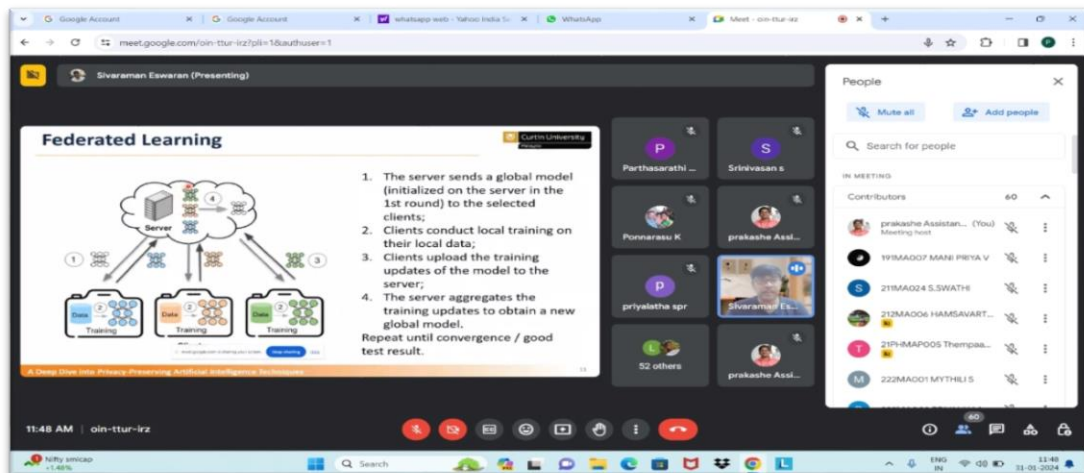


Capacity Building Programme- An Interdisciplinary Approach For Non- Mathematics Students



7th International Conference on Current Scenario in Pure and Applied Mathematics





6. EXTENSION ACTIVITIES

Youth Awakening Day 2023



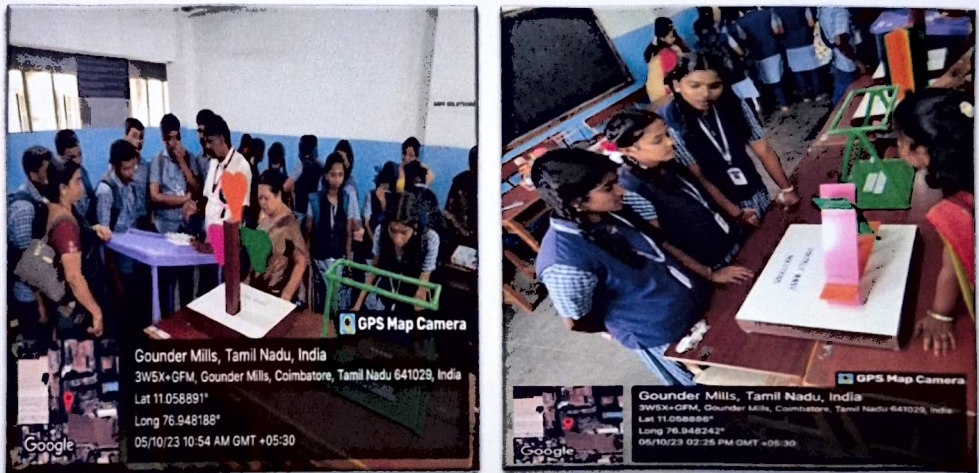
Outreach Activity- School Visit- Books Distribution



Activity Based Learning



Math Model – School Students Visit



[Signature]

Course Coordinator

Dr. D. VIJAYALAKSHMI M.Sc., M.Phil., Ph.D., PGDCA
Assistant Professor in Mathematics
Coordinator, DBT STAR COLLEGE SCHEME
Kongunadu Arts and Science College (Autonomous)
Coimbatore - 641 029, TN.



[Signature]

Head of the Institution
PRINCIPAL INCHARGE
KONGUNADU ARTS & SCIENCE COLLEGE
COIMBATORE - 641 029