

V.V.VANNIAPERUMAL COLLEGE FOR WOMEN

(Belonging to Virudhunagar Hindu Nadars)

An Autonomous Institution Affiliated to Madurai Kamaraj University

Re-accredited with 'A' Grade (3rd Cycle) by NAAC



VIRUDHUNAGAR - 626 001 (TAMILNADU)

PROJECT COMPLETION REPORT 2020 - 2023

STAR COLLEGE SCHEME FOR STRENGTHENING UG SCIENCE DEPARTMENTS

No.HRD-11011/163/2020-HRD-DBT

DT.24.08.2020

SUPPORTED DEPARTMENTS

- **PHYSICS**
- **CHEMISTRY**
- **ZOOLOGY**
- **MATHEMATICS & COMPUTER SCIENCE**
- **BOTANY & BIOTECHNOLOGY**
- **BIOCHEMISTRY**



DEPARTMENT OF BIOTECHNOLOGY
Ministry of Science & Technology
Government of India

Under

DBT STAR COLLEGE SCHEME

DEPARTMENT OF BIOTECHNOLOGY

**MINISTRY OF SCIENCE AND TECHNOLOGY, MHRD,
NEW DELHI**

NOVEMBER - 2023



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PROJECT COMPLETION REPORT

Dt. 24.08.2020 to 23.08.2023

DEPARTMENT OF BIOTECHNOLOGY

MINISTRY OF SCIENCE AND TECHNOLOGY, NEW DELHI

Proforma for submission of Completion Report supported under STAR COLLEGE SCHEME

- 1 Name of the College : V.V.Vanniaperumal College for Women,
Virudhunagar 626 001.
- 2 Name of Coordinator, : Dr.M.Tamilselvi
Designation, Address, Associate Professor of Zoology,
V.V.Vanniaperumal College for Women,
Virudhunagar.
- Phone No. : Contact number : 9894883106
- 3 (A)Assessment duration : **24.08.2020 to 23.08.2023** (B) Duration in Years : 3 years
(C) Extension period if any : Nil

4 Details of Departments Supported

S.No.	Name of the Department	Courses (B.Sc./ M.Sc./ PG Diploma, Certificate etc.,) offered	Regular Faculty Members		
			Total=39		
			Total strength	With Ph.D	Without Ph.D
1	Physics	B.Sc.	7	7	-
2	Chemistry	B.Sc.	6	4	2
3	Zoology	B.Sc.	5	5	-
4	Mathematics	B.Sc.	11	9	2
	Computer Science	B.Sc.	4	3	1
5	Botany	B.Sc.	3	3	-
	Biotechnology (Self Finance)	B.Sc.	5	3	2
6	Biochemistry	B.Sc.	3	3	-

- 5 Number & Date of Advisory Committee meeting held: 2 [23.11.2020 & 30.03.2022]

6 **Qualitative improvements due to DBT support. Please highlight 5 salient points (within 1000 words)**

A) CURRICULUM UPDATION

All the beneficiary Science Departments (Physics, Chemistry, Zoology, Mathematics & Computer Science, Botany & Biotechnology and Biochemistry) have updated the Curriculum to meet the current challenges with edification (National Education Policy) and for promoting self-employment with the facilities (Equipment/ Software/ Books/ Apparatus/ Charts/ Slides/ Models/ established Repositories) enriched under Star College Scheme. Revisions were made in the contents of the course (Theory and Practical) and new courses were introduced for diversification of knowledge and skills in exploring disciplinary/interdisciplinary areas to promote research. Internship (UG II year) and project (UG III Year) were included in the curriculum.

B) SKILL DEVELOPMENT

(i) Knowledge updating and Technical Skill Development

Arranged good number of Guest Lecture/ Seminar/ Workshop/ Conference/Popular Lecture and Training Programme which would enable the students in acquiring **in-depth and wider knowledge** in their specific as well as various fields of science and technology so as to create interest in pursuing higher studies, join/work in research laboratories, reputed organizations and industries.

(ii) Organised a series of Practice Sessions for Joint Admission Test for Masters [JAM] entrance examination promoting **Cognitive Skill** to compete at the state/national and global level (two students passed in the Examinations).

(iii) Organized Exhibition, provided a platform for the students in sharing and exchanging of knowledge and to **develop Communication and Inter-Personal Skills**. It laid the foundation to kindle their knowledge in creating ideas, novelty and innovation. Good number of training programmes were conducted under this scheme: **self-employment** job opportunities (Biofertilizer Preparation-Biotechnology; Preparation of Household chemical items- Department of Chemistry, Candle making from Bees wax and Cut Cocoon products - Department of Zoology) to develop entrepreneurial skill.

C) STRENGTHENING THE ACADEMIC AMBIENCE

The activities related to the Industrial visit and the Research Centre visit provided an opportunity for the students to learn about the latest technology in Science. It also paved the way for signing MoU with the Industries/ Research Centre/Government/ non-Government Organizations and Educational Institutions to undergo disciplinary/ interdisciplinary projects, internship programmes and others. It helped the students to tackle real life problems through projects, so as to make both teaching and learning interesting, informative and enlightening.

D) PROMOTION OF DISCIPLINARY/INTER-DEPARTMENTAL/INTER-DISCIPLINARY PROJECTS

Department of Physics

The Department of Physics has installed Off-grid solar systems in S.A.S. Building of our college under DBT-SCS. Notably, 250 watts of electricity is being generated during the day time and stored in the batteries and supplied to M.Sc. Physics laboratory for lighting purpose. Following this, the projects related to Energy Audit are also given to the students. Interestingly, students were very curious to make electronics kits and they themselves

prepared it and trained the junior students. Whereas, students purchased these electronic kits before DBT grant, and economically weak students suffered a lot. To overcome these difficulties, the Department of Physics has introduced Value Added Courses on Basics of Arduino Programming -22UVPHD02 and Drawing Electrical and Electronic Circuits using Software (21VPHD01) as Departmental Course and Handling of Electrical and Electronic Devices 21VPHI01 as Inter-Departmental Course. The Faculty Development Training programme on use of “Inkscape software” helped the faculty members to guide the students in drawing circuits for the projects related to electronics and they prepared Lab Manual effectively.

Department of Chemistry

The department of Chemistry has set up well equipped water quality testing Lab. Students took survey and analysed WQI in groundwater of nearby villages and college premises as projects (Analysis of waste water from laboratory in College premises and Fluoride content in ground water of nearby villages in Virudhunagar District). These projects alarmed the public on proper disposal of waste water and conservation of water resources. Students created awareness in nearby villages on the proper use of water and proper discharge waste water. These awareness programmes inculcate social responsibility, accountability and environmental consciousness among the community for the betterment of future generation. The students of nearby colleges utilize our lab infrastructure for their projects related to WQI. It paved the way to apply for getting financial assistance from the funding agency DST. Dr.J.Kavitha, Assistant Professor of Chemistry has presented the project titled “The Generation of Bioenergy and Wastewater effluent Treatment by the Development of Microbial Fuel cells using Fly ash/E-waste Bacterial Composite” in Advisory Committee PAC Meeting for evaluation of screened in proposals under CURIE-PG Colleges (Hybrid Mode).

Life Science Departments

The strengthened knowledge repositories and advanced equipment established under Star College Scheme by the Life Science departments (Botany & Biotechnology-Medicinal Garden, Biofermentor; Zoology - Vermiculture Units; Biochemistry- Plant tissue culture Units) helped the learning community to carry out a greater number of projects disciplinary wise and collaboratively as interdepartmental/interdisciplinary projects.

Department of Zoology

The seminars, guest lectures, competitions, training programmes and projects organized created awareness on sustainable utilization of biotic resources and conservation. The project “Diversity of Ascidians from Marine Ecosystem” explored the need of taking survey on diversity of this neglected group. The students residing at coastal areas recorded the entry of new species in Marine Ecosystem (Rameshwaram). It paved the way to apply for major funding for further documentation (Gene sequence) as collaborative project under Department of Biotechnology, Ministry of Science and Technology. The faculty member, Dr.M.Tamilselvi, Associate Professor of Zoology & Dr.H.Abdul Jaffar Ali, Assistant Professor of Biotechnology have presented the project Title: DNA Barcoding of Ascidians of Indian Peninsula” in TEC meeting held on 17th August 2023. The project titled” Survey of Anaemia among the age group of 17-20 years” projected the need of awareness among the adolescent girls for building a strong community.

The **Department of Botany & Biotechnology** have established Herbal Garden under Star College Scheme. As Medicinal Botany is introduced as Non-Major Elective Course, students are highly benefitted. Students of our College and nearby Schools and Colleges visit the herbal garden for educational purpose. The faculty members from the Department of Botany and Department of Computer Science have received the grant jointly under VVVCMB-MRP Scheme for documentation of in-house plants with QR code. This project highlights the need for documentation of unexplored areas at local/regional levels. Moreover, self-employment courses are introduced to promote self-employment opportunity. It could be possible due to the financial assistance received under DBT Star College Scheme. All the life science departments share their expertise (Taxonomical study on Bryophytes, Mushroom Culture) /equipment to nearby schools/colleges through outreach programmes & training to understand the basic concepts of science with the purchased equipment under DBT-SCS.

Department of Mathematics & Computer Science

The guest lectures, seminars, training programmes organized on mathematics and purchased models under Star College Scheme facilitates to give more projects (Optimization techniques in real life problems using Excel Solver, Solving transportation problems using Excel Solver) to solve the problems in day-to-day life activities. The Department of Computer Science took great effort to preserve the following old manuscripts maintained by the Tamil Department of our College. Recognizing the importance of it, and the benefits of future generation, students are encouraged for documentation of these valuable Tamil manuscripts having traditional/historical and aesthetic values through student projects by adopting technology tool using software, purchased under the Star College Scheme.

- ✓ Chitraputran Story
- ✓ Meenakshi Ammai Kali Venbaa
- ✓ Thanipadal Ilakkiam
- ✓ Ara Ilakkiam (Nalvazhi, Moodurai)
- ✓ Kandar Anupoothi
- ✓ Sitrilakkiam- Parimelazhagar Gnanakuravanji
- ✓ Saivasithantha Ilakkiam

C) Societal Transformation through Education

The Extension and Outreach Programmes organized exposed the need of the society for their survival (Pandemic Covid-19) and sustenance of their life through sustainable ecosystems. Survey through projects (Anaemia among the Adolescent Girls), Awareness Programmes (Rally on Women's Health, Water Quality Index) Educational Training Programmes (Career Guidance and Trainings to Government & Government-Aided school teachers and students) Self-Employment Programmes were conducted through the trained students/ faculty. It inculcates commitment and social responsibility among the students. DBT Star College Scheme helps us to identify the needy schools for sharing our facilities/ in-house expertise in compliance with their needs which brings positive significant societal transformation.

7 Any Novel aspect introduced during the Scheme duration

- ✓ Under DBT Star College Scheme, the organized **Outreach activity** gave a very good significant impact to the Government (2020-2021) /Government -Aided Schools (2021-2022) of Virudhunagar District. Our college extends its helping hands to the PG Assistants of Government Schools in sharing the expertise of the science faculty to conduct theory and practical classes in accordance with the revised syllabus of Tamilnadu Government. A total of 3053 learners were benefitted under outreach activities. A total of 842 PG Assistants from 90 Government and 45 Government -Aided Schools, 1692 students from 26 Colleges and 277 women were given training. Moreover, the Department of Physics extended its valuable service in conduct of practical to the Government Boys School of Pandalkudi in Virudhunagar District. The students gained practical knowledge in handling of the apparatus which was donated by our College Managing Board in the year (2020-2021) during the implementation of Star College Scheme. We have planned to continue this programme in the succeeding years. It will be helpful to get academically sound new entrants during I year UG admission.
- ✓ The Department of Biotechnology has applied to get approval for the affiliation of M.Sc.Biotechnology course from the academic year 2024-2025.
- ✓ The Department of Mathematics has a plan to institute a Planetarium in our college.
- ✓ The Department of Physics has planned to produce value added products using Solar Dryer.
- ✓ The Department of Biochemistry, Botany and Zoology, is going to give more projects to the students through the established knowledge repositories (Hydroponics, Herbal Garden, Indoor Bonsai, and Vermiculture Unit).
- ✓ All the beneficiary science departments have planned to organize outreach programmes to the needy schools for promoting learning attitude, in turn ensuring higher education.
- ✓ Central Instrumentation Centre is established for promoting interdisciplinary research activities.
- ✓ The Biotechnology Department has started Azolla cultivation at lab scale and planned to extend its helping hands to nearby villages as extension Programme.
- ✓ e-Museum (Botany & Zoology) is established under Star College Scheme.

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

Lessons Learnt:

- ✓ Training/lecture programmes for students/Lab attendants/Faculty are needed to update the knowledge in recent trends in Science and Technology.
- ✓ Identified the need (Extension service and Outreach Programme/Career guidance to the school students) of society and give possible solutions (projects) through students as educationalist. The outreach programme helped us to identify the needy schools/public to share our resources and expertise. We have a plan to organize this programme in the succeeding years to nurture their life through outreach activity and career guidance.

- ✓ Students project help the students to become aware of societal problems and make them socially responsible citizens.
- ✓ Team spirit is well developed among the students during the organization of various programmes under DBT -SCS.
- ✓ We had practical difficulties in organizing online programmes. Later, we learnt how to overcome these difficulties.

Difficult Faced:

- ✓ Adaptability to the pandemic period was found as hard time for us in ordering and receiving the goods (equipment/chemicals/glassware & apparatus/ slides, charts/specimens) and organizing programmed activities. Though we have organized the scheduled programmes as per the submitted proposal, inviting the resource person during the transition period (off-line mode of lecture to online-mode and online to offline), it directly or indirectly affected the total number of participants involved.
- ✓ Planned to take our students to renowned Central Research Institutes (CMFRI in Kochi and Mandapam, Ramanujam Institute for Advanced study in Mathematics, Chennai, CECRI in Karaikudi, Nuclear Power Plant in Kudankulam) as per the submitted proposal. Unfortunately, permission was not granted to visit these places in the pandemic period. Nevertheless, we took our students to nearby Research Institutes to fulfil their dreams under this scheme.
- ✓ We felt difficult to conduct programmes such as Guest lectures, workshops and seminars during Pandemic Covid omicron situation. As switching over to online mode from offline mode and vice versa, the resource person preferred to conduct the programme through online mode.

Suggestions:

- ✓ DBT shall recommend nationalised and state level research institution to take up students of DBT Star College for internship; pandemic situation and omicron arrival was made tough to get the permission from the organization.
- ✓ If the funds are released at the beginning of every academic year, it will be easier to proceed as per the submitted proposal.
- ✓ DBT may help the rural students or the colleges selected under Star College Scheme for doing mini projects. This will help economically weaker students to meet out the expenses towards recurring items and strengthen research interest.

9. KEY PERFORMANCE INDICATORS

1. Number of Students Admitted:

Details of Departments Supported	Pre-Support [2019-2020]				[2020-2021]				[2021-2022]				[2022-2023]				[2023-2024]			
	Total=370				Total=343				Total=302				Total=271				Total=312			
	SC	ST	OBC	G	SC	ST	OBC	G	SC	ST	OBC	G	SC	ST	OBC	G	SC	ST	OBC	G
Physics	10	-	39	-	6	-	36	1	6	-	38	1	8	-	21	-	9	-	32	-
Chemistry	3	-	44	-	6	-	39	-	5	-	41	-	10	-	32	-	8	-	35	-
Zoology	7	-	39	-	4	-	43	-	8	-	23	-	7	-	42	-	8	-	33	1
Mathematics & Computer Science	6	-	67	1	14	-	58	-	9	-	62	1	7	-	57	-	9	-	50	-
	3	-	44	1	3	-	41	-	5	-	42	1	4	-	40	-	1		45	-
Botany	(Allied Department)																			
Biotechnology (Self-finance)	4	-	51	1	3	1	45	-	5	-	37	-	3	-	23	-	7		37	-
Biochemistry	7	-	43	-	7	-	36	1	1	-	17	-	2	-	15	-	7		30	-

2. Admission cut-off % : 60

3. No. of Students passing out (%) [Students Admitted/passing out (pass %)]

	Pre-support (2019-2020)			During Support (2020-2021)			During support (2021-2022)			During Support (2022-2023)		
Details of Departments supported	Students admitted	% of Admission	Pass Percentage (%)	Students admitted	% of Admission	Pass Percentage (%)	Students admitted	% of Admission	Pass Percentage (%)	Students admitted	% of Admission	Pass Percentage (%)
Physics	49	95.83	100	43	86.36	100	45	97.82	100	29	63.04	97
Chemistry	47	89.58	100	45	100	97.61	46	100	92.68	42	91.3	90
Zoology	46	85.41	94.56	47	100	92.3	31	67.39	67.65	49	100	100
Mathematics	67	95.83	97.33	72	100	97.26	72	100	100	64	92.75	100
Computer Science	44	93.75	93.02	44	100	100	48	100	100	44	95.65	98
Botany	Ancillary Department (Regular)											
Biotechnology	45	75.00	90.91	49	84.09	96.97	42	91.30	96.97	26	59.09	100
Biochemistry	36	91.66	91.30	44	86.36	100	18	39.13	100	17	36.95	97

4. Drop-out rates

S.No.	Details of Departments Supported	2020-2021	2021-2022	2022-2023
1	Physics	11.62	11.11	24.13
2	Chemistry	2.22	13.04	14.28
3	Zoology	6.38	3.22	14.28
4	Mathematics & Computer Science	4.16 -	9.72 8.33	23.43 6.81
5	Botany (Allied Department)			
	Biotechnology (Self-finance)	24.48	9.52	7.69
6	Biochemistry	13.63	5.55	5.88

5. No. of students opting for M.Sc./M.Tech/PG Diploma in Science

S.No.	Details of Departments Supported	2020-2021	2021-2022	2022-2023
1	Physics	11	13	08
2	Chemistry	12	13	15
3	Zoology	8	09	06
4	Mathematics & Computer Science	17 19	16 11	19 16
5	Botany (Allied Department)			
	Biotechnology (Self-finance)	10	12	08
6	Biochemistry	06	10	13

6.Average marks

S.No.	Details of Departments Supported	2020-2021	2021-2022	2022-2023
1	Physics	77	71	75
2	Chemistry	77	76	73
3	Zoology	63	67	69
4	Mathematics & Computer Science	76 72	78 71	79 71
5	Botany (Allied Department)			
	Biotechnology (Self-finance)	68	71	70
6	Biochemistry	69	70	69

DEPARTMENT OF PHYSICS

7. No. of Hands-on Experiments being conducted

S.No.	Date	Title	Number of Beneficiary
2020-2021			
1.	04.02.2021 & 05.02.2021	Maintenance of Home Appliances and Servicing	82
2.	04.02.2021 & 06.02.2021	CCTV and Security Systems	83
3.	13.02.2021	Arduino Based Projects	100
2021-2022			
4.	07.03.2022	Introduction to Python	45
5.	09.03.2022 –10.03.2022	Computational Physics with Python	55
2022-2023			
6.	24.02.2023	Arduino Uno	45
7.	08.03.2023	Materials Characterization	56

8. No. of New Experiments Introduced

Class	Course Name & Course Code	Experiment
I B.Sc. Physics	General Physics I20UPHC21P	1. Callender Barnes specific heat capacity of liquid 2. Thermal conductivity of a metal
II B.Sc. Physics	General Physics II 20UPHC41P	1. Determination of specific rotatory power using Polarimeter 2. Determination of Characteristics of Solar cell 3. Determination of acceptance angle and numerical aperture using Fiber optic cable
	Applied Electronics & Instrumentation -20UEIA41P	1. SCR characteristics 2. Measurement of Strain using Strain gauge transducer
III B.Sc. Physics	General Physics- III 20UPHC61P	1. Determination of Planck constant 2. Determination of Dielectric constant
	Electronics 20UPHC62P	1. Frequency modulation 2. Phase Locked Loop Oscillator
	Digital Electronics 20UPHC63P	1. Pulse Code Modulation 2. Pulse Width Modulation and Demodulation
	Microprocessor Lab 20UPHS61P	1. Addition of two 8-bit numbers 2. Subtraction of two 8-bit numbers 3. Division of two 8-bit numbers 4. Multiplication of two 8-bit numbers 5. Searching a number in an array and finding its parity 6. Square root of number 7. Block transfer of data 8. Palindrome

		9. Generate and sum 15 Fibonacci series including carry 10. Largest and smallest number in an array of data 11. Descending order/Ascending order 12. Binary to BCD conversion
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9. Publications (Scopus Indexed)/patents, if any.

PUBLISHED ARTICLE

1	2020-2021	Vidhya, R., M.Sankareswari, R. Gandhimathi, K and Neyvasagam (2019). Influence of Cu concentration on the, Morphological, Optical and Catalytic Properties of TiO ₂ thin films, <i>Indian Journal of Pure and Applied Physics</i> , 57(7):475-482.
2		Rathinamala, I., I.Manohara Babu, J. Johnson William, G. Muralidharan and N.Prithivikumar (2019). CdS microspheres as promising electrode materials for high perform super capacitors, <i>Material Science in Semiconductor Processing</i> , 105(104677):1-8.
3		Karthikeyana, B., G.Shanmugapriya, N.Rajamanickam and S.P.Bagare (2020). An attempt of identification of barium hydride molecular lines in sun spot umbral spectra, <i>New Astronomy</i> , 78.
4		Rathinamala, I., Babu, I.M., William, J. J., Muralidharan, G., and Prithivikumar, N. (2021). Extra-Durable Hybrid Super capacitor based on Cobalt Sulfide and Carbon (MWCNT) Matrix Electrodes, <i>Journal of Energy Storage</i> , 34:102200.
1	2021-2022	Vidhya, R., Malliga, P., Karthikeyan, R., and Neyvasagam, K. (2021). Influence of nickel dopant concentration on structural, optical, magnetic and electrochemical properties of TiO ₂ nanoparticle, <i>International Journal of Nanotechnology</i> , 8(5-8):610–621.
2		Vidhya, R., Gandhimathi, R., Karthikeyan and R., Neyvasagam, K. (2021). Visible light driven enhancement in photodegradation of organic dyes using FeTi _{1-x} O ₂ thin films, <i>Materials Today: Proceedings</i> , 47, pp.1819–1828.
3		Hemalatha R and Azhaguparvathi P., and Hepzi Pramila Devamani R (2021). Dielectric studies of copper-ion conducting polymer electrodes based on Tamarind seed polysaccharide and CuNo ₃ , <i>Journal of Information and Computational Science</i> .
4		Hemalatha R and Azhaguparvathi P., and Hepzi Pramila Devamani R (2021). Development of medicinal plant (<i>Cantella asiatica</i> -Gotukola) based proton conducting polymer electrolytes for electrochemical device application, <i>Materials Today Proceedings</i> .
1.	2022-2023	Rathinamala, I (2022). Carboxymethyl Cellulose Grafted on Mesoporous Cobalt Oxide Milieu: Synthesis, Formation Mechanism and Electrochemical Features, <i>Chemistry Select</i> , 2365-6549.
2		Shanmugapriya G (2022). Investigation of the rotational lines of A-X and C-A band systems of aluminium deuteride molecule using sunspot umbral spectra, <i>The European Physical Journal Plus</i> , 2190-5444.
3		Sankareswari M (2022). The UV Protective effect of SiO ₂ doped TiO ₂ thin film regulates PitX ₃ and <i>aparc</i> expression during embryonic development of Zebrafish. <i>Environmental Science: Nano</i> .
4		Shanmugapriya G (2022). Density functional theory analysis of ground state and evaluation of transition Probability parameters for carbon mono-fluoride molecule. <i>Journal of Applied Spectroscopy</i> , 89(2):330-335.

10. Training received by Faculty/ Students (Summer/ Winter Projects)

S.No.	Date	Title	Number of Beneficiary
2020-2021			
a) Faculty			
1.	14.12.2020 & 16.12.2020	Differential Equations and its Applications	45

2021-2022			
2.	26.05.2021	Drawing electric Circuit Diagrams using Inkscape	30
2022-2023			
3.	08.04.2022	Microprocessor and Microcontroller Interfacing Based Projects	15
4.	28.01.2023 & 11.02.2023	Hands on Practice: Interfacing Sensors with Arduino	22
b) Students Projects			
1	Dielectric Studies of Copper ion conducting Polymer Electrolytes based on Tamarind seed polysaccharide and CuNO ₃		2
2	Green Synthesis and Characterization of CeO ₂ Nanoparticles using <i>Cynodon dactylon</i> Leaf Extract		2
3	Eco – Friendly Proton Battery based on PVA, Proline and NH ₄ NO ₃		2
4	TRI – Block Co-Polymer poly (VdCl-CO-AN-CO-MMA) Based H ⁺ ion Conducting Membranes		2
5	Impact of Two different Ammonium Salts on TRI – Block Co-Polymer Poly (VdCl-CO-AN-CO-MMA)		2
6	Synthesis and Characterization of CdS Nanoparticles Via Simple Chemical Approach		2
7	Study and Generate NDVI (Normalized Differential Vegetation Index) Parts of Western Ghats		5
8	Mapping Distribution of Solar panel to identify the utilization of Renewable Resources in Virudhunagar District.		5
9	An Introduction to Matrix Manipulation using MATLAB		4
10	Frequency Counter		4
11	Microcontroller Based Automated Driverless Train with Accident Prevention		5
12	GSM with Android Mobile Based Security Lock for Bike Ignition		5
13	Smart Dustbin using Arduino		2
14	Arduino based Passive Infrared Sensor		4
15	Home Automation System using Arduino		4
16	Arduino based Electronic Component Tester		4
17	Rain Intensity Measurement System using Arduino		4
18	Arduino based Ultrasonic Receiver		4
19	Automatic Watering system for Plants using Arduino		4
20	Simplification of Boolean Equations		5
2021-2022			
1	Photovoltaic cell off-grid		2
2	Dielectric relaxations of Polysterene – Nal Polymer Electrolytes.		2
3	Dielectric Constant of Solids and Liquids		2
4	Characteristics of PV Cell and Efficiency		3
5	Controlling Media Player using Hand Gestures		2
6	Analog Computation using Op-amp		3

7	Synthesis and Characterization of SnS _x and Nanoparticles by Chemical Precipitation Method	3
8	Synthesis and Characterization of Chromium Nanoparticles by Precipitation Method	3
9	Synthesis and Characterization of Silver Nanoparticles	3
10	Green synthesis of SnO ₂ Nanoparticles using Leaf Extract of <i>Melia azedarach</i> and its Anticancer activity against Breast Cancer Mda-Mb-231) Cell Lines	3
11	Structural, Morphological, Compositional and Optical Analysis of Coconut Shell Ash	3
12	Structural, Morphological, Compositional and Optical Analysis of Egg Shell Powder	3
13	Study on specific configuration of biologically significant compounds measured using Polarimeter.	3
14a	Smart devices for physically challenged - Walking Stick for Blind	3
14b	Smart devices for physically challenged Deaf and Dumb Hearing FM Music	3
15	Microprocessor based Interfacing	3
16	Microcontroller based Interfacing	3
17	Navigation System using RF	3
18	LASER Based Multiroom Voice Communication	3
19	Heart Beat Counter based on Arduino	3
20	Multisensor using Arduino	3
2022-2023		
1	Coin Operated Mineral Water Distribution System	2
2	XRD Studies of Aluminium Phosphate Nanoparticles	2
3	XRD Studies of Cd doped Cerium Phospho Chromate Nanoparticles	2
4	Identification of Land use pattern in Virudhunagar District using Remote Sensing Index	2
5	Dual Axis Solar Tracker	2
6	Solar Rechargeable Light	1
7	Performance and Evaluation of Solar Flat Plate Collector in Virudhunagar Region	6
8	Study on Energy Audit of all blocks of V.V.Vanniaperumal College for Women (22-23)	4
9	Performance Analysis of Solar Photovoltaic System	4
10	Determination of Thermal Performance of a box type Solar Cooker	4
11	Testing of a Solar Dryer for Food Preservation	4
12	Biological Synthesis and Characterization of Chromium oxide nanoparticles with <i>Azadirachta indica</i> leaf extract	2
13	Green Synthesis and Characterization of Ag doped Zinc Hydroxide Nanoparticles using leaf extract of <i>Tridax procumbens</i> .	2
14	Synthesis and Characterization of Ferric Sulphide Nanoparticles	2
15	Synthesis and Characterization of Copper oxide Nanoparticles	2
16	Study of Black gram (husk) using XRD, UV- Visible and FTIR Characterization of Techniques	2
17	XRD Studies of Boron Nitride Based nano adhesives	2
18	Synthesis and characterization of Ni doped CuO nanoparticles by Sol-Gel Method	2

19	Fabrication of SnO ₂ Thin film via Dip Coating Method	2
20	Fabrication of ZnO Nanoparticle by Chemical Precipitation Method	2
21	Arduino Uno Projects with Sensors	4
22	Radar System Range Finder	2

11. Exhibitions/Seminars/Training Courses conducted

S.No.	Date	Title	Number of Beneficiary
a) Exhibitions			
1	01.11.2022	Space and Sustainability	50
2	30.03.2022	<ul style="list-style-type: none"> ✓ Arduino Based Projects (14) ✓ Electric Circuits(6) ✓ Models based on Fundamental Concepts in Physics and Fun Games related to Physics ✓ Based on Optics (8) 	550+ our College students
b) Seminars 2020-2021			
1.	12.10.2020 & 16.10.2020	Interdepartmental Workshop on GIS - Data Processing and Analysis using FOSS	144+34
2.	16.11.2020 & 20.11.2020	Spherical and Cylindrical Coordinates	195
3.	06.02.2021 & 08.02.2021	National Seminar on Trends in Energy Technology and Management – An Overview	250
2021-2022			
4	28.12.2021	Regional Level Seminar on Recent Advancement in Medical Physics	199
5	12.03.2022	Workshop on Instrumentation for Raman and Fluorescence	192
6	14.03.2022	National Level Seminar on Recent Advancements in Material Science	245
2022-2023			
7	15.11.2022	Departmental Workshop on Utilization of Renewable Energy Gadgets	172
8	02.02.2023	Regional Level Seminar on Recent Trends in Nano Physics	187
c) Lab Attendant training			
1	05.11.2020	Maintenance of Microprocessor Kit and Stock Maintenance using MS Office	20
2	06.11.2020	Fire Safety Services	20
3	07.11.2020	Handling of Laboratory Equipments – Voltmeter, Ammeter, Galvanometer and Potentiometer	20
4	09.11.2020	Handling and maintenance of Equipments– Spectrometer, Telescope, and Microscope	20
5	10.11.2020	1. Maintenance of Trainer board, 2. Testing of Analog and Digital IC, 3. Soldering technique to solder electronic components – BJT, FET and UJT etc.	20
6	11.11.2020	Electricity – Review of AC, DC, Conversion, Measurement	20

7	12.11.2020	DC power supplies and Fault findings	20
8	17.11.2020	Troubleshooting of Electrical Equipments	20
9	18.11.2020	Soldering tips and Lab Apparatus Maintenance	20
10	19.11.2020	Testing and Maintenance of Active and Passive Electronic Components	20
2021-2022			
1	17.12.2021 & 18.12.2021	Word Basics	19
2	20.12.2021 & 21.12.2021	Document Formatting	19
3	22.12.2021 & 23.12.2021	Tools and Tables	19
4	24.12.2021 & 27.12.2021	General View on Excel	19
5	28.12.2021 & 29.12.2021	Excel Charts	19
6	30.12.2021 & 31.12.2021	Data Query and Data Table	19
7	03.01.2022 & 04.01.2022	Fill Data within Row Column	19
8	05.01.2022	Test - Practical	19
2022-2023			
1	14.11.2022 & 22.11.2022	Efficient Usage of Energy Resources	28
2	28.11.2022	Radioactive Waste Management	28

12. Books/Journals subscribed from Grants

S.No.	Books	Author	Publisher	Quantity
1.	Basic Radiological Physics	Kuppusamy Thayalan	The Health Sciences Publisher, New Delhi.	1
2.	Electricity and Magnetism	R.Murugesan	S.Chand & Company Limited, New Delhi.	1
3.	Mathematical Physics with Classical Mechanics	Satya Prakash	S.Chand & Company Limited, New Delhi.	1
4.	Biophysics	Mohan P.Arora	Himalaya Publishing House, Mumbai.	1
5.	Classical Mechanics	B.D.Gupta and Satya Prakash	Kedar Nath Ram Nath, Meerut.	1
6.	Biomedical Instrumentation	M.Arumugam	Anuradha Publication, Chennai.	1
7.	Electricity and Magnetism	D.C.Tayal	Himalaya Publishing House, Mumbai.	1
8.	Textbook of Optics	N.Subramanyam, Brijlal and M N Avadhanulu	S.Chand & Company Limited, New Delhi.	1
9.	Electricity and Magnetism	DLSehgal, KLChopra and N K Sehgal	S.Chand & Company Limited, New Delhi.	1
10.	Atomic Physics: Modern Physics	SNGhoshal	S.Chand & Company Limited, New Delhi.	1
11	Numerical Methods	P.Kandasamy K.Thilagavathy and K.Gunavathi	S.Chand & Company Limited, New Delhi.	1
12	Programming in C	Reema Thareja	Oxford University Press, New Delhi.	1
13	Modern Physics	R.Murugesan and Kiruthiga Siva Prasath	S.Chand & Company Limited, New Delhi.	1

14	Mechanics	DS Mathur PS Hamne	S.Chand & Company Limited, New Delhi.	1
15	Text Book of Optics with Atomic Physics	SL Kakani KCBhandari	S.Chand & Company Limited, New Delhi.	1
16	Electromagnetics	JP Agarwal	Pragati Prakashan, Meerut.	1
17	Optics with lasers	Satya Prakash	Pragati Prakashan, Meerut.	1
18	Numerical Methods	P.Sivaramakrishna Das	Pragati Prakashan, Meerut.	1
2021-2022				
1	Optics: Classical and Quantum	R K Kar	Arunabha Sen Books and Allied Pvt. Ltd., Kolkata.	1
2	Electricity and Magnetism	R Murugesan	S Chand and Company Limited, New Delhi.	1
3	Mathematical Physics: with Applications, Problems and Solutions	V Balakrishnan	Ane Books Pvt. Ltd., New Delhi.	2
4	Modern Physics	A B Gupta	Books and Allied Pvt. Ltd., Kolkata.	1
5	Programming in C	Ashok N Kamthane	Pearson India Education Services Pvt. Ltd., Uttar Pradesh.	1
6	Classical Mechanics	B A Kagali, T.Sivalingaswamy	Himalaya Publishing House, Mumbai.	1
7	Solar Thermal Energy	A Sreekumar	New Age International Publishers, New Delhi.	1
8	Fundamentals of Quantum Mechanics Statistical Mechanics and Solid State Physics	S P Kuila	Books and Allied Pvt. Ltd., Kolkata.	2
9	Modern Physics B V Narayana Rao	B V Narayana Rao	New Age International Publishers, New Delhi.	1
10	Solar Power	Ashish Dwivedi	AVI Publishers, New Delhi.	1

13. Outreach Activities (Popular lectures)

S.No.	Date	Title	Number of Beneficiary
2020-2021			
1.	21.12.20 & 23.12.2020	Experimental Physics for PG Teachers (In Real and Virtual mode)	95
2021-2022			
2.	21.12.2021	Experiments & Demo Experiments	45
3.	24.03.2022	Maintenance and usage of Renewable Energy Gadgets for Energy Conservation	28
2022-2023			
4.	04.11.2022	Experimental Physics to the students Government Schools	45
5.	08.11.2022	Experimental Physics to the students Government Schools	60
6.	10.11.2022	Experimental Physics to the students Government Schools	45+2
7.	05.12.2022	Experimental Physics to the students Government Schools	40

14. Colleges mentored to apply for DBT Star College grants.: Nil

15. Invited lectures

S.No.	Date	Title	Number of Beneficiary
2020-2021			
1.	16.11.2020	Troubleshooting of Electrical Appliances	103
2	01.12.2020	The Development of High Quality and Unidirectional Non-linear Optical and Ferroelectric Single Crystals for Practical Device Applications	73
3	09.12.2020	Energy Conservation	89
4	28.12.2021	Nonlinear Dynamics & Introduction	89
5	05.01.2021	Nanomaterials in Energy Storage Applications	100
6	06.01.2021	Internet of Things	100
7	27.01.2021	Transition Metal Oxides Based Super Capacitors	184
8	27.01.2021	An Introduction to Quantum Nanomaterials and their Applications	184
9	29.01.2021	TCO Thin Films by Spray Deposition	100
10	01.02.2021	Basics of X-ray Diffraction for Materials Characterization	184+5
11	15.03.2021	Thermodynamics	170
2021-2022			
12.	15.02.2022	Exploring New Frontiers in Astronomy with 30 m Telescope	161
2022-2023			
13.	16.04.2022	Learning 8085 Microprocessor Architecture and Programming Techniques	120
14.	21.09.2022	Awareness Programme on IIT JAM Examination preparation	107
15	22.09.2022	Life Skill Programme on Value Your Strength (Your Access to Good Life)	127
16	08.10.2022	Preparation for JAM Examinations in Physics	36
17	10.10.2022	Quantum to Cosmos – A Pleasant Journey	128
18	15.10.2022	Cluster Colleges Meeting - Guest Lecture on “Recent trends on conducting Polymers Based Composites in Biosensor Applications	117
19	19.10.2022	Awareness Programme on Benefits of Solar Technology	117
20	29.10.2022	Preparation for JAM Examinations in Physics	26
21	05.11.2022	Preparation for JAM Examinations in Physics	24
22	07.01.2023	Preparation for JAM Examinations in Physics	16
23	28.01.2023	Preparation for JAM Examinations in Physics	33

V.V.VANNIAPERUMAL COLLEGE FOR WOMEN

(Belonging to Virudhunagar Hindu Nadars)

An Autonomous Institution Affiliated to Madurai Kamaraj University

Re-accredited with 'A' Grade (3rd cycle) by NAAC

VIRUDHUNAGAR.

Details of Capital Assets Acquired During the Period - 24.08.2020 to 23.02.2022

S. No.	Name of Equipment / Asset	Sanctioned Cost from DBT	Quantity Procured	Actual Cost (Actual figure, not to roundoff)	Date of Placing order	Date of Receiving Equipment	Payment Voucher No. with Date (Copy of payment voucher(s) may please be enclosed)	Balance to be reimbursed [Provide reason(s) for fluctuation in price (if any)]
1	2	3	4	5	6	7	8	9
[i] Department of Physics								
1	Spot Reflecting Galvanometer	1000000.00	4	38114.00	05.02.2021	10.02.2021	Voucher No.120, dated 3.3.2021	-N.A.-
2	Anemometer Digital		1	6726.00	05.02.2021	10.02.2021	Voucher No. 120, dated 3.3.2021	-N.A.-
3	Muffle Furnace 1100°C		1	32901.34	05.02.2021	23.02.2021	Voucher No.138, dated 8.3.2021	-N.A.-
4	Stop Clock		4	3090.42	05.02.2021	20.02.2021	Voucher No.153, dated 15.3.2021	-N.A.-
5	Digital Precision Balance		1	6695.91	05.02.2021	20.02.2021	Voucher No.153, dated 15.3.2021	-N.A.-
6	Magnetic Stirrer 2 litre Capacity with hot plate		1	8298.35	05.02.2021	20.02.2021	Voucher No.153, dated 15.3.2021	-N.A.-
7	Digital pH Meter		2	12824.24	05.02.2021	06.03.2021	Voucher No.156, dated 16.3.2021	-N.A.-
	C/o			108650.26				

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HEAD OF THE INSTITUTION /

Dr. S.M. MELINA RANI
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1	2	3	4	5	6	7	8	9
	B/f			108650.26				
8	Advanced Spectrometer Deluxe 7"		6	102167.94	05.02.2021	06.03.2021	Voucher No.156, dated 16.3.2021	-N.A.-
9	CRO 30MHz Dual Trace (Oscilloscope)		4	108288.60	05.02.2021	06.03.2021	Voucher No.156, dated 16.3.2021	-N.A.-
10	Heating Mantle(500ml)		1	1859.97	05.02.2021	01.03.2021	Voucher No. 184, dated 20.3.2021	-N.A.-
11	Planck's Constant by Photoelectric Effect		2	73986.00	04.02.2021	24.02.2021	Voucher No.199, dated 20.3.2021	-N.A.-
12	Optical Fibre Loss, Numerical Aperture, Acceptance – FOT2		2	24662.00	04.02.2021	24.02.2021	Voucher No.199, dated 20.3.2021	-N.A.-
13	BH Curve apparatus Standard Resistors and Capacitor		1	5044.50	04.02.2021	24.02.2021	Voucher No.199, dated 20.3.2021	-N.A.-
14	Spot Reflecting Galvanometer		3	28585.50	05.02.2021	05.03.2021	Voucher No.219, dated 22.3.2021	-N.A.-
15	Searle's Apparatus		1	6277.60	05.02.2021	05.03.2021	Voucher No.219, dated 22.3.2021	-N.A.-
16	Dielectric constant apparatus for solids and liquids		1	13283.85	05.02.2021	05.03.2021	Voucher No.219, dated 22.3.2021	-N.A.-
17	Solar Cell characteristics		4	24079.08	05.02.2021	05.03.2021	Voucher No.219, dated 22.3.2021	-N.A.-
	C/o			496885.30				

M. Tamil Selvi

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S. Beethi

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S.M. Meena Rani

HEAD OF THE INSTITUTION /

PRINCIPAL
Dr. S.M. MEENARANI

Principal / Chairman

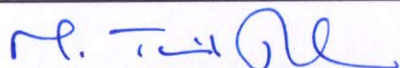
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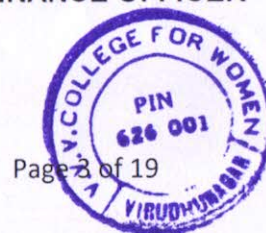
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Tamilnadu, India.

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1	2	3	4	5	6	7	8	9
	B/f			496885.30				
18	Thermometer 10 to 110x1/10 C Mercury Filled		4	343.38	05.02.2021	16.03.2021	Voucher No.255, dated 24.3.2021	-N.A.-
19	Magnetic Stirrer 2 Litre capacity with hot plate		1	8298.35	05.02.2021	16.03.2021	Voucher No.255, dated 24.3.2021	-N.A.-
20	Travelling Microscope		6	63525.30	05.02.2021	16.03.2021	Voucher No.255, dated 24.3.2021	-N.A.-
21	Callender and Barne S Method (Continuous Flow Colorimeter)		1	3262.11	05.02.2021	23.03.2021	Voucher No.288, dated 27.3.2021	-N.A.-
22	Transformer for Callender and Barne S Apparatus		1	3262.11	05.02.2021	23.03.2021	Voucher No.288, dated 27.3.2021	-N.A.-
23	Thermocouple Copper Constantan		1	944.29	05.02.2021	23.03.2021	Voucher No.288, dated 27.3.2021	-N.A.-
24	Digital Weighing Balance PGB200		1	9954.48	05.02.2021	23.03.2021	Voucher No. 319, dated 31.3.2021	-N.A.-
25	Function Generator (1MHz) Digital Read out Model-1013		5	89135.72	12.03.2021	25.03.2021	Voucher No.326, dated 31.3.2021	-N.A.-
26	Ammeter (AC) Moving Coil Dollar Superior Quality		1	555.13	05.02.2021	27.03.2021	Voucher No.336, dated 31.3.2021	-N.A.-
	C/o			676166.17				


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1	2	3	4	5	6	7	8	9
	B/f			676166.17				
27	Voltmeter (AC) Moving Coil Superior Quality / Dollar		1	503.62	05.02.2021	27.03.2021	Voucher No.336, dated 31.3.2021	-N.A.-
28	Polarimeter		1	6255.18	12.03.2021	05.04.2021	Voucher No.2, dated 17.5.2021	-N.A.-
29	8085 Microprocessor LCD Trainer Kit		6	49503.36	05.02.2021	22.04.2021	Voucher No.2, dated 17.5.2021	-N.A.-
30	Logic IC Trainer		6	63970.98	05.02.2021	22.04.2021	Voucher No.2, dated 17.5.2021	-N.A.-
31	Thermometer 110 C		4	784.70	22.04.2021	28.04.2021	Voucher No.3, dated 17.5.2021	-N.A.-
32	Steam Boiler 2Lit		1	896.80	22.04.2021	28.04.2021	Voucher No.3, dated 17.5.2021	-N.A.-
33	Spot Reflecting Galvanometer		2	19057.00	22.04.2021	28.04.2021	Voucher No.3, dated 17.5.2021	-N.A.-
34	Dielectric constant apparatus for Solids & Liquids		3	39851.55	05.02.2021	21.04.2021	Voucher No.3, dated 17.5.2021	-N.A.-
35	Steam Boiler 2Lits.		1	896.80	05.02.2021	21.04.2021	Voucher No.3, dated 17.5.2021	-N.A.-
	C/o			857886.16				

M. Tamilselvi

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Member Secretary / Co-ordinator

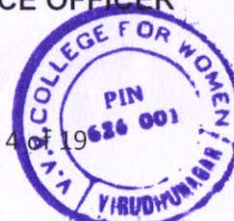
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S.M. Meena Rani

HEAD OF THE INSTITUTION /

PRINCIPAL

Dr. S.M. MEENA RANI

Principal / Chairman

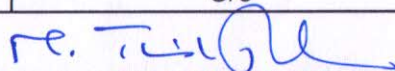
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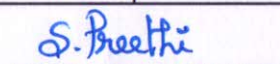
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1	2	3	4	5	6	7	8	9
	B/f			857886.16				
36	Hot Plate SS Top		1	5941.30	05.02.2021	21.04.2021	Voucher No.3, dated 17.5.2021	-N.A.-
37	Solar Flat Plate Collector		1	27300.00	12.03.2021	10.07.2021	Voucher No.10, dated 21.8.2021	-N.A.-
38	Polarimeter (Digital) with Electronic Sensor		1	46871.37	12.03.2021	30.04.2021	Voucher No.13, dated 14.09.2021	-N.A.-
39	Distillation Unit (Double Stage)		1	25352.89	05.02.2021	30.04.2021	Voucher No.13, dated 14.09.2021	-N.A.-
40	Thermometer – 10 TO 110x1/10 C Mercury Filled		4	343.38	22.04.2021	04.05.2021	Voucher No.13, dated 14.09.2021	-N.A.-
41	Stop Clock		2	1545.21	22.04.2021	04.05.2021	Voucher No.13, dated 14.09.2021	-N.A.-
42	Ammeter (AC) Moving Coil		2	1110.26	22.04.2021	04.05.2021	Voucher No.13, dated 14.09.2021	-N.A.-
43	Voltmeter (AC) Moving Coil (0-50V)		2	1007.24	22.04.2021	01.09.2021	Voucher No. 15, dated 17.09.2021	-N.A.-
44	Transformer for Callender and Barne's Apparatus		1	3262.11	22.04.2021	01.09.2021	Voucher No. 15, dated 17.09.2021	-N.A.-
45	Callender and Barne's Apparatus		1	3262.11	22.04.2021	01.09.2021	Voucher No. 15, dated 17.09.2021	-N.A.-
46	Magnetic Stirrer 2 ltr. capacity with hot plate		1	8298.35	22.04.2021	01.09.2021	Voucher No. 15, dated 17.09.2021	-N.A.-
	C/o			982180.38				

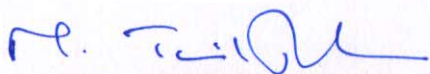

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1	2	3	4	5	6	7	8	9
	B/f			982180.38				
47	Solar Panel		2	17325.00	24.09.2021	29.09.2021	Voucher No.22, dated 30.9.2021	-N.A.-
48	DC Voltmeter (0-50V)		2	944.00	22.04.2021	29.09.2021	Voucher No. 24, dated 30.9.2021	-N.A.-
Total		1000000.00	--	1000449.38	--	--	--	--


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DEPARTMENT OF CHEMISTRY

7. No. of Hands-on Experiments being conducted

S.No.	Date	Title	Number of Beneficiary
2020-2021			
1.	25.02.2021	Estimation of Total Hardness of Water by EDTA Method	160
2.	09.03.2021 & 11.03.2021	Preparation of Sanitizer, Candle, Ink, Soap, washing powder and Shampoo	150
3.	11.03.2021 & 12.03.2021	Synthesis & Biological Application of metal Nanoparticles Using Plant Extracts	10
4.	12.03.2021 & 13.03.2021	Analytical Techniques	10
5.	15.03.2021	Demonstration of Analytical Techniques using BOD, COD, Photo Colorimeter, Ultrasonicator	80
2021-2022			
6	09.12.2021	Atom Economy in Green and Classical Chemical Reactions	66
7	18.12.2021	Hands on Training on Quantitative Analysis of Minerals and Detection of Adulterants in food Sample	87
8	05.03.2022	Identification of λ max value for organic compounds using Spectrophotometer	50
9	07.03.2022	Preparation of Household Chemical Items	50
10	10.03.2022	Tie & Dye and Batik Printing	75
11	12.03.2022	Tie & Dye and Batik Printing	30
12	12.03.2022	Preparation of Household Chemical Items	30
2022-2023			
13	19.10.2022	Fabulous Fibres	120
14	05.01.2023	Preparation of Cosmetic Products	56
15	18.01.2023	Spectral Characterization of Inorganic Complexes using UV and IR	60

8. No. of New Experiments Introduced

CLASS	COURSE NAME & COURSE CODE	EXPERIMENT
I B.Sc. Chemistry	Volumetric Analysis Practical - 20UCHC21P	Analysis of Na level in various junk Food by Flame Photometer
II B.Sc. Chemistry	Inorganic Semimicro Qualitative Analysis- 18UCHC41PN	Estimation of Fe(III) and Cu(II) by Colorimeter
III B.Sc. Chemistry	Organic Analysis and Estimation 18UCHC62PN	Characterization of Organic Compounds using IR Spectrometer
	Gravimetric Analysis and Organic Preparation - 18UCHC61PU	Chromatographic Separation of KMnO_4 & $\text{K}_2\text{Cr}_2\text{O}_7$ Chromatographic Separation of Amino Acids, Lipids and Carbohydrates

	Physical Chemistry -II 18UCHC62N	Electrochemical Cells Determination of I, II, III order Dissociation content of H ₃ PO ₄ by pH Measurement
	Physical Chemistry -I 18UCHC53N	In Photochemistry dye degradation is Introduced

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

PUBLISHEDARTICLE

1	2020	Dhanalakshmi,M., K.Saravanakumar, S.Lakshmi Prabavathi, V. Muthuraj (2020). Iridium Doped ZnO Nanocomposites: Synergistic Effect Induced Photocatalytic Degradation of Methylene Blue and Crystal Violet, <i>Inorganic Chemistry Communications</i> , ELSEVIER,111.
2		Dhanalakshmi, M., S.Lakshmi Prabavathi, K. Saravanakumar, B.Filip Jones and V. Muthuraj (2020). Iridium Nanoparticles Anchored WO ₃ Nanocubes as an efficient Photocatalyst for Removal of Refractory Contaminants (Crystal Violet and methylene Blue), <i>Chemical Physics Letters ELSEVIER</i> , 745.
3		Anitha A (2020). Performance of Activated Carbon from <i>Acalypha Indica (Kuppaimeni)</i> Leaf as an Adsorbent for Copper (II) Ions, <i>Journal of Advanced Scientific Research</i> ,11(03), 214-219.
4		Thiravidamani C, Arunadevi A and Natarajan Raman (2020). Synthesis, spectral characterization, DNA-binding and antimicrobial profile of biological active mixed ligand Schiff base metal(II) complexes incorporating 1,8-diaminonaphthalene. <i>Journal of Coordination Chemistry</i> , 74(4-6): 804-822.
5		Kavitha J and Sakthi Kumar L (2020). Study of nitroketene dithioacetal-metal complex as a potent cancer control therapeutic agent, <i>Mukt Shabd</i> ,09 (9), 209-220
1	2021	Anitha. A and A.John (2022). Chapter 1. Hetero junction Photocatalysts: Boon for water purification, Heterojunction Photocatalysts Materials: <i>Advances and Application in Energy and the Environment</i> , Jenny Stanford Publishers, CRC Press, Singapore
1	2023	Vairalakshmi M (2023). Evaluation of the Cytotoxic and Antioxidant Activities of Isonized derived Copper and Cobalt Complexes, <i>MuktShabd Journal</i> , 2347-3150.
2	2023	Ramila Devi N and Kavitha J (2023). Approaching the pharmaceutical water Pollution issue using nanosized efficient compounds viaphotocatalytic degradation, <i>Mukt Shabd Journal</i> , 2347-3150.

PUBLISHED CHAPTERS IN BOOK

1	2022	Anitha A (2022). Frontiers of chemical sciences, Chapter: Adsorptive Removal of Crystal Violet and Methyl Orange Dye Banyan Leaf (<i>Ficus citrifolia</i>) Derived Carbon in Adsorption Removal of crystal violet and Methyl orange Dye Banyan leaf (Derived Carbon), Navanila Maruthi Publication, 49-62, 9788195187126
2		Anitha A and Ramila Devi N (2023). Biochar-Productive Technologies, Properties and Applications in Prospects of Biochar as Renewable Resource for Electricity, In tech open Publisher, 23-40, 978-1-80356-251-3

10. Training received by (A) Faculty (b) Students (Summer/ Winter Projects)

S.No.	Date	Title	Number of Beneficiary
2020-2021			
a) Faculty			
1.	09.03.2021 &10.03.2021	Applications of SPSS Software tools Part-I & Part-II	45
2021-2022			
2.	11.01.2022	Application of CHEMDRAW tools in Science	39
3.	18.02.2022	Chem Sketch Applications	23
b) Students Projects			
2020-2021			
1	Soxhlet Extraction and Analysis of Bioactive Compounds in Medicinal Plants		5
2	Ultrasound Assisted Extraction of Medicinal Plants and its Phyto Chemical Assay		5
3	Investigation of Antioxidant Property of <i>Phyllanthus emblica</i> By Electrochemical Methods		5
4	Screening of Phytochemical Components In Different Seeds		5
5	Assessment of Underground Water Quality in College Premises		5
6	Chemical Oxygen Demand In Domestic Wastewater in Virudhunagar - An Analysis		5
7	Evaluation of Water Quality of Groundwater In Virudhunagar Town		5
8	A Study on Thermal Management of Power LEDs with Copper Based Polymer Composites		5
9	Study and Generate Surface Temperature Reflectance from Satellite Band Combination		5
10	Screening of Phytochemicals from Medicinal Plants		5
11	Analysis of Phytochemicals In <i>Azadirachita indica</i> and its Medicinal Values With Special Reference To Tamil Literature		5
12	Extraction of Jasmine Flowers and its Medicinal Importance with Special Reference to Tamil Literature		5
2021-2022			
1	Synthesis of Ag, Cu, V, Mo and Zn nanoparticles		3
2	Synthesis of organic compound by Green synthetic method		5
3	Synthesis of Inorganic Schiff Base complexes		5
4	A study on Specific Configuration of Biologically Significant Compounds using Polarimeter.		3
5	Comparative study on Classical Biochemical determination and Supramolecular sensing of Creatinine in Urine sample		4
6	Antimicrobial studies of Inorganic Schiff Base complexes		5
7	Synthesis of Inorganic Schiff's base complexes and its antibacterial activity		4
8	Analysis of Laboratory Wastewater in our College Premises		5
9	Study of Antibacterial activity of Ag, Cu, V, Mo and Zn nanoparticles		5
10	A Historical Perspective and investigation of mineral riches in the soil of Ramanathapuram District		5

11	Chemical analysis on environmental heritage of Samanar Hills in Madurai.	4
12	Investigation on Fluoride concentration in ground water and its impact on Social self-perception of adolescents in Chinnamoopanpatty Village.	5
2022-2023		
1	A View on Molecular Reactions Dynamics Using Computer Simulation like ACD/CHEMDRAW and CHEMSKETCH	2
2	Evaluation of Ground Water Quality Parameters in and around Virudhunagar District using SPSS XL –STAT Software	3

11. Exhibitions/Seminars /Training Courses conducted

S.No.	Date	Title	Number of Beneficiary
a) Exhibitions			
1	27.02.2021	Science Exhibition- National Science Day Celebrations	330
2	30.03.2022	Chem Expo 2022- Models and Demonstration (9)	550+ our College students
b) Seminars			
2020-2021			
1.	29.01.2021	State Level Seminar (Inter Institutional) on Structural Characterization of Nanocarbon Materials	267
2.	23.02.2021	One Day Inter-Institutional workshop on Semimicro Qualitative Organic Analysis	90
3.	13.03.2021	Webinar on Thrust Areas in Inorganic Chemistry Fundamentals and Prospects of Catalysis Lanthanide Chemistry	80
2021-2022			
5.	17.11.2021	One Day Workshop on Seasonal Impact on Water Quality	37
6	16.02.2022 17.02.2022	National Level Seminar on Scientometric Visualization of Computational and Natural Products Chemistry-SVCNPC 2022	234
7	09.03.2022	Workshop on Sonochemistry in Green Chemistry	42
8	15.03.2022	One Day National Seminar on Boron Chemistry and its Applications in Cancer Treatment	230
9	24.03.2022	Inter-Institutional Workshop on Semi micro Physical Chemistry Experiments"	42
2022-2023			
12	19.09.2022	Interdepartmental Skill Development Entrepreneurship Workshop	139
13	17.10.2022	Workshop on Modelling of Drying in Thin Films of Colloidal Nano Materials	60
14	29.10.2022	Workshop on Chemical Techniques in Crime Investigation	80
15	19.01.2023	National Level Seminar on Chem Material and their Futuristic Applications in Human Wellbeing	172

16	02.02.2023	Workshop on Polymer Technology	100
C) Lab attendant training			
1	06.11.2020	Laboratory Safety Measures and Techniques	18
2021-2022			
2	04.01.2022	Preparation of Chemical Reagents and Stock Solution	19
2022-2023			
3	29.11.2022	Management of Hazardous Chemicals	23

12. Books/Journals subscribed from grants

S.No.	Books	Author	Publisher	Quantity
1.	Computational Chemistry: Introduction to the Theory and Applications of Molecular and Quantum Mechanics	Errol Lewars	Springer, New Delhi.	1
2.	Advanced Inorganic Chemistry	Alber Cotton and Geoffrey Wilkinson	Wiley, New Delhi.	1
3.	Inorganic Chemistry	Mark Weller and Tina Overton	Oxford University Press, UK.	1
4.	Name Reactions and Rearrangements in Organic Chemistry	Ratan Kumar Kar	Books and Allied Pvt. Ltd., Kolkata.	1
5.	Advanced Organic Chemistry: Organic Synthesis, Heterocycles and Biomolecules	N Tewari	Books and Allied Pvt. Ltd., Kolkata.	1
6.	Fundamental Concepts of Inorganic Chemistry	Asim KD as and Mahua Das	CBS Publishers and Distributors Pvt. Ltd., New Delhi.	2
7.	Bioorganic Chemistry	GR Chatwal	Himalaya Publishing House, Mumbai.	1
8.	Polymer Science	VR Gowariker & N V Viswanathan	New Age International Pvt. Ltd., London	1
9.	Physical Chemistry	Raymond Chang	Viva Books, New Delhi.	1
10.	Quantum Chemistry	Donald, AMC Quarrie	Viva Books, New Delhi.	1
11.	Group Theory in Chemistry	MS Gopinathan & V Rama Krishnan	Vishal Publishing Co., Jalandhar.	1
2021-2022				
1	Clayton's Introduction to Organic Chemistry	Heath cock, Clayton H	Medtech	1
2	Comprehensive Coordination Chemistry	Banerjee, Sankar Prosad	Books and Allied Pvt. Ltd.,	1
3	Principles of Physical Chemistry	Puri, B R	Vishal Publishing Co.	1
4	College Chemistry-Volume-1	Datta, S C	Ane Books Pvt. Ltd.,	1
5	Satya Prakash's Modern Inorganic Chemistry	Madan, R D	S Chand and Company Pvt. Ltd.,	1
6	Medicinal Chemistry-I	Kar, Ashutosh	New Age International Pvt. Ltd., Publishers	1

7	Advanced Organic Stereochemistry	Tewari, Nimai	Books and Allied Pvt. Ltd.,	1
8	An Introduction to Systematic Nomenclature of Organic Compounds	Tewari, Nimai	Books and Allied Pvt. Ltd.,	1
9	Reactions, Reagents and Synthesis in Organic Chemistry	Mitra, Asok Kumar	Books and Allied Pvt. Ltd.,	1
10	Physical Chemistry-I	De, Amrita Lal	Books and Allied Pvt. Ltd.,	1
11	Physical Chemistry-2	De, Amrita Lal	Books and Allied Pvt. Ltd.,	1
12	Advanced Organic Reaction Mechanism	Tewari, Nimai	Books and Allied Pvt. Ltd.,	1
13	Organic Chemistry	Morrison, Robert Thornton	Pearson	1
14	Text Book of Inorganic Chemistry	Soni, P L	Sultan Chand and Sons	1

13. Outreach Activities (Popular lectures)

S.No.	Date	Title	Number of Beneficiary
2020-2021			
1.	21.12.20 & 23.12.20	Semimicro Inorganic Qualitative Analyses	92
2021-2022			
2.	23.12.2021	Demonstration of EDTA Titrations	47
2022-2023			
3.	04.11.2022	Organic Analysis	45
4.	05.11.2022	Career Guidance on Botany and Biology	120
5	08.11.2022	Organic Analysis	57
6	10.11.2022	Inorganic Semimicro Qualitative Analysis	45
7	05.12.2022	Organic Analysis	78
8	28.01.2023	Preparation of Bath Soap at Paavali	106
9	28.01.2023	Preparation of Shampoo at Vadamalaikurichi	86
10	28.01.2023	Preparation of Handwash at Paapakudi	85

14. Colleges mentored to apply for DBT Star College grants :NiL

15. Invited lectures

S.No.	Date	Title	Number of Beneficiary
2020-2021			
1.	27.11.2020	Protein structure, Folding and its Catalytic Activity	80
2.	08.01.2021	Micro analytical Techniques in Physical Chemistry	115
3.	06.02.2021	Electro Analytical Techniques –Cyclic Voltametry and Polarography	120+5
2021-2022			
4.	14.12.2021	Environmental Impact of Nanomaterials	37

5	12.02.2022	Organometallic Compounds for Organic Synthesis	43
6	25.02.2022	Role of Metals in Biological system	43
7	04.03.2022	ESR Spectroscopy and its Applications	43
8	09.03.2022	Inorganic Photochemistry	43
2022-2023			
9	06.10.2022	Biocatalytic and Nanobiocatalytic Organic Transformations	43
10	08.10.2022 & 9.10.2022	Hacks to Crack JAM Examination in Chemistry Preparation of JAM Examinations in Chemistry- Organic Chemistry	37
11	15.10.2022 & 5.11.2022	Preparation of JAM Examinations in Chemistry- Inorganic Chemistry	37
12	07.01.2023	Preparation of JAM Examinations in Chemistry -Physical Chemistry	37
13	20.01.2023 & 28.01.2023	Hacks to Crack Jam Examination in Physical Chemistry	37
14	22.02.2023	Problem Solving Approach: Organic Spectroscopy	43
15	28.02.2023	Global Science for Global Wellbeing	43
16	10.03.2023	Activation Energy for a Chemist	43

[ii] Department of Chemistry

1	LG Refrigerator with stand and stabilizer	1000000.00	1	36000.00	15.03.2021	18.03.2021	Voucher No. 214, dated 22.03.2021	-N.A.-
2	HP- M1005 Laser Jet Printer		1	18749.99	06.02.2021	22.02.2021	Voucher No.215, dated 22.3.2021	-N.A.-
3	Computer		2	45179.98	06.02.2021	22.02.2021	Voucher No.215, dated 22.3.2021	-N.A.-
4	LENOVO-19.5" LED wide Monitor		2	10620.00	06.02.2021	22.02.2021	Voucher No.215, dated 22.3.2021	-N.A.-
5	Electronic Weighing balance Wensar		1	36741.66	06.02.2021	05.03.2021	Voucher No. 218, dated 22.3.2021	-N.A.-
6	Colorimeter 1311 Auto Zero		5	34739.20	06.02.2021	02.03.2021	Voucher No. 218, dated 22.3.2021	-N.A.-
7	BOD Analyser		1	64326.52	06.02.2021	02.03.2021	Voucher No. 218, dated 22.3.2021	-N.A.-
	C/o			246357.35				

M. Tamil Selvi

PROJECT INVESTIGATOR
Dr. M. TAMILSELVI

Member Secretary / Co-ordinator

DBT - Star College Scheme

V.V. Vanniaperumal College for Women

Virudhunagar-626 001.

Tamil Nadu, India.

S. Reethi
FINANCE OFFICER



S. H. Ramesh Rani

HEAD OF THE INSTITUTION /
Dr. S.M. RAMESH RANI

Principal / Chairman


DBT - Star College Scheme


V.V. Vanniaperumal College for Women

Virudhunagar-626 001.

Tamil Nadu, India.


S. No.	Name of Equipment / Asset	Sanctioned Cost from DBT	Quantity Procured	Actual Cost (Actual figure, not to roundoff)	Date of Placing order	Date of Receiving Equipment	Payment Voucher No. with Date (Copy of payment voucher(s) may please be enclosed)	Balance to be reimbursed [Provide reason(s) for fluctuation in price (if any)]
1	2	3	4	5	6	7	8	9
	B/f			246357.35				
8	COD Analyser		1	30904.20	06.02.2021	02.03.2021	Voucher No. 218, dated 22.3.2021	-N.A.-
9	Electrical water bath with thermostat		2	23541.00	08.02.2021	26.02.2021	Voucher No. 219A, dated 22.3.2021	-N.A.-
10	Ultra sonicator		1	13171.75	08.02.2021	04.03.2021	Voucher No. 219A, dated 22.3.2021	-N.A.-
11	Magnetic stirrer		2	15469.80	08.02.2021	04.03.2021	Voucher No. 219A, dated 22.3.2021	-N.A.-
12	Autoclave Portable		1	15694.00	08.02.2021	23.02.2021	Voucher No. 219A, dated 22.3.2021	-N.A.-
13	Hot air Oven		1	31163.80	08.02.2021	23.02.2021	Voucher No. 219A, dated 22.3.2021	-N.A.-
14	Muffle furnace 900 C		1	23204.70	08.02.2021	23.02.2021	Voucher No. 219A, dated 22.3.2021	-N.A.-
15	UV-Photo reactor capacity 50ml with power supply and safety box		1	85196.00	08.02.2021	04.03.2021	Voucher No. 219A, dated 22.3.2021	-N.A.-
	C/o			484702.60				


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HEAD OF THE INSTITUTION /
PRINCIPAL
Dr. S.M. MEENA RANI
 Principal / Chairman
 DBT - Star College Scheme
 V.V. Vanniaperumal College for Women
 Virudhunagar-626 001.
 Tamilnadu, India.

S. No.	Name of Equipment / Asset	Sanctioned Cost from DBT	Quantity Procured	Actual Cost (Actual figure, not to roundoff)	Date of Placing order	Date of Receiving Equipment	Payment Voucher No. with Date (Copy of payment voucher(s) may please be enclosed)	Balance to be reimbursed [Provide reason(s) for fluctuation in price (if any)]
1	2	3	4	5	6	7	8	9
	B/f			484702.60				
16	Basic package Name Chemist-1 License subscription Software		1	19995.10	19.02.2021	10.03.2021	Voucher No.254, dated 24.3.2021	-N.A.-
17	Chem Draw Equivalent (NMR Predictor suite-chemist) License subscription		1	29995.60	19.02.2021	10.03.2021	Voucher No.254, dated 24.3.2021	-N.A.-
18	Micro wave oven – 20SC2-IFB		1	19617.50	08.02.2021	10.03.2021	Voucher No.271A, dated 25.03.2021	-N.A.-
19	pH Meter Digital		3	35311.50	08.02.2021	16.03.2021	Voucher No.275A, dated 25.3.2021	-N.A.-
20	Digital photo Fluorometer		1	58852.50	08.02.2021	18.03.2021	Voucher No.275A, dated 25.3.2021	-N.A.-
21	Remi bench centrifugeRM-12C with Rotar RM1216		1	30435.15	08.02.2021	20.03.2021	Voucher No.301, dated 29.03.2021	-N.A.-
22	Ultra sonicator GT		1	13171.75	19.03.2021	26.03.2021	Voucher No. 320, dated 31.03.2021	-N.A.-
23	BOD Analyser		1	64326.52	19.03.2021	26.03.2021	Voucher No.325A, dated 31.03.2021	-N.A.-
24	Digital flame photo meter		1	28630.34	08.02.2021	23.03.2021	Voucher No.327, dated 31.03.2021	-N.A.-
	C/o			785038.56				

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S. Preethi

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Page 8 of 19

S. M. Meena Rani

HEAD OF THE INSTITUTION /

PRINCIPAL

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Principal / Chairman

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Tamilnadu, India.

S. No.	Name of Equipment / Asset	Sanctioned Cost from DBT	Quantity Procured	Actual Cost (Actual figure, not to roundoff)	Date of Placing order	Date of Receiving Equipment	Payment Voucher No. with Date (Copy of payment voucher(s) may please be enclosed)	Balance to be reimbursed [Provide reason(s) for fluctuation in price (if any)]
1	2	3	4	5	6	7	8	9
	B/f			785038.56				
25	Digital balance		1	36741.66	19.03.2021	29.03.2021	Voucher No. 339, dated 31.3.2021	-N.A.-
26	Digital Flame Photo meter		1	28630.34	19.03.2021	02.04.2021	Voucher No.3A, dated 17.5.2021	-N.A.-
27	UV –Photo Reactor Capacity 50ml with power supply and safety box		1	85196.00	19.03.2021	15.04.2021	Voucher No.3A, dated 17.5.2021	-N.A.-
28	Digital Photo Fluorometer		1	58852.50	19.03.2021	02.07.2021	Voucher No.6, dated 26.07.2021	-N.A.-
29	Packet TDS Meter Digital		2	5546.00	04.07.2021	07.07.2021	Voucher No.6, dated 26.07.2021	-N.A.-
Total		1000000.00	--	1000005.06	--	--	--	--

M. TamilSelvi

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S. Preethi
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Principal / Chairman

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Tamilnadu, India

DEPARTMENT OF ZOOLOGY

7. No. of Hands-on Experiments being conducted

S.No.	Date	Title	Number of Beneficiary
2020-2021			
1.	27.01.2021	Beekeeping	40
2.	08.03.2021 & 09.03.2021	DNA Isolation	66
3.	11.03.2021	SDS PAGE	10
4.	15.03.2021	Vermiculture	99
5.	15.03.2021	Ornamental Fish Culture	118
6	24.03.2021	Blotting Techniques	38
2021-2022			
7	16.12.2021	Hands on-Training on Handling of Advanced Microscopes.	41
8	01.03.2022	Hands on Training Programme on Farm made fish feed preparation	27
9	01.03.2022	Hands on Training Programme on Candle making from Bee Wax	27
10	15.03.2022	Hands on Training Programme on Analytical Techniques In Basic Sciences	31
11	24.03.2022	Decorative products from the Cut Cocoons of Silkworms	32
12	28.03.2022	Demonstration of PCR	32
13	28.03.2022	Biochemical Characterization of Microbes.	15
2022-2023			
14	20.01.2023	Synthesis of Nanoparticles	40
15	15.02.2023	Honey Extraction and Seasonal Management of Apiary	40
16	23.02.2023 & 24.02.2023	Molecular and Immunological Techniques	40

8. Number of New Experiments Introduced

I B.Sc. Zoology	Lab in Invertebrata and Chordata 20UZYC21P	<ul style="list-style-type: none"> • Brachionus • Cypris • Mounting of mouth parts - Cockroach and Honeybee • Any two freshwater planktons. • Food fishes - Catla, Mrigal, Rohu • Ornamental fishes - Gold fish and Siamese fighterfish
II B.Sc. Zoology	Cell and Molecular Biology -20UZYC31	MICROSCOPY <ul style="list-style-type: none"> • Phase Contrast Microscope • Binocular Microscope. • Confocal Microscope and • Fluorescent Microscope
	Lab In Cell and Molecular Biology and Developmental Biology	MICROSCOPY <ul style="list-style-type: none"> • Stereomicroscope and • Trinocular Microscope

	-20UZYC41P	EQUIPMENT (DEMONSTRATION) Principle and Applications of <ul style="list-style-type: none"> (a) Microcentrifuge (b) Agarose gel electrophoresis. VIRTUAL VIDEO <ul style="list-style-type: none"> Observation of Regeneration in Lizard Observation of Metamorphosis in Frog.
III B.Sc.Zoology	Lab in Biochemistry and Animal Physiology-18UZYC61PN	<ul style="list-style-type: none"> Preparation of Buffer Preparation of standard graph using standard glucose solution Estimation of urease in horse gram.
	Lab In Microbiology and Biotechnology 18UZYC63PN	<ul style="list-style-type: none"> Catalase test Oxidase test Acid and gas production test. Isolation of RNA from spleen. Separation of DNA by agarose gel electrophoresis. Synthetic seed preparation (Group) Polymerase chain reactions- Demonstration
	Lab in Evolution, Genetics and Biostatistics - 18UZYC62PN	<ul style="list-style-type: none"> Analysis of correlation between height and weight of students in the class.

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

PUBLISHED ARTICLE		
1	2022	Tamilselvi M, Prabhavathi V, Sivani P, Balanagammal P, Anitha M, Karthika Rand Priyadharshini P (2022). Exploration of Scientific Facts on Crabs(Crustaceans) in Tamil Literature, <i>IMIRJVI</i> (2):57-64.
PUBLISHED BOOK		
1	2022	Veeramuthumari, P (2022). New Horizons in Medicine and Medical Research, LAP LAMBERT Academic Publishing. 85pp, 978-620-5-51040-7
2	2023	Tamilselvi, M and Abdul Jaffar Ail, H(2023). அறிவியல் பழமொழிகள்-விளக்கம் (Exploration of Science from proverbs). VVVC Publisher. 121pp, 978-81-956419-8-7
3		Radhalakshmi R and Tamilselvi M (2023). Lab Manual on Invertebrate and Chordata, VVVC Publisher, 978-81-956419-5-6
PUBLISHED CHAPTERS IN BOOK		
5	2022	Veeramuthumari P (2022). Interdisciplinary approach on progressive research and perception, In Trace Elements- Human Nutrition and Health, ESN Publications, 21-26, 978-93-95196-62-8

10.Training received by (A)Faculty (b)Students (Summer/ Winter Projects)

S.No.	Date	Title	Number of Beneficiary
a) Faculty			
2020-2021			
1.	13.03.2021	Bioinformatics Techniques applied in Modern Biology	36
2.	16.03.2021 16.03.2021	Current Scenario in Environmental Engineering and Sciences Green Audit for Educational Institutions	76
3.	18.03.2021	Microbes as Biopreservatives	58
4.	23.03.2021	Intellectual Property Rights (IPR)	54
2022-2023			
5.	18.11.2022	Inter Departmental Workshop on Patent Searching and Filing Procedure	106
b) Students Projects			
2020-2021			
1	Construction of Pedigree Chart for Three Generations		1
2	Pedigree Analysis on the Occurrence of Curly and Straight Hair		1
3	Analysis of Vanadium content in simple tunicate <i>Ascidia sydneiensis</i>		5
4	Analysis of Accumulation of Chosen Metals in Commercially Important Fresh Water Fishes		5
5	Calcium Content in the Molluscan Shells – An Analysis		4
6	Prevalence Study on Malnutrition among Adolescent Girls		1
7	A Study on Awareness and Prevalence of Corona Virus Infection (Covid-19) in Virudhunagar District, Tamil Nadu, India		6
8	Analysis of Fluoride Content in Groundwater in Virudhunagar		1
9	Comparative Analysis of Calcium Content in the Milk of Cow and Buffalo		1
10	Analysis of Seasonal Diseases in Virudhunagar District		1
11	Diversity of Tree Spider		1
12	Survey on the Occurrence of Contagious disease- Tuberculosis and Leprosy		7
13	Survey of Jumping Spiders		1
2021-2022			
1	Decomposition of Kitchen Waste using Vermitechnology		1
2	Analysis of the Mendelian traits among Hostellers in our Institution		1
3	Biochemical Analysis of Fish fed with Artificial Feed.		1
4	Analysis of growth and Reproductive rate of ornamental Fish using pellet feed.		3
5	Biodiversity of Spider in Rosalpatti Village, Virudhunagar District		1
6	Preparation of liquid Biofertilizer using Phosphobacteria		1

7	Correlation between Haemoglobin content and Menstruation among Women.	1
8	Biochemical Analysis of Fishes	1
9	Comparative study on lipid content in the Milk of Goat, Cow and Buffalo	5
10	Estimation of NPK in Vermicompost using different types of Feed formulations.	5
11	Survey of Anaemia among the age group of 17–20 years.	5
12	Comparative study on the Protein content of commercially available fresh water and marine fishes.	5
13	Exploration of scientific facts on Crabs (Crustaceans) in Tamil Literature	5
14	Survey on the occurrence of Cervical and Breast Cancer among rural Women in Virudhunagar District.	5
15	Ethno medicinal Tourism and Health care practices among the inhabitants of Western Ghats (Chathuragiri Hills)	5
16	Survey on diversity of House Sparrow in Virudhunagar District.	5
17	Cloning of various Domains of cardamom Mosaic virus Vpg	4
18	Effect of vermicompost on morphometric characteristics of Green gram	2
2022-2023		
1	Observation of THB in different Soil Sample.	2
2	Survey of BMI among the Adolescent students	2
3	Diversity of Ascidians in Marine Ecosystem	1
4	Production of Indole Acetic Acid using <i>Azotobacter</i> .	2
5	Enhancement of fish growth using different types of Feeds	1
6	Analysis of Heavy Metals in Selected Marine Edible fishes.	1
7	<i>In silico</i> Analysis of CTLA 4 gene in Human.	1
8	Study of Plankton diversity in Fresh water bodies.	1
9	Effect of Iodine salt intake and Occurrence of hyperthyroidism and hypothyroidism in Virudhunagar district Population (South India)	1
10	Estimation of Vanadium in Commercially important species.	1
11	Water Quality Parameters in Virudhunagar District – An Analysis	1
12	Analysis of Growth of <i>Azotobacter</i> in Synthetic Media	1
13	Invitro – antibacterial activities of <i>Acalypha indica</i> against E.coli	1
14	Biodiversity of Butterflies in selected Habitats of Thirumangalam Taluk, Madurai.	1
15	Assessment of Water Quality Parameters using Planktons as Bioindicator.	1
16	A Study on the Morphology of Bacterial Colonies Isolated from the Soil.	2
17	Analysis of Pesticide residues in Green Gram.	2
18	A Study on Bacterial Flora from the Gut Regions of Ornamental Fish, <i>Poecilia sphenops</i> .	2
19	Evaluation of Organoleptic Characters of different feeds.	2
20	Survey on the Occurrence of PCOS.	2
21	Survey of Different types of Web Building Spiders in V.V.V College.	2

22	Survey of Hunting Spiders in Vannivelampatti, Madurai District.	2
23	Survey of Zig-Zag Web Building Spiders in Aniampatti, Virudhunagar District.	2
24	A Survey on Variation in Finger Prints among Students.	2
25	Toxic Effect of Pesticide on Oxygen Consumption in Fresh water fishes	2
26	Arthropod Diversity in the Rice field in nearby village in Virudhunagar District.	2
Summer Training Programme		
Date	Training	Number of Beneficiary
18.11.2022 to 22.11.2022	Fresh Water fish culture in Fisheries College and Research Institute, Thoothukudi	4

11.Exhibitions/Seminars /Training Courses conducted

S.No.	Date	Title	Number of Beneficiary
2021-2022			
a) Exhibitions			
1	30.03.2022	ZOO-EXPO 2022	550+ our College students
b) Seminars			
2020-2021			
1.	30.01.2021	Interdisciplinary Workshop on Apiculture	33
2021-2022			
3.	09.03.2022 & 10.03.2022	National Seminar on Global Marine Diversity-Status, Threats and Conservation	414
2022-2023			
6	20.10.2022 & 21.10.2022	Departmental Workshop on Plant Transformation	40
7	09.01.2023 & 10.01.2023	Workshop on Rabbit farming	40
8	31.01.2023 & 01.02.2023	Workshop on Feed Preparation and Seasonal Management of Poultry Farming	40
9	09.02.2023	State Level Seminar on Life Style Diseases	214
C) Lab Attendant training			
2020-2021			
1	26.11.2020 to 03.12.2020	Training Programme on Preparation of Chemicals	19
2021-2022			
1	06.01.2022	Demonstration of preservation of skeleton of a fish	22
2022-2023			
1	25.11.2022	Waste Recycling Methods	21

12. Books/journals subscribed from grants

S.No.	Books	Author	Publisher	Quantity
1.	Molecular Biotechnology	Mukesh Pasupuleti	MJP Publishers, Chennai.	1

2.	Toxicology- Principles and Methods	M.A.Subramanian	MJP Publishers, Chennai.	1
3.	Molecular Biology	G.P.Jeyanthi	MJP Publishers, Chennai	1
4.	Bioprocess Technology	P.T.Kalaiselvan and I.Arulpandi	MJP Publishers, Chennai.	1
5.	Biophysics- Principles and Techniques	M.A.Subramanian	MJP Publishers, Chennai.	1
6.	Microscopy and Microtechnique	R. Marimuthu	MJP Publishers, Chennai.	1
7.	Molecular Modelling and Drug Design	Anand Solomon	MJP Publishers, Chennai.	1
8.	Nano biotechnology	Subbaiah Balaji	MJP Publishers, Chennai.	1
9.	Biostatistics	P.N.Arora & P.K.Malhan	Himalaya Publishing House, Mumbai.	1
10.	Text Book of Cell and Molecular Biology	Ajoy Paul	Books and Allied Pvt.Ltd. Kolkata	1
11.	Modern Entomology	D.B.Tembhare	Himalaya Publishing House, Mumbai.	1
12.	Biotechnology	U.Satyanarayana U.Sakarapani	Books and Allied Pvt.Ltd., Kolkata.	1
13	Biophysics	Arumugam and V.Kumeresan	Saras Publication	1
2021-2022				
1	Poultry	Banerjee, G C	Oxford and IBH Publishing Co, Private Limited	2
2	Poultry	Hugh Piper	MJP Publishers	1
3	Honeybees	Nagaraja, N D.Rajagopal	MJP Publishers	1
4	Poultry Science and Practice: A text book	Nilotpal Ghosh	CBS Publishers and Distributors Pvt. Ltd	1
5	A Hand book of Beekeeping	Dharam Singh Devender Pratap Singh	Agrobios India	1
6	Comprehensive Sericulture	Chawla, N K	Anjali Publishers and Distributors	1
7	Ecology	Michael, P N	CBS Publishers and Distributors Private Limited	1
8	Classification of Insects	Grace Davis	Think for Thought	1
9	Basic Entomology	Rupal H Nagrecha	Cyber Tech Publications	1
10	Aquaculture	Arumugam, N	Saras Publication	3

13.Outreach Activities (Popular lectures)

S.No	Date	Title	Number of Beneficiary
2020-2021			
1.	22.01.2020	DNA Isolation and Polymerase Chain Reaction	90
2021-2022			

2.	02.03.2022	<ul style="list-style-type: none"> ● Demonstration on Handling of Advanced Instruments ● Compound Microscope, ● Stereomicroscope, ● Phase Contrast Microscope, ● Digital Haemoglobinometer, ● Colorimeter, ● Flame Photometer, ● Practical on Identification of Blood Group ● Preparation of diagrams for biology classroom teaching 	37
2022-2023			
3.	21.7.2022 - 28.7.2022	Handling classes on the Concepts in Biology for the students of STD XI and XII,	189
4.	31.10.2022	Educational guidance using Learning Resources	195
5.	10.11.2022	Demonstration of Practicals	50
6	06.12.2022	Demonstration of Practicals	79

14. Colleges mentored to apply for DBT Star College grants: Department of Biotechnology,
Islamiah College,
Vaniyambadi.

15. Invited lectures

S.No.	Date	Title	Number of Beneficiary
2020-2021			
1.	30.11.2020	Bioprospecting of Ascidians	100
2.	07.01.2021	Gut Microbiome	135
3.	12.01.2021	Marine Diversity	130
4.	09.02.2021	Probiotics	130+8
2021-2022			
5	17.12.2021	Biodiversity Around us and Survey on Faunal Diversity	47
6	18.02.2022	Genes to Genomes	101
7	25.02.2022	Respect warning, Reduce warming, Prevent Fossiling	101
8	14.03.2022	Ecological Disasters	101
2022-2023			
9	30.09.2022	Health for Adolescent Girls"-Departmental Programme	135
10	15.10.2022, 05.11.2022 24.12.2022	JAM Entrance Exam Coaching Class Series Session in Preparation of Biology for Appearing JAM Entrance Examination (Inter Departmental)	32
11	19.01.2023	Environmental Toxicology and Social issue	120

S. No.	Name of Equipment / Asset	Sanctioned Cost from DBT	Quantity Procured	Actual Cost (Actual figure, not to roundoff)	Date of Placing order	Date of Receiving Equipment	Payment Voucher No. with Date (Copy of payment voucher(s) may please be enclosed)	Balance to be reimbursed [Provide reason(s) for fluctuation in price (if any)]
1	2	3	4	5	6	7	8	9

[iii] Department of Zoology

1	Spinwin Microcentrifuge, Mc-01 W/6X1.5 ml	1000000.00	1	26595.73	04.02.2021	01.03.2021	Voucher No.236, dated 23.3.2021	-N.A.-
2	Spinwin MC-00 Micro Centrifuge		1	9438.82	04.02.2021	01.03.2021	Voucher No.236, dated 23.3.2021	-N.A.-
3	Transilluminator College Model		1	30781.73	05.02.2021	01.03.2021	Voucher No. 237, dated 23.3.2021	-N.A.-
4	Deep Freezer Cap. 200 with Stabilizer 1KVA		1	34681.38	05.02.2021	01.03.2021	Voucher No. 237, dated 23.3.2021	-N.A.-
	C/o			101497.66				

M. Tamilselvi

PROJECT INVESTIGATOR

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Member Secretary / Co-ordinator

DBT - Star College Scheme

V.V. Vanniaperumal College for Women

Virudhunagar-626 001.

S. Preethi

FINANCE OFFICER



S. Th. Thoma Ravi

HEAD OF THE INSTITUTION /

Dr. S.M. MEENALRANI

Principal / Chairman

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V.V. Vanniaperumal College for Women

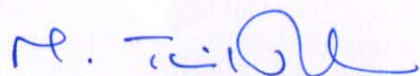
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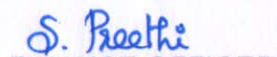
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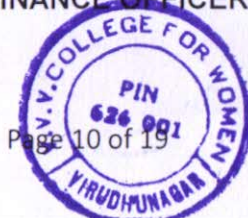
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1	2	3	4	5	6	7	8	9
	B/f			101497.66				
5	Electronic Balance		2	10301.40	05.02.2021	01.03.2021	Voucher No. 237, dated 23.3.2021	-N.A.-
6	Flame Photometer		1	47964.56	05.02.2021	25.02.2021	Voucher No. 238, dated 23.3.2021	-N.A.-
7	Spectrophotometer Digital		1	27184.25	05.02.2021	25.02.2021	Voucher No. 238, dated 23.3.2021	-N.A.-
8	Colony Counter Microprocessor		2	18948.44	05.02.2021	25.02.2021	Voucher No. 238, dated 23.3.2021	-N.A.-
9	Medox-Bio Agarose Gel Electrophoresis Teaching kit		3	25402.20	05.02.2021	15.03.2021	Voucher No. 266 dated 25.3.2021	-N.A.-
10	Compound Microscope		4	33406.80	04.02.2021	11.03.2021	Voucher No. 273, dated 25.3.2021	-N.A.-
11	Electronic Water and Soil testing Analysis Kit		1	53471.25	04.02.2021	11.03.2021	Voucher No. 273, dated 25.3.2021	-N.A.-
12	Stereo Microscope		1	50925.00	04.02.2021	26.03.2021	Voucher No. 300, dated 29.3.2021	-N.A.-
13	Haemocytometer German Chamber, Rbc & amp. amp. wbe Pipettes - 7332		5	16758.95	17.03.2021	23.03.2021	Voucher No. 301A, dated 29.3.2021	-N.A.-
14	Binocular Microscope SF40		1	14573.00	17.03.2021	23.03.2021	Voucher No. 301A, dated 29.3.2021	-N.A.-
	C/o			400433.51				


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 Tamilnadu, India.


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HEAD OF THE INSTITUTION /
Dr. S.M. PRINCIPAL RANI
 Principal / Chairman
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1	2	3	4	5	6	7	8	9
	B/f			400433.51				
15	Horizontal Laminar Air Flow Chamber Hitech Size 4x2x2 feet		1	80712.00	17.03.2021	24.03.2021	Voucher No. 302, dated 29.3.2021	-N.A.-
16	Stethoscope Microtone		2	1792.56	17.03.2021	27.03.2021	Voucher No.336A, dated 31.3.2021	-N.A.-
17	BP Apparatus Digital		4	8365.28	17.03.2021	27.03.2021	Voucher No.336A, dated 31.3.2021	-N.A.-
18	Haemoglobinometer Sahli's		4	4820.30	17.03.2021	27.03.2021	Voucher No. 337, dated 31.3.2021	-N.A.-
19	Thermostatic Water Bath		1	12891.50	17.03.2021	27.03.2021	Voucher No. 337, dated 31.3.2021	-N.A.-
20	Digital Lab Trinocular Microscope with USB Digital Camera-HL-10-COS Lab.		1	76228.00	17.03.2021	10.4.2021	Voucher No.4, dated 17.05.2021	-N.A.-
21	Binocular Microscope-SF40		1	14573.00	17.03.2021	10.4.2021	Voucher No.4, dated 17.05.2021	-N.A.-
22	Magnetic stirrer with Hot plate and Magnetic Paddles set		1	4921.19	12.04.2021	15.04.2021	Voucher No. 5, dated 17.05.2021	-N.A.-
23	Microwave Oven		1	10985.80	05.02.2021	12.04.2021	Voucher No. 5, dated 17.05.2021	-N.A.-
24	Vertical Autoclave		1	50052.65	17.03.2021	19.04.2021	Voucher No. 5, dated 17.05.2021	-N.A.-
25	Rotary shaker		1	32789.25	17.03.2021	19.04.2021	Voucher No. 5, dated 17.05.2021	-N.A.-
	C/o			698565.04				

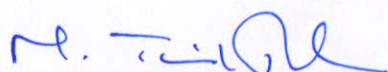

PROJECT INVESTIGATOR
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PRINCIPAL
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1	2	3	4	5	6	7	8	9
	B/f			698565.04				
26	Muffle furnace		1	34414.70	17.03.2021	19.04.2021	Voucher No. 5, dated 17.05.2021	-N.A.-
27	Incubator		1	26343.50	17.03.2021	19.04.2021	Voucher No. 5, dated 17.05.2021	-N.A.-
28	Digital Haemoglobinometer Deep Vision		5	44279.50	17.03.2021	15.04.2021	Voucher No. 6A, dated 26.07.2021	-N.A.-
29	Digital Colorimeter		1	18832.80	17.03.2021	06.07.2021	Voucher No. 9, dated 02.08.2021	-N.A.-
30	Phase Contrast Trinocular Microscope		1	91922.00	05.02.2021	06.07.2021	Voucher No. 9, dated 02.08.2021	-N.A.-
31	Magnetic Stirrer with Hot Plate and Magnetic Paddles Set		1	4921.19	09.08.2021	27.08.2021	Voucher No. 16, dated 17.09.2021	-N.A.-
32	Student compound microscope Weswox with wooden box and LED light		12	70286.70	03.08.2021	27.08.2021	Voucher No. 16, dated 17.09.2021	-N.A.-
33	Vortex Mixture – BHRMI-2.0 Borosil		1	14124.60	17.03.2021	24.9.2021	Voucher No.26A, dated 30.09.2021	-N.A.-
Total		1000000.00	--	1003690.03	--	--	--	--



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Page 12/06/19



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Tamilnadu, India.

DEPARTMENT OF MATHEMATICS

7. No. of Hands-on Experiments being conducted

S.No.	Date	Title	Number of Beneficiary
2020-2021			
1.	30.12.2020	Data Analysis using R	34
2.	18.02.2021	Hands – on session on Some Programming Techniques in MATLAB	30
2021-2022			
3.	05.03.2022, 12.03.2022, 19.03.2022, 26.03.2022	Series of Practice sessions for JAM	83
4.	16.03.2022	Designing and Construction of Mathematical Models	61
5.	22.03.2022	Advanced Statistical Data Analysis using SPSS	71
6.	22.03.2022	Advanced Statistical Data Analysis using SPSS	71
2022-2023			
7	13.10.2022	Hands on Training Programme on Mathematica	70
8	04.01.2023	Hands on Training Programme on LATEX	59
9	09.02.2023	Hands on Training Programme on R Programming	68
10	23.02.2023	Hands on Training Programme on Creative Design	65

8.Number of New Experiments Introduced

CLASS	COURSE NAME & COURSE CODE	PRACTICALS
III B.Sc. Mathematics	Statistics using R programming 20UMTS61P	Develop a program to calculate Mean, Median, Mode Standard Deviation, Variance, Minimum value, Maximum value, Quartile, Inter quartile range.
		Write a program to present the data in Tabulation and Graphical representation.
		Develop a program in R using t- test
		Develop a program in R using F- test
		Develop a program in R using chi- square test
		Develop a program to calculate one way ANOVA
		Develop a program to calculate pdf and cdf for some special distribution
		Develop a program to calculate Correlation
		Develop a program to find the Regression lines
		Develop a program to find the moment generating functions

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

PUBLISHED ARTICLE		
1	2020	Santhini, C. and M.Suganya (2020). New notions in ideal topological space, <i>Boletim da Sociedade Paranaense de Matematica</i> , 38(5):19–31.
2	2020	S.Balamurugan and R.B.Gnanajothi (2020). Hop Dominatin Number of Catepillar Graphs, <i>Advances in Mathematics, Scientific Journal</i> , 9(5):2739-2747.
3	2020	P. Getchial Pon Packiavathi , S. Balamurugan, and R. B. Gnanajothi (2020). Hop Domination Number of Caterpillar Graphs, <i>Advances in Mathematics: Scientific Journal</i> 9 (5), 2739–2748
4	2022	Maheswari MC (2022). Modified HIV- 1 Infection Model With Delay in Saturated CTL Immune Response, <i>Communications in Mathematical Biology and Neuroscience</i> , 2052-2541.
PUBLISHED CHAPTERS IN BOOK		
5	2022	Uma Maheswari M (2022). Current Topics on Chemistry and Biochemistry in Kinetic Behaviour of Enzymes Immobilized Membranes in Potentiometric Biosensor: Homotopy Perturbation Method, BP International, 1-24.978-93-5547-941-9

10. Training received by (A) Faculty (b) Students (Summer/ Winter Projects)

S.No.	Date	Title	Number of Beneficiary
a) Faculty			
2021-2022			
1.	06.01.2022	Essentials of Research	57
2022-2023			
2.	27.12.2022 & 28.12.2022	Introduction to Python & Python Basics	31
b) Students Projects			
2020-2021			
1	A Comparative Study on Solution of First Order Differential Equations Using Simple Electric Circuit Model		5
2	Construction of Klein Bottle		4
3	Construction of Sundials – A Recreational Revival		6
4	A Model on Cycloid Generation		4
5	Solution to Real Life Problem In O.R Using Excel Solver		1
6	Optimization Techniques In Real Life Problems Using Excel Solver		1
7	Solving A Transportation Problem Using Excel Solver		1
8	Optimal Solution of Assignment Problem Using Excel Solver		1
9	Flood control in Papanasam Dam using Fuzzy logic		1
10	Flood Control in Emerald Dam Using Fuzzy logic		1
11	Optimization Techniques In S.P.M. Oil Company Using Excel Solver		2
12	Statistical Analysis of the Location of Banks In Chennai Using Foss		1

13	Statistical Analysis of the location of Tea Estates In Idukki District of Kerala	1
14	Survey of Molluscan Shells in Manangudi Coast, Tamilnadu	5
15	Survey on the Occurrence of Contagious disease- Tuberculosis and Leprosy	7
2021-2022		
1	Analysis on the Shortest Path in Distribution of Edible Oil for Kalaiman Edible Oil Manufacturers	2
2	Statistical Analysis on Kitchen Waste Composite in Plants	2
3	The Application of Linear Programming in Profit Maximization	2
4	Statistical analysis on COVID Vaccination survey in Virudhunagar town.	4
5	Analysis of Symmetry in Plants	4
6	A Study on Stress due to Covid-19 Among the College Students of V.V.Vanniaperumal College for Women, Virudhunagar	4
2022-2023		
1	A Statistical Analysis of Infant and Child Mortality Rate	2
2	Time Management in Blocks Production Industry in Virudhunagar	2
3	A statistical Analysis of Road Accidents in India Using Python	3

11.Exhibitions/seminars /training courses conducted

S.No	Date	Title	Number of Beneficiary
2021-2022			
a)Exhibitions			
1	30.03.2022	Museum of Mathematics Momath	550+ our College students
b) Seminars			
2020-2021			
1.	02.11.2020 & 07.11.2020	Applications of Operations Research	87+10
2.	18.02.2021	Workshop on “Fundamentals of MATLAB with Hands-on session”	73+10
2021-2022			
3.	11.02.2022	National Seminar On “Current Scenario In Graph Theory And Its Applications”	125
4.	21.02.2022	Workshop on “MATLAB Applications in Differential Equations	69
5.	04.03.2022 & 05.03.2022	Workshop on “SCILAB & R Programming”	71
2022-2023			
7.	08.10.2022, 15.10.2022, 29.10.2022, 11.11.2022	Series of Practice Session on Knack to Crack Jam	34
8.	14.10.2022	National Level Seminar on Discrete Mathematics	127

12. Books/Journals subscribed from grants

S.No.	Books	Author	Publisher	Quantity
1.	Ordinary and Partial Differential Equations	M D Raisinghania	S.Chand & Comp Ltd.	2
2.	A Course in Abstract Algebra	Vijay.K. Khanna S. K.Bhambri	Vikas Publishing House Pvt. Ltd.	1
3.	A First Course in Numerical Methods	URI M.Ascher Chen Greif.	PHI Learning Private limited	2
4.	Object-Oriented programming with C++	E.Balagurusamy	Mc Graw Hill Education Pvt. Ltd.	2
5.	The C programming Language	Brian. W.Kernighan Dennis. M. Ritche	Pearson India Education Services Pvt. Ltd.	1
6.	Operations Research	P.K.Gupta D.S.Hira	S.Chand & Comp Ltd.	1
7.	Statistical Methods	S.P.Gupta	Sultan Chand & Sons	1
8.	Analytical Solid Geometry	Shanti Narayan Dr.P.K.Mittal	S.Chand & Comp Ltd.	2
9.	Invitation to Graph Theory	S.Arumugam S.Ramachandran	SCITECH Publications Pvt.Ltd.	2
10.	A first Course in Calculus	Serge Lang	Springer	1
11.	Numerical Methods	E.Balagurusamy	Tata McGraw Hill Education Pvt. Ltd	1
12.	Complex Analysis	T.K.Manicavachagam Pillay Dr.S.P.Rajagopalan Dr.R.Sattanathan	Ananda Book Depot	2
13	A Textbook on Dynamics	M.Ray G.C.Sharma	S.Chand & Comp Ltd.	1
14	Differential Equations and its Applications	S.Narayananan T.K.Manicavachagom Pillay	Ananda Book Depot	2
15	Numerical Methods	Dr.P.Kandasamy Dr.K.Thilagavathy	S.Chand & Comp Ltd.	2
2021-2022				
1	Calculus	Narayanan, S	S Viswanathan (Printers & Publishers), Private Limited	2
2	Calculus	Narayanan, S	Scitech Publications India Pvt. Ltd	1
3	Modern Algebra	Arumugam, S	S Viswanathan (Printers & Publishers), Private Limited	1
4	Graph Theory	Gupta, Prabhakar	Pragati Prakashan	1
5	Fuzzy Set Theory Fuzzy Logic and their Applications	Bhargava, A K	S Chand and Company Private Limited	1
6	Modern Algebra	Singh, Surjeet	Vikas Publishing House Pvt. Ltd	1
7	Operations Research: an introduction	Taha, Hamdy A	Pearson	1
8	Modern Algebra with Applications	Gilbert, William J	Wiley India	1
9	Mathematical Statistics	Kapur, J N	S Chand and Company Private Limited	1
10	Real Analysis	Royden, H L	Pearson	1
11	Modern Algebra	Arumugam, S	Scitech Publications India Pvt. Ltd	1
12	Modern Algebra	Arumugam, S	Scitech Publications India Pvt. Ltd	1
13	Speed Mathematics	Balasubramanian, S		1

14	Sequences and Series	Arumugam, S	Yes Dee Publishing Private Limited	1
15	Course in Abstract Algebra	Khanna, Vijay K	Vikas Publishing House Pvt. Ltd	2
16	Operations Research	Goel, B S	Pragati Prakashan	1
17	Integral Equations and Boundary Value Problems	Raisinghania, M D	S Chand and Company Limited	1
18	Integral Equations and Boundary Value Problems	Raisinghania, M D	S Chand and Company Limited	2
19	Integral Equations and Boundary Value Problems	Raisinghania, M D	S Chand and Company Limited	1
20	Real Analysis	Royden, H L	Pearson	2

13.Outreach activities (Popular lectures)

S.No.	Date	Title	Number of Beneficiary
2020-2021			
1.	28.12.2020	Training on use of Advanced Mathematical Aids in classroom teaching	19
2.	01.02.2021	Awareness on MOOC	76
2021-2022			
3.	17.02.2022	CorelDraw – Graphic Design for Beginners	81
4.	02.03.2022	Enhancing the Ability of School Teachers in Aptitude	43
2022-2023			
5.	14.02.2023	Career Guidance and Personality Development Programme	67

14. Colleges mentored to apply for DBT Star College grants: Department of Mathematics, SFR College, Sivakasi

15. Invited lectures

S.No.	Date	Title	Number of Beneficiary
2020-2021			
1.	30.11.2020	Construction of Mathematical Models	97
2.	22.12.2020	Ramanujan's Theories	100
3.	23.12.2020	Working on Data Science Using R	100
4.	16.02.2021	Applications of Stochastic Differential Equations	151+10
2021-2022			
5	22.12.2021	Beauty of Numbers to Celebrate National Mathematics Day	259
6	07.02.2022	Introduction to Statistical Quality Control	81
7	23.03.2022	Career Opportunities after Graduation in Mathematics	111

DEPARTMENT OF COMPUTER SCIENCE

7. No. of Hands-on experiments being conducted

S.No.	Date	Title	Number of Beneficiary
2021-2022			
1.	27.12.2021	Web Designing using Dreamweaver	39
2022-2023			
2	18.10.2022	Hadoop	70
3	10.01.2023	Data Analytics using SPARK	41
4.	18.01.2023 & 19.01.2023	Automated Software Testing for Industrial Applications	43
5.	30.01.2023 & 31.01.2023	Computer Network Projects Using Cisco Packet Tracer and Amazon Web services using Cloud	44
6	10.02.2023	Internet of Things (IoT)	55
7	15.02.2023 & 16.02.2023	Embedded Systems	31
8	08.03.2023 & 09.03.2023	Machine Learning using Python	39

8.Number of New Experiments Introduced

CLASS	NAME OF THE COURSE & COURSE CODE	INTRODUCED PRACTICALS
II B.Sc. Computer Science	Web Design Lab(20UCSS21P)	Contents of the Web Design Lab (20UCSS21P) has been changed to include exercises using Dreamweaver software available as part of Adobe Creative Cloud software procured under DBT Star College Scheme.
III B.Sc. Computer Science	Animation using Animate and Maya Lab	Discipline Specific Elective course 18UCSE62P - 'Mathematical Applications Lab' has been replaced by Animation using Animate and Maya Lab. Animate Software is available as part of Adobe Creative Cloud software procured under DBT Star
		College Scheme. Maya software is installed in the systems procured under DBT

9. Publications (Scopus indexed)/Patents, if any :Nil

10. Training received by (A) Faculty (b) Students (Summer/ Winter Projects)

S.No.	Date	Title		Number of Beneficiary
a)Faculty				
2020-2021				
1.	19.10.2020	Interactive E-Teaching, Learning and Assessment Tools in Cyberspace		150
2021-2022				
2.	04.01.2022	Intellectual Property Rights: Patent Around Us		30
3.	03.02.2022 & 04.02.2022	WordPress and Hadoop		30
4.	07.02.2022 & 08.02.2022	Machine Learning Using Python		28
5.	17.02.2022 & 18.02.2022	Angular JS		27
2022-2023				
6.	18.11.2022, 21.11.2022 & 22.11.2022	React JS		31
7.	30.11.2022 to 02.12.2022	Angular		31
b) Students Projects				
2020-2021				
1	Android Application and Website to Calculate BMI			3
2	Computer Based E-Tutorial			3
3	College Students’ Blood type Database Management			3
4	Study and Generate Land use/Cover of the different Taluks of Virudhunagar District using Satellite Data			5
2021-2022				
1	Prevention of Cervical and Breast Cancer Website Design			3
2	Fantastic Flora Website Design			5
3	Digitalization of Palm Leaf Manuscript of Bakthi Illakiyam			4
4	Digitalization of Palm Leaf Manuscript of Sitrilakiyam			4
5	Digitalization of Palm Leaf Manuscript of Saiva Siddhantam Illakiyam			4
6	Natupura Illakkiyam (Chithiraputhiran Kathai)			5
7	ThaniPadal Illakkiyam			4
8	AraIllakkiam (Nallvalli Muthurai)			4
2022-2023				
1	Face Recognition using Python			2
2	Water Level Monitoring System			2

11. Exhibitions/Seminars /Training courses conducted

S.No.	Date	Title	Number of Beneficiary
a) Exhibitions			
2021-2022			
1	30.03.2022	COMPU – O – FIESTA 2022	550+ our College students
b) Seminars			
2020-2021			
1.	03.12.2020	Applications of Computers in Biology	100
2.	21.01.2021	Webinar on Thermal Imaging and its Applications.	160
3.	08.02.2021	Workshop on Angular JS	42
4.	16.02.2021 & 17.02.2021	Workshop on J Query	42
5.	18.02.2021	Workshop on Character Design in Maya	42
6	24.02.2021	Workshop on Cloud Computing	42
7	10.03.2021	Workshop on Installation of a Computer	85
8	11.03.2021	Workshop on IoT and its Applications	52
9	15.03.2021	Workshop on Green Foot & MIT App Inventor	38 & 38
10	20.03.2021	Workshop on Character Design in MAYA	42
2021-2022			
11	17.03.2022 & 18.03.2022	Virtual Inter Institutional Conference On “ Big Data”	319
C) Lab Attendant Training			
2020-2021			
12	12.01.2021	Installation of Linux Operating System	20
2021-2022			
13	10.01.2022	Assembling the system and Installation of Windows Operating System	29
2022-2023			
14	28.11.2022	e-Waste Management	20

12. Books/Journals subscribed from grants

S.No.	Books	Author	Publisher	Quantity
1.	Internet of Things: A Hands-On Approach	Arshdeep Bahga & Vijay Madiseti	Universities Press, Telangana	1
2.	Internet of Things	Raj Kamal	McGraw Hill Education India Private Limited, Chennai	1

3.	Professional Hadoop Data Analytics	Kerry Koitzsch	Apress, Colifornia	1
4.	Professional Hadoop	Benoy Antony	Wrox Wiley Brand, New Delhi	1
5.	Hadoop In Action	Chuck Lam	Dream tech Press, New Delhi	1
6.	Hadoop In Practice	Alex Holmes	Dream tech Press, New Delhi	1
7.	Android Application Development Cookbook: 93 Recipes For Building Winning Apps	Wei-Meng Lee	Wrox Wiley Brand, New Delhi	1
8.	Beginning Android 4 Application Development	Wei-Meng Lee	Wrox Wiley Brand, New Delhi	1
9.	Professional Android Wearables	David Cuartielles Ruiz and Andreas Goransson	Wrox Wiley Brand, New Delhi	1
10.	Maya 2015: In Simple Steps	Kogent Learning Solutions Inc.	Dream tech Press, New Delhi	1
11.	Android In Action	W.Frank Ableson, Robi Sen, Chris King & C. Enrique Oriz	Dream tech Press, New Delhi	1
12.	Professional Android 4 Application Development	Reto Meier	Wrox Wiley Brand, New Delhi	1
13	Internet of Things: Key Applications And Protocols	Olivier Hersent, David Boswarthick & Omar Elloumi	Wrox Wiley Brand, New Delhi	1
14	The Internet of Things In The Cloud: A Middleware Perspective	Honbo Zhou	CRC Press, Florida	1

2021-2022

1	Multimedia Systems Design	Andleigh, Prabhat K	Pearson	2
2	Adobe Illustrator CS4Bible	Alspach, Ted	Wiley India	1
3	Internet and its Applications	Ahmed, P Rizwan	Margham Publications	2
4	Fundamentals of Action Script 3.0 Develop and Design	Winnie, Doug	Pearson	1
5	Multimedia Communications: applications, networks, protocols and standards	Halsall, Fred	pearson	2
6	XML and Web Services	Schmelzer, Ron	pearson	1
7	Professional Hadoop Solutions	Lublinsky, Boris	Wiley India	1
8	Big Data Analytics	Shankarmani, Radha	Wiley India	1
9	Professional Wordpress: design and development	Williams, Brad	Wiley India	1
10	Dream weaver CS5: in simple steps	Kogent Learning Solutions Inc	Dream tech Press	1
11	Neural Networks in Computer Intelligenc	Fu, Limin	McGraw Hill Education	1

			India Private Limited	
12	Pro Ajax and Java Frame works	Schutta, Nathaniel T	Apress	1
13	Introduction to Visual Programming	Ramanathan, Vasanthi	Meenakshi Pathippagam	1

13. Outreach activities (Popular lectures)

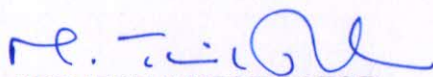
S.No.	Date	Title	Number of Beneficiary
2020-2021			
1.	21.12.20 & 22.12.20	Advanced Concepts in PYTHON	50
2021-2022			
2.	22.12.2021	Workshop regarding Google Classroom	37
2022-2023			
3.	07.12.2022	Python	43

14. Colleges mentored to apply for DBT Star College grants: NIL

15. Invited lectures


S.No.	Date	Title	Number of Beneficiary
2020-2021			
1.	21.01.2021	Thermal Imaging and its Applications	160
2.	10.03.2021	Get Ready for Industry 4.0	168
3.	16.03.2021	Cloud Computing Architecture & Implementation	40
4.	16.03.2021	Solar Power Plants Automation	82
2022-2023			
5	14.10.2022	Cloud Computing Security	83

S. No.	Name of Equipment / Asset	Sanctioned Cost from DBT	Quantity Procured	Actual Cost (Actual figure, not to roundoff)	Date of Placing order	Date of Receiving Equipment	Payment Voucher No. with Date (Copy of payment voucher(s) may please be enclosed)	Balance to be reimbursed [Provide reason(s) for fluctuation in price (if any)]
1	2	3	4	5	6	7	8	9
[iv] Department of Mathematics & Computer Science								
1	Lenovo V530T Desktop Computer	1000000.00	2	96000.00	30.12.2020	30.12.2020	Voucher No. 86, dated 09.02.2021	-N.A.-
2	Lenovo V530T Desktop Computer		4	186999.98	30.12.2020	30.12.2020	Voucher No. 86, dated 09.02.2021	-N.A.-
3	Lenovo V530T Desktop Computer		1	38450.00	30.12.2020	30.12.2020	Voucher No. 86, dated 09.02.2021	-N.A.-
4	Dot Matrix Printer EPSON LQ1310		3	31799.99	23.02.2021	16.03.2021	Voucher No. 272, dated 25.03.2021	-N.A.-
5	EPIL Printer EPSON WF-C5790		1	50899.99	23.02.2021	04.03.2021	Voucher No. 272, dated 25.03.2021	-N.A.-
6	DLP Projector with Accessories		1	46800.00	12.03.2021	15.03.2021	Voucher No.274, dated 25.03.2021	-N.A.-
7	DLP Projector with Accessories		1	47999.98	12.03.2021	15.03.2021	Voucher No.274, dated 25.03.2021	-N.A.-
8	Dlink DWA 171W/L AC Dual Band USB Adapter		1	1500.00	22.03.2021	25.03.2021	Voucher No.313, dated 31.03.2021	-N.A.-
9	Lenovo V530T Desktop Computer		4	186999.98	03.12.2020	30.12.2020	Voucher No.75, dated 02.02.2021	-N.A.-
10	Lenovo V530T Desktop Computer		2	107800.00	03.12.2020	30.12.2020	Voucher No.75, dated 02.02.2021	-N.A.-
11	Lenovo M720 Desktop Computer		3	204749.92	03.12.2020	30.12.2020	Voucher No.75, dated 02.02.2021	-N.A.-
	TOTAL	1000000.00		999999.84	--	--	--	--


PROJECT INVESTIGATOR
Dr. M. TAMILSELVI
 Member Secretary / Co-ordinator
 DBT - Star College Scheme
 V.V. Vanniaperumal College for Women
 Virudhunagar-626 001.
 Tamilnadu, India.


FINANCE OFFICER

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HEAD OF THE INSTITUTION /
DR. S.M. MEENA RANI
 Principal / Chairman
 DBT - Star College Scheme
 V.V. Vanniaperumal College for Women
 Virudhunagar-626 001.
 Tamilnadu, India.

DEPARTMENT OF BOTANY & BIOTECHNOLOGY

Department of Botany

7. No. of Hands-on Experiments being conducted

S.No.	Date	Title	Number of Beneficiary
2020-2021			
1.	06.03.2021	Methods to Preserve and Handling Specimens : Preparation of Dry and Wet Specimens	120
2.	8.03.2021, 10.03.2021 & 12.03.2021	Anatomy of Flowering Plants Taxonomic Work out of Bryophytes and Angiospermic Plants	120
3.	15.03.2021	Identification of Medicinal Plant	120
4.	20.03.2021	Taxonomic Work out of Bryophytes	120
2021-2022			
5.	08.12.2021 & 09.12.2021	Compound and Dissection Microscope Operation Techniques	200
6	10.12.2021	Compound and Dissection Microscope operation Techniques	108
	14.12.2021		72
7	24.02.2022	Hands-on Training Programme on Mushroom Cultivation	80
	25.02.2022		78
8	02.03.2022	Hands-on Training Programme on Biofertilizer Preparation	40
2022-2023			
9	28.10.2022	Interdepartmental Hands on Training - The Art of Bonsai Making Techniques	35
10	03.01.2023 & 05.01.2023	Interdepartmental Hands on Training - Vegetative Propagation Techniques	60
11	13.03.2023	Interdepartmental Hands on Training - Horticultural Techniques - Miniature Garden, Hanging Pots, Layering and Grafting	63

8. Number of New Experiments Introduced

NAME OF THE CLASS	NAME OF THE COURSE & COURSE CODE	PRACTICALS /THEORY
Ancillary Botany For Zoology	Plant Ecology and Plant Physiology -20UBTA31	UNIT I - Components and Functions of Soil
	Applied Botany - 20UBTA41	UNIT I - Biosafety guidelines and regulations UNIT III - Intellectual Property Rights (IPR) for Bioproducts

	Practical - Plant Ecology, Plant Physiology and Applied Botany 20UBTA41P	PLANT PHYSIOLOGY EXPERIMENTS <ul style="list-style-type: none"> • Mohl's half leaf experiment, • Ganong's Light screen experiment and • Ganong's respirometer • Soil Analysis -Qualitative Analysis of N, P and K • Oyster and Button mushroom – spawn preparation Biofertilizer preparation
Ancillary Botany For Chemistry	Applied Botany - 20UBYA41	UNIT I - Biosafety guidelines and regulations UNIT III - Intellectual Property Right (IPR) for Bioproducts
	Practical – Taxonomy of Angiosperms and Medicinal Botany and Applied Botany -20UBYA41P	<ul style="list-style-type: none"> • Identification of medicinal plants and recording their morphological features and therapeutic values. MICROSCOPIC STUDIES ON OBSERVATION OF <ul style="list-style-type: none"> • different types of pollens in Lamiaceae, • different types of anthers in Apocynaceae, Placentation of ovules in Caesalpineaceae • Oil bodies present in leaves of Rutaceae and • Anther studies in Myrtaceae • Oyster and Button Mushroom Spawn preparation • Compost and Biofertilizers preparation SUBMISSION OF HERBARIUM SHEETS (10) <ul style="list-style-type: none"> • Different types of leaves in Rutaceae and Collection of Euphorbiaceae members
Ancillary Biology For Biochemistry, Microbiology and Biotechnology	Practical – Cell Biology and Applied Biology -20UBIA41P	Cell division - Mitosis and Meiosis Studies

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

PUBLISHED ARTICLE		
1	2020	Biruntha M, Karmegam N, Archana J, KarunaiSelvi B , John Paul J, Balamuralikrishnan B, Chang SW, Ravindran B (2020). Vermiconversion of biowastes with low-to-high C/N ratio in to value added vermicompost, <i>Bioresource Technology</i> , 297,1-8.
2		Biruntha,M., J.Archana K.Kavitha., K.Vanimuthu., B. Karunai Selvi J.Arockia John Paul R.M.Vithyavathy K.Kaviyarasuandn G.Ramalingam (2021). Efficacy of dye degradation of contaminated soil microbial isolates, <i>Materials Today Proceedings</i> , 36(2):167-170.

3		SreebhaR., and A.E.D.Daniels (2020). The Little known <i>Fissidens axilliflorus</i> Thwaites and Mitt.(Fissidentaceae:Bryophyta)-New to the Moss Flora of India, <i>Plant Science Today</i> ,7(4):560-563.
4	2020	Biruntha,M., Mariappan, P., KarunaiSelvi,B., John Paul,J.A., and Karmegam, N. (2020). Vermi remediation of Urban and Agricultural Biomass Residues for Nutrient Recovery and Vermifertilizer Production, <i>Waste and Biomass Valorization</i> ,11(12):6483-6497.
5		Biruntha,M., Archana, J., Kavitha, K., Karunai Selvi, B., John Paul,J.A., Balachandar, R., Saravanan, M., and Karmegam,N. (2020). Green Synthesis of Zinc Sulfide Nanoparticles Using <i>Abrus precatorius</i> and its Effect on Coelomic Fluid Protein Profile and Enzymatic Activity of the Earthworm, <i>Eudrilus eugeniae</i> , <i>BioNano Science</i> ,10(1):149–156
6	2022	Murugalakshmi Kumari R (2022). Chemical Profiling and Biological Activity of leaf Essential Oil of <i>Eugenia rottleriana</i> Wt.&Arn., <i>Arabian Journal of Medicinal & Aromatic Plants</i> , 2458-5920.
PUBLISHED BOOK		
7	2022	Murugalakshmi Kumari R(2022). An Handbook on Flora of VVVC.Jeyalakshmi Publication1-87pp, 978-93-91987-93-0

10. Training received by (A) Faculty (b) Students (Summer/ Winter Projects)

S.No.	Date	Title	Number of Beneficiary
a) Faculty			
2020-2021			
1.	12.03.2021	Herbal Medicines in Pharmaceutical Industry	50
2021-2022			
2.	15.02.2022	MNuhf;fpak; jUk; mw;Gj %ypiffs;	51
3.	16.02.2022 17.02.2022 18.02.2022	Production of Biofertilizer enriched Vermicompost for Sustainable Agriculture Effective Liquid Consortia Biofertilizer Production Marketing Strategies for Biofertilizer and Business Plan for Distribution	50
2022-2023			
4.	11.11.2022	Intercollegiate Workshop on “Herbal Products Preparation”	21
5.	18.11.2022	Faculty Development Programme (Intercollegiate)Taxonomic workout of Bryophytes	7
b) Students Projects			
2020-2021			
1	Studies on Distribution and Diversity of Xerophytes In Madurai District, Tamil Nadu, India		5
2	Studies on Distribution and Diversity of Hydrophytes in Madurai District, Tamil Nadu, India		5
3	Identification of locally available medicinal Plants		2
4	Preparation of dry plant (Herbarium) specimens of locally available plants		5

5	Different layout of the kitchen garden	5
6	Preparation of various recipes with Oyster and Button Mushroom	2
2021-2022		
1	Effect of Vermicompost on Morphometric characteristic of Green gram	2
2	Nutritional Value of Selected Edible Fruit From Home Gardens In Vadamalaikurichi, Virudhunagar	5
3	Studies on the Anatomical Characteristics of Xerophytes in Thirupparankunram and Samanar hills of Madurai District, Tamil Nadu, India.	4
4	Studies on the Anatomical Characteristics of Hydrophytes in Thirupparankunram and Samanar hills of Madurai District, Tamil Nadu, India.	5
5	Floral Importance to Foster Ecological Importance: A Survey among the College Students	5
6	Indian Traditional Herbal Plants: Tulsi and its medicinal importance	2
7	Studies on the Bryoflora of Sivagnanapuram, Virudhunagar.	4
2022-2023		
1	Taxonomic study of Tree Angiosperms	5
2	Methods of Studying Vegetation by Quadrat Method	2
3	Nutritional value of edible fruits from home gardens of Kalligudi, village, Thirumangalam, Madurai.	4
4	Preparation of Liquid biofertilizer from Kitchen Vegetable Waste for Kitchen Garden	4

11. Exhibitions/Seminars /Training Courses conducted

S.No.	Date	Title	Number of Beneficiary
a) Exhibitions			
2021-2022			
1.	30.03.2022	Gallery on Biological Illustration	550+ our College students
b) Seminars			
2020-2021			
2.	08.01.2021	Interdepartmental Workshop on “Edible Mushrooms and Oyster Mushroom Cultivation”	140
2021-2022			
3	07.03.2022	National Level Seminar on Trends In Field Plant Taxonomy and Conservation	120
C) Lab attendant training			
2020-2021			
4	09.11.2020	Technical training Programme on Compound and Dissection Microscope	20
5	04.12.2020	Handling of Laboratory Apparatus and Glasswares	20

2021-2022			
6	19.01.2022	Technical training Programme on Preparation of Dry and Wet Specimens	16
7	20.01.2022	Technical training Programme on Handling of Physical and Electronic Balance	16
2022-2023			
8	24.11.2022	Solid Waste Management	28

12. Books/journals subscribed from grants

S.No.	Books	Author	Publisher	Quantity
1.	Bryoflora of Indhira Gandhi National Park In Anamala is Hills, India.	A.E.D.Daniels, R.Sreebha, K.C.Kariyappa	M/sBishen Singh Mahendra Pal Singh, India	1
2	Plant Tissue Culture	Mohammad Faisal, Mohammad Anis & Abdulrahman A. Alatar	LAP-Lambert Academic Publishing, Germany	1

13. Outreach activities (Popular lectures)

S.No.	Date	Title	Number of Beneficiary
2020-2021			
1.	17.12.20 &18.12.20	Taxonomic Workout of Angiosperm Plants Fabaceae, Solanaceae & Liliaceae	89
2021-2022			
2.	02.03.2022	Plant Tissue Culture	35
3.	05.03.2022	Diversity and Conservation of Bryophytes	45
2022-2023			
4.	22.07.2022	Handling theory classes on Plant Kingdom & Sexual and Asexual Reproduction	60+80
5.	28.07.2022	Living World	60
6	05.11.2022	Career Guidance on Botany and Biology to the school students	120
7	10.11.2022	Demonstration of Botany Practical to the school students	50
8	06.12.2022	Demonstration of Botany Practical to the school students	82
9	27.01.2023	Career Guidance on Botany and Biology to the school students	40

14. Colleges mentored to apply for DBT Star College grants :NIL

15. Invited lectures

S.No.	Date	Title	Number of Beneficiary
2020-2021			
1.	28.10.2020	Respiration in plants	85
2.	04.11.2020	Medicinal Plant Diversity: Utilization, Threats & Conservation	100
3.	07.01.2021	Trends in Plant Tissue Culture	140
4.	01.02.2021	Mycorrhizae: Symbiotic mediators of Plants and Ecosystem	140+2
5	06.02.2021	Home Remedies in Siddha Medicine- An Overview	140+2
6	24.03.2021	Traditional Uses of Medicinal Plants and Herbs – An Overview	120
2021-2022			
7	04.03.2022	Exploring Novel Compounds from Biological material	45
8	09.03.2022	Sustainable Livelihood using Eco Friendly Biomaterials	80
9	10.03.2022	Algal Cell factories for Production of Biofuel and Bio products	95
10	15.03.2022	Significance of Medicinal Plants in Human Life	80
2022-2023			
11	12.10.2022	Invasive Alien plants of Western Ghats: Taxonomy and Distribution	80
12	17.10.2022	Natural Resources	44
13	27.10.2022	Medicinal Chemistry: From Discovery to Development of New Drugs	44
14	19.01.2023	Life Skill -Physicochemical Characterization and Therapeutic Applications of Sulfated Polysaccharides from Marine Algae	

DEPARTMENT OF BIOTECHNOLOGY

7. No. of Hands-on Experiments being conducted

S.No.	Date	Title	Number of Beneficiary
2020-2021			
1.	24.02.2021	Plant Tissue Culture Techniques	40+2
2.	25.02.2021	Molecular Techniques	35
3.	15.03.2021	Molecular Techniques	40
2021-2022			
4.	09.12.2021 & 10.12.2021	Antibiotic Sensitivity Assay	43
5.	15.12.2021	Chromatographic Techniques	48
6	10.03.2022	ExPASy software tools for Drug Design	27
7	23.03.2022	Spirulina Cultivation	61
2022-2023			
8	19.10.2022	Preparation of organic fertilisers and <i>Azolla</i> cultivation	89
9	08.03.2023	Animal Cell Culture Technique	70
10	13.03.2023	PCR Technique	70

8. Number of New Experiments Introduced

CLASS	COURSE TITLE & CODE	CONTENTS INCLUDED
I B.Sc. Biotechnology	Lab in Biochemistry, Genetics, Molecular Biology and Food Biotechnology - 20UBOC21P	<ul style="list-style-type: none"> Estimation of Aminoacids.
II B.Sc. Biotechnology	Lab in Microbiology and Recombinant DNA Technology -20UBOC41P	<ul style="list-style-type: none"> Isolation of Halophilic bacteria Endospore staining Evaluation of antibacterial activity of plant extracts Isolation of RNA
III B.Sc. Biotechnology	Lab in Plant Biotechnology and Environmental Biotechnology -18UBOC61PN	<ul style="list-style-type: none"> Isolation of protoplast-Enzymatic method Cell suspension culture <i>In vitro</i> cultivation of plants
	Lab in Animal Biotechnology, Immunology and Immunotechnology -18UBOC62PN	<ul style="list-style-type: none"> Preparation of serum and plasma Isolation of DNA from blood Preparation of animal tissue culture medium and membrane filtration
	Industrial Biotechnology, Bioinformatics Lab and Project-	<ul style="list-style-type: none"> Bioreactor-Demonstration
	18UBOC63PN	

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

PUBLISHED ARTICLE		
1	2021	Sinthia Ganesan, (2021). Biosynthesis and Characterization of using silver nanoparticles using ginger spent and their antibacterial Activity, <i>Current Botany</i> , 12:174-179 (UGC Care Listed Journal)
Details of Patent		
1	2022	Title of the Invention : Method for manufacturing Biodegradable Polymeric Nanoparticles Publication date:04.03.2022, Application Number : 202241007582, Indian patent
2	2022	Dr.V.Jeyasimha, and Sinthia Ganesan, (2022). Method for Manufacturing Biodegradable Polymeric Nanoparticles Application No:202241007582.

10. Training received by (A)Faculty (b)Students (Summer/ Winter Projects)

S.No.	Date	Title	Number of Beneficiary
a) Faculty			
2020-2021			
1.	12.03.2021	Metabolic Engineering – A Road Map towards Industrial Biotechnology	20
2.	25.03.2021	Bioethics and Biosafety	30
2021-2022			
4.	14.02.2022	‘What, Why, and How of Patents’	250
2022-2023			
6.	05.12.2022	Workshop on “Molecular Docking tools”	30
b) Students Projects			
2020-2021			
1	Isolation and characterization of Microbes from Rhizosphere of Paddy		3
2	A study on Phytochemical Screening and Ascorbic acid content in <i>Moringa oleifera</i>		3
3	Phytochemical Analysis and Antibacterial activity of <i>Psidium guajava</i>		3
4	Isolation and Characterization of Microbes from Soil		4
5	Phytochemical screening, Antibacterial and Antioxidant activities of <i>Plumeria obtusa</i>		4
6	Phytochemical screening, Antibacterial and Antioxidant activities of <i>Ixora coccinea</i>		3
7	Phytochemical screening, antioxidant and antibacterial activities of <i>Catharanthus roseus</i>		3
8	Determination of Ascorbic acid content in different Citrus fruits		2
9	Synthesis of Copper Nanoparticles and Antibacterial activity of <i>Ocimum sanctum</i> Leaf extract		3
10	Synthesis of Silver Nanoparticles using <i>Cissus quadrangularis</i> plant extract		2

11	Optimization and Characterization of chromium (cr vi) reducing bacteria from Industrial effluent	3
12	Antibacterial activity of Biosynthesized Ferric oxide Nanoparticles using <i>Cissus quadrangularis</i>	5
13	Evaluation of Water Quality of Groundwater in Virudhunagar Town	5
2021-2022		
14	A Study on Phytochemical Screening and Antibacterial Activity In <i>Cordia myxa</i>	3
15	Microbial Quality Of Local Cool Drinks	4
16	Drug Design For Tuberculosis Using 1-Click Docking	4
17	Phytochemical Analysis: Extraction, Isolation & Identification of Bioactive Compounds and Antioxidant Activities of Some Selective Fruits	4
2022-2023		
18	A Study on isolation and characterization of Actinomycetes.	2
19	Estimation of Ascorbic acid in <i>Moringa Oleifera</i> leaves	2
20	Isolation and extraction of DNA from soil sample	2
21	In- silico Screening of Natural Compounds against BRAC1 protein: Drug for Breast Cancer.	2

11. Exhibitions/Seminars /training courses conducted

S.No.	Date	Title	Number of Beneficiary
a) Exhibitions			
2020-2021			
	30.03.2022	BIO EXPO	550+ our College students
b) Seminars			
1.	20.02.2021	State Level Webinar on Current Scenario in Biotechnology	130
2.	12.03.2021	Workshop on Terrace Gardening	40
2021-2022			
4.	14.3.2022	National Level Seminar on Thrust Areas In Biotechnology	95
5.	24.03.2022	Workshop on Immunological techniques	40
6	25.03.2022	Workshop on Molecular Techniques	43
2022-2023			
9	09.02.2023	State level seminar on Recent Trends in Microbial Biotechnology	162
10	06.03.2023	Workshop on Bioprocess Technology	70

C) Lab attendant training			
2020-2021			
1	10.11.2020	Bioinstrumentation - I	14
2	27.11.2020	Bioinstrumentation - II	14
2021-2022			
3	13.01.2022	Laboratory Safety	14
4	19.01.2022	Laboratory Safety	15
2022-2023			
5	24.11.2022	Liquid Waste Management	20

12. Books/Journals subscribed from grants

S.No.	Books	Author	Publisher	Quantity
1.	Text Book of Microbiology	R.Ananthanarayan C.K.Jeyaram Paniker	Universities Press, India	1
2.	A hand book of Organic Farming	Arun.K.Sharma	Agrobios, India	1
3.	A Textbook of Basic and Applied Microbiology	K.R.Aneja Pranay Jain Ramananeja	New age international(P) limited	1
4.	Genetic engineering	Smita Rastogi Neelam Pathak	Oxford University Press	1
5.	Organic Farming Principles and Practices	Dr.Lakshman Chandra De	Aavishkar Publishers, India	1
2021-2022				
1	Microbiology	Sharma, P D	Rastogi Publications	1
2	Animal Biotechnology	Gupta, P K	Rastogi Publications	1
3	Medical Biotechnology	Jogdand, S N	Himalaya Publishing House	1
4	Plant Biotechnology	Gupta, P K	Rastogi Publications	1
5	Prescott's Microbiology	Willey, Joanne M	McGraw Hill	1

13. Outreach activities (Popular lectures)

S.No.	Date	Title	Number of Beneficiary
2020-2021			
1.	17.12.2020	Lecture on Bioresource Conservation	38
2.	01.03.2021	Lecture on Molecular Docking	40
2021-2022			
3.	22.02.2022	Lecture on Good Laboratory Practices	95
4.	02.03.2022	<ul style="list-style-type: none"> Lecture -Introduction to Biotechnology Demonstration-DNA isolation 	35

2022-2023			
5.	18.01.2023	Career guidance in Schools	120

14. Colleges mentored to apply for DBT Star College grants : Srimad Andavan Arts and Science College, Trichy

15. Invited lectures

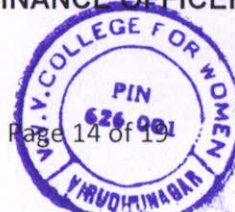
S.No.	Date	Title	Number of Beneficiary
2020-2021			
1.	11.11.2020	Solid waste Management and Biogas Production	95
2.	26.11.2020	Career Opportunities in Life Sciences	95
3.	20.01.2021	Genetic Engineering and its Applications	128
2021-2022			
4.	05.03.22	Plant-Microbe Interactions	89
5	15.03.2022	Biotechnological strategies for Secondary metabolites' enhancement in plants''	96
2022-2023			
6	21.10.2022	Current trends in Pharmaceutical Biotechnology	90
7	07.01.2023	IIT-JAM exam Preparation-Problem solving strategies –Practice session	12

S. No.	Name of Equipment / Asset	Sanctioned Cost from DBT	Quantity Procured	Actual Cost (Actual figure, not to roundoff)	Date of Placing order	Date of Receiving Equipment	Payment Voucher No. with Date (Copy of payment voucher(s) may please be enclosed)	Balance to be reimbursed [Provide reason(s) for fluctuation in price (if any)]
1	2	3	4	5	6	7	8	9
[V] Department of Botany & Biotechnology								
1	Tissue Culture Rack	1000000.00	1	41364.90	05.02.21	01.03.21	Voucher No.179, dated 19.03.2021	-N.A.-
2	Water Still 4 Ltr. / hr.		1	10089.00	05.02.21	01.03.21	Voucher No.179, dated 19.03.2021	-N.A.-
3	Binocular Microscope		1	9843.56	05.02.21	02.03.21	Voucher No.180, dated 19.03.2021	-N.A.-
4	Autoclave		1	27355.94	05.02.21	02.03.21	Voucher No.180, dated 19.03.2021	-N.A.-
5	Vortex Mixer		1	8653.18	05.02.21	02.03.21	Voucher No.180, dated 19.03.2021	-N.A.-
6	Magnetic Stirrer with hot plate		1	7050.74	05.02.21	02.03.21	Voucher No.180, dated 19.03.2021	-N.A.-
7	Digital Bacteriological Incubator		1	29874.06	05.02.21	01.03.21	Voucher No. 196, dated 20.03.2021	-N.A.-
8	Digital Colorimeter deep vision		1	8407.50	05.02.21	24.02.21	Voucher No.198,dated 20.03.2021	-N.A.-
9	Cooling Micro Centrifuge		1	91922.00	05.02.21	23.02.21	Voucher No.198,dated 20.03.2021	-N.A.-
10	Double Walled water bath with Digital Controller Holes		1	13620.15	04.02.21	06.03.21	Voucher No. 216, dated 22.03.2021	-N.A.-
11	Anaerobic System Mark H-LE002		1	12891.50	04.02.21	06.03.21	Voucher No. 216, dated 22.03.2021	-N.A.-
	C/o			261072.53				

Dr. M. Tamilselvi

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 Tamilnadu, India.

S. Prathe
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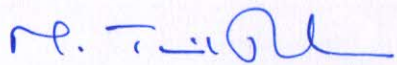


S. M. Rama Rani


HEAD OF THE INSTITUTION /
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14/03/2021


S. No.	Name of Equipment / Asset	Sanctioned Cost from DBT	Quantity Procured	Actual Cost (Actual figure, not to roundoff)	Date of Placing order	Date of Receiving Equipment	Payment Voucher No. with Date (Copy of payment voucher(s) may please be enclosed)	Balance to be reimbursed [Provide reason(s) for fluctuation in price (if any)]
1	2	3	4	5	6	7	8	9
	B/f			261072.53				
12	Automatic Voltage Stabilizer for Cooling Centrifuge 2KVA		1	6165.50	05.03.21	11.03.21	Voucher No. 234, dated 23.3.2021	-N.A.-
13	UV Transilluminator		1	8945.58	05.03.21	16.03.21	Voucher No. 234, dated 23.3.2021	-N.A.-
14	Microwave oven		1	10313.20	04.02.21	10.03.21	Voucher No. 271, dated 25.3.2021	-N.A.-
15	Orbital Shaker with Incubator		1	44545.54	05.02.21	17.03.21	Voucher No.288A, dated 27.3.2021	-N.A.-
16	Lotus Clamp		1	1661.96	05.02.21	17.03.21	Voucher No.288A, dated 27.3.2021	-N.A.-
17	Binocular Microscope		1	9843.56	05.02.21	20.03.21	Voucher No. 325, dated 31.3.2021	-N.A.-
18	Laminar Airflow – Horizontal Unit – HLF-3-labtech.		1	54929.00	04.02.21	23.03.21	Voucher No. 327A, dated 31.3.2021	-N.A.-
19	Digital Trinocular Microscope Labomed		1	37889.80	05.02.21	10.07.21	Voucher No.8, dated 26.7.2021	-N.A.-
20	Camera with adapter and software for Microscope MIACAM LR-HD		1	45904.95	05.03.21	10.07.21	Voucher No.8, dated 26.7.2021	-N.A.-
21	Bioreactor		1	46409.40	05.03.21	24.07.21	Voucher No. 14, dated 17.9.2021	-N.A.-
22	Digital Colorimeter Deep Vision		1	7847.00	23.09.21	24.09.21	Voucher No. 20, dated 29.9.2021	-N.A.-
	C/o			535528.02				


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 Tamilnadu, India.

S. No.	Name of Equipment / Asset	Sanctioned Cost from DBT	Quantity Procured	Actual Cost (Actual figure, not to roundoff)	Date of Placing order	Date of Receiving Equipment	Payment Voucher No. with Date (Copy of payment voucher(s) may please be enclosed)	Balance to be reimbursed [Provide reason(s) for fluctuation in price (if any)]
1	2	3	4	5	6	7	8	9
	B/f			535528.02				
23	Multipurpose Preethi Mixie Steel supreme		1	6999.76	26.09.21	27.09.21	Voucher No. 21, dated 30.9.2021	-N.A.-
24	Student compound Microscope Medical Model-ULTRA BMS ALMICRO		1	5156.60	28.09.21	29.09.21	Voucher No. 23, dated 30.9.2021	-N.A.-
25	Autoclave (portable 20 Lit)		2	40356.00	23.09.21	29.09.21	Voucher No. 23, dated 30.9.2021	-N.A.-
26	Colony counter 4D-1362 Deep Vision		1	8407.50	04.02.21	24.09.21	Voucher No. 26, dated 30.9.2021	-N.A.-
27	Stereo Trinocular Microscope Zoom		1	85196.00	12.03.2021	01.04.2021	Voucher No. 3b, dated 17.05.2021	-N.A.-
28	Stereo Binocular Zoom Microscope		2	95285.00	12.03.2021	01.04.2021	Voucher No. 3b, dated 17.05.2021	-N.A.-
29	Trinocular Microscope LX500 Labomed		1	61991.30	12.03.2021	10.07.2021	Voucher No. 6, dated 26.07.2021	-N.A.-
30	Digital Camera with adaptor for Microscope MIACAM-LR-HD		1	45904.95	12.03.2021	10.07.2021	Voucher No. 6, dated 26.07.2021	-N.A.-
31	Zoom Binocular 60mm canon		1	3643.25	09.08.2021	17.08.2021	Voucher No. 11, dated 02.09.2021	-N.A.-
	C/o			888468.38				

M. Tamil Selvi

PROJECT INVESTIGATOR

Dr. M. TAMILSELVI

Member Secretary / Co-ordinator

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Page 16 of 19

J. M. Ruma Rani

HEAD OF THE INSTITUTION /

Dr. S.M. RUMARANI

Principal / Chairman

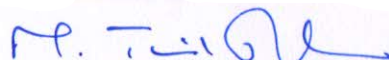
DBT - Star College Scheme

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Virudhunagar-626 001.

Tamilnadu, India.


S. No.	Name of Equipment / Asset	Sanctioned Cost from DBT	Quantity Procured	Actual Cost (Actual figure, not to roundoff)	Date of Placing order	Date of Receiving Equipment	Payment Voucher No. with Date (Copy of payment voucher(s) may please be enclosed)	Balance to be reimbursed [Provide reason(s) for fluctuation in price (if any)]
1	2	3	4	5	6	7	8	9
	B/f			888468.38				
32	Digital Camera Canon		1	12891.50	09.08.2021	17.08.2021	Voucher No. 11, dated 02.09.2021	-N.A.-
33	Stereo Zoom Trinocular Microscope Weswox		1	85196.00	09.08.2021	27.08.2021	Voucher No. 12, dated 07.09.2021	-N.A.-
34	Camera with Adaptor USB cable		1	17375.50	09.08.2021	27.08.2021	Voucher No. 12, dated 07.09.2021	-N.A.-
	TOTAL	1000000.00		1003931.38	--	--	--	


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DEPARTMENT OF BIOCHEMISTRY

7. No. of Hands-on experiments being conducted

S.No.	Date	Title	Number of Beneficiary
2020-2021			
1.	23.02.2021&24.02.2021	Production of Herbal Medicines and Cosmetics	50
2.	09.03.2021& 10.03.2021	Production of Biofertilizer and Vermicompost	58
3.	23.03.2021 & 24.03.2021	PCR	50
2021-2022			
4.	28.02.2022 &15.03.2022	Plant Tissue Culture	49
5.	23.03.2022	Western Blotting and Cloning	48
6	25.03.2022	Preparation of Siddha Medical Products	20
7	25.03.2022 & 26.03.2022	Modern Baking Technology	30
2022-2023			
8	23.12.2022	Inter Departmental Hands on Training on Formulation of Therapeutic Products	41
9	29.12.2022	Hydroponics (Departmental)	32
10	23.02.2023	One Day Hands on Training on Traditional Healthy Food Preparation	45
11	28.03.2023	Clinical Diagnostics	33

8.Number of New Experiments Introduced

CLASS	COURSE NAME & COURSE CODE	PRACTICALS INCLUDED
I B.Sc Biochemistry	Core Practical-1 Biomolecules - 20UBCC21P	<ul style="list-style-type: none"> Separation of amino acids using paper Chromatography
II B.Sc Biochemistry	Core Practical-2 Biochemical Analysis of metabolites 20UBCC41P	<ul style="list-style-type: none"> Analysis of Na using Flame Photometry Experiment Analysis of K using Flame Photometry
III B.Sc Biochemistry	Core Practical-4 Microbiology 20UBCC62P	<ul style="list-style-type: none"> Analysis of Ca using Flame Photometry SDS-PAGE AGE Plant Tissue Culture

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

PUBLISHED ARTICLE		
1	2020	Sudha Rameshwari, K. M. Abirami and R. Gloria Jemmi Christobel (2020). Partial Characterization of Green Synthesized Silver Nanoparticles of <i>Cardiospermum halicacabum</i> and <i>Butea monoperma</i> Aqueous Extract Combination (CHBMCSNP), <i>Research Journal of Pharmacy and Technology</i> , 13(12):6218-6223
2		Sudha Rameshwari, K., M. Muthu Muneeswari, R. Gloria Jemmi Christobel, R. Mallika, R. Renuka and R. Salini (2020). Synthesis and Evaluation of Herbal Formulation Using Natural Extract, <i>International Journal of Research in Pharmaceutical Sciences</i> , 11(3):3450-3458.
3		Sudha Rameshwari, K., and Sathiya Priya, R. (2020). Phytochemical screening, HPTLC, antimicrobial activity in extracts of <i>Psidium guajava</i> and piper betle leaves combination (PGPB), <i>International Journal of Scientific and Technology Research</i> , 9(3):7008–7018.
4		Jarrett, N.M., Gloria Jemmi Christobel, R. , Abirami, M.P., Abirami, S., and Shila, S. (2020). Cytotoxic and apoptotic effect of citrus flavonoid naringin in treating pa-1 ovarian cancer cells, <i>Research Journal of Pharmacy and Technology</i> , 13(9):4051–4057.
1	2021	Divyaprabha, M., P. Chitra and K. Sudha Rameshwari (2021). Anti-Ulcer Activity of <i>Psidium guajava</i> on Pylorus Ligation Induced Gastric Ulcer In Albino Rats, <i>International Journal of Pharmaceutical Sciences And Research</i> , 12(1)
2022-2023		
1.	2022	Gloria Jemmi Christobel R and Sudha Rameshwari K (2022). Antibacterial and Antioxidant Effect of Citrus Limon- <i>Vitis vinifera</i> Leaf Combinations, <i>Res. Jr. of Aril. Sci.</i> , 0976-1675.
2		Sudha Rameshwari K, Lakshmi Praba A, Raksitha T, Sangeetha M and Vijaya Shanthi J (2022). A Comparative Study on the Ascorbic Acid Content of Several Fruits. <i>International Journal of Food and Nutritional Sciences</i> , 11(7):1224-1232.
Details of Patent:		
1	2022	Sudha Rameshwari K (2022). Development of Herbal Tablet for Therapeutic Intervention.
2		Rajakumari M and Salini R (2022). A method, system and apparatus for cancer immune therapy based on nano medicines, The Patent Office Journal-Intellectual Property India, Application number 202241050942.
DOCUMENTATION IN DATABASE		
1	2022	Rajakumari M and Salini R (2022). Enterobacter cloacae strain VRRAB_516S ribosomal RNA gene partial sequence.
PUBLISHED BOOK		
1	2023	Sudha Rameshwari K (2023). A Hand Book for Science Laboratory. 978-93-5891-559-4
2		Sudha Rameshwari K (2023). Bioinformatics Laboratory Manual.

PUBLISHED CHAPTERS IN BOOK		
1	2022	Rajakumari M (2022). Trends in Environmental Biology in Environmental Pollution and their Management: an Synopsis on Current Practices, Progresses, and New Perceptions in Environmental Pollution Treatment, Kripa Drishti Publications, 25-36, 978-93-94570-52-8
2		Salini R (2022). Trends in Environmental Biology in Environmental Factors Causing cancer, Kripa Drishti Publications, 37-42. 978-93-94570-52-8
3		Gloria Jemmi Christobel R and Renuka R (2022). Interdisciplinary approach on progressive research and perception in Science Behind <i>Wedelia chinensis</i> – A Nature's Gift, ESN Publications, 4.978-93-95196-62-8

10. Training received by (A) Faculty (b) Students (Summer/ Winter Projects)

S.No.	Date	Title	Number of Beneficiary
a) Faculty			
2020-2021			
1.	27.02.2021	Bioinformatics- Drug Designing and Docking	49
2021-2022			
2.	23.02.2022&24.02.2022	Plant Tissue Culture	10
2022-2023			
3.	13.12.2022	Scientific Approach for Building Mental Well being	40
b) Students Projects			
2020-2021			
1	Study on pH in Soil Samples of Virudhunagar District.		5
2	Flame Photo Metric Determination of Calcium, Sodium and Potassium in soil		5
3	Study on the Moisture content and Texture of the Soil		5
4	A Study on Physico-chemical parameters of Urinjikulam Pond in Virudhunagar		4
5	Analysis of Water quality and Pollution Parameters in Eraiya Natakka rOorani, Perali, Virudhunagar		5
6	Analysis of Water from Sengulam Pond in Sivakasi for various Pollution Parameters		5
7	Determination of Relative moisture content and texture of the soil		5
8	Isolation of Streptomycin Resistant Mutants of <i>Escherichia coli</i>		5
9	Interdisciplinary project on Academic practices of college students		5
10	Interdisciplinary project on Food habits among college students		5
11	Interdisciplinary project on How fashion influences young minds		5
12	Interdisciplinary project on Influence of Social Media and other Digital content		5
13	Interdisciplinary project on Exploring talents and other fields of interest in College		5
14	Interdisciplinary project on Mental Health		5
15	Interdisciplinary project on Social issues and Awareness		5

16	Interdisciplinary project on Substance abuse.	5
17	Interdisciplinary project on Sports and physical fitness for physical and mental well being	5
18	Interdisciplinary project on Music and its impact on our Psychology.	5
2021-2021		
1	A comparative study of the ascorbic acid content of several fruits	4
2	Identification of optimum reaction conditions for catalase.	5
3	Study of enzyme kinetics for urease extracted from soya bean	4
4	Study of pigments from plants	4
5	Monitoring the potability of College water on a monthly basis	5
6	Effect of Indole acetic acid on Coriander(<i>Coriandrum sativum L.</i>) tissue culture	5
7	Immobilization of enzyme amylase	5
8	Assessment of Haematological status of the students	5
9	Effect of Gibberellic acid on Coriander plant tissue culture	5
10	Effect of Kinetin on paddy plant tissue culture	5
11	Isolation of Genomic DNA From Human Blood Sample	2
12	Estimation and Comparison of lycopene from tomatoes grown in organic farms versus regular Farms	5
13	Designing The PCR Primers For Schizophrenia Susceptibility Genes	5
2022-2023		
1	Studies on Drinking Water Quality in and around Virudhunagar.	4
2	Qualitative Analysis of Adulteration in Spices.	2
3	Assessment of Body Mass Index (BMI) in College Students.	4

11. Exhibitions/Seminars /Training courses conducted

S.No.	Date	Title	Number of Beneficiary
a) Exhibitions			
2021-2022			
1	30.03.2022	BIO EXPLORIA-22	550+ our College students
b) Seminars			
2020-2021			
1.	02.12.2020&03.12.2020	Workshop on Bioinformatics	57
2.	06.01.2021&07.01.2021	National Conference on Adolescent and Youth Psychology and Maintaining Stable EQ	200
2021-2022			
4.	01.03.2022	State Level Seminar on Human Health	80

5.	25.03.2022	Workshop on Flame Photometric Technique	40
2022-2023			
8	14.02.2023 & 21.02.2023	Workshop on Clinical Laboratory Practices	41
9	09.03.2023	Research Practices and ethics in Biological Sciences	189
10	23.03.2023	Workshop on SDS - PAGE	45
11	27.03.2023	Workshop on Gene Cloning	68
C) Lab attendant training			
2020-2021			
1	24 .11.2020 & 25.11.2020	Training On The Maintenance of Laboratory Electrical Equipments, Sterilization And Fumigation	18
2021-2022			
2	07.01.2022	Reagent and Media preparation	26
2022-2023			
	25.11.2022	Biomedical Waste Management	22

12. Books/Journals subscribed from grants

S.No.	Books	Author	Publisher	Quantity
1.	Text book of Biotechnology	R.C.Dubey	S.Chand & Company Ltd., New Delhi	1
2.	Ecology and Environmental Biology	T.K.Saha	Books and Allied Private Ltd, Kolkatta	1
3.	Molecular Biology of the Gene	James D Watson	Noida Pearson	1
4.	Vico Voce Orals in Biochemistry	B.Prabhakar Rao	New Age International Pvt. Ltd., New Delhi	1
5.	Human Genetics: An Overview	Alice Marcus	Narose Publishing House, New Delhi	1
6.	Text Book of Genetics	Ajay Paul	Books and Allied Private Ltd, Kolkatta	1
7.	Genetics	R.P.Meyyon	Sara's Publication, Nagarcoil	1
8.	Plant Physiology and Biochemistry	H.S.Srivatsava	Rastogi Publications, Meerat	1
9.	Immunology	Dulsy Fathima and L.Arumugam	Sara's publication, Nagarcoil	1
10	Plant Physiology	Annie Ragland, K Rajakumar, K.Rajaratnam	Sara's Publication, Nagarcoil	1
11	Practical Microbiology	R.C.Dubey	S.Chand & Company Ltd., New Delhi	1
12	CSIR-UGC Life Sciences	Md. Mubhashshrr	Unique Publishers, New Delhi	1
13	Molecular Biology and Biotechnology	P.K.Gupta	Rastogi Publications, Meerut	1
14	Immunology	S.S.Laland S.Kumar	Rastogi Publications, Meerut	1
15	Microbiology	P.D.Sharma	Rastogi Publications, Meerut	1

16	Essentials of Medical Biochemistry	R.C.Gupta	CBS Publishers and Distributors Pvt. Ltd, New Delhi	1
17	Biochemistry	Albert L Leninger	Kalyani Publishers, Ludhiana	1
2021-2022				
1	Textbook of Medical Biochemistry	Chatterjea, M N Rana Sinde	Jaypee Brothers Medical Publishers Private Ltd.	1
2	Textbook of Medical Biochemistry	Chatterjea, M N Rana Sinde	Jaypee Brothers Medical Publishers Private Ltd.	1
3	Pharmacology- II	Surender Singh Priyanka Singh	New Age International Private Limited,	1
4	Pharmacology- III	Surender Singh Priyanka Singh	New Age International Private Limited,	1
5	Biostatistics	Ramakrishnan, P	Saras Publication	2
6	Pharmacology for Nurses	Dr. Surender Singh	New Age International Private Limited,	1
7	Textbook of Medical Biochemistry	Rajinder Chawla, Suchanda Sahu, Tarek H ET Metwally	Wolters Kluwer	1
8	Medical Biochemistry	Bhagavan, N V	Elsevier	1

13. Outreach activities (Popular lectures)

S.No.	Date	Title	Number of Beneficiary
2020-2021			
1.	17.12.2020	Applications of Biotechnology, Molecular Genetics	52
2021-2022			
2.	02.03.2022	Hands on Training on Mushroom Cultivation	37

14. Colleges mentored to apply for DBT Star College grants : Nil

15. Invited lectures

S.No.	Date	Title	Number of Beneficiary
2020-2021			
1.	30.11.2020	Our Discovery of Virus	84
2021-2022			
2.	28.02.2022	Plant Tissue Culture	46

3.	03.03.2022	Proteomics Technology - and Application	70
4.	16.03.2022	Cardiac Care	100
5	24.03.2022	Information Literacy on V.V. V. College E-Resources	46
2022-2023			
6	15.11.2022	Entrepreneurial Skills in Clinical Laboratory Practices	50
7	23.03.2023	Applications of Nanoparticles	33
8	25.03.2023	Opportunities for Life Science Students	33
9	25.03.2023	Immunodiffusion, PCR Technique & Career Guidance	33
10	27.03.2023	Cardiac Hypertrophy	33

S. No.	Name of Equipment / Asset	Sanctioned Cost from DBT	Quantity Procured	Actual Cost (Actual figure, not to roundoff)	Date of Placing order	Date of Receiving Equipment	Payment Voucher No. with Date (Copy of payment voucher(s) may please be enclosed)	Balance to be reimbursed [Provide reason(s) for fluctuation in price (if any)]
1	2	3	4	5	6	7	8	9


[vi] Department of Biochemistry								
1	SDS page Electrophoresis Apparatus	1000000.00	8	51072.00	15.02.2021	02.03.2021	Voucher No. 219B, dated 22.03.2021	-N.A.-
2	Agarose gel Electrophoresis Apparatus		9	42613.20	15.02.2021	02.03.2021	Voucher No. 219B, dated 22.03.2021	-N.A.-
3	Power Pack of Electrophoresis Apparatus		3	11172.00	15.02.2021	02.03.2021	Voucher No. 219B, dated 22.03.2021	-N.A.-
4	Orbital Incubator shaker		1	109633.80	15.02.2021	01.03.2021	Voucher No. 219B, dated 22.03.2021	-N.A.-
5	Plant Tissue Culture Rack		3	100890.00	15.02.2021	01.03.2021	Voucher No. 219B, dated 22.03.2021	-N.A.-
6	Automatic Voltage Stabilizer		1	6165.50	15.02.2021	01.03.2021	Voucher No. 219B, dated 22.03.2021	-N.A.-
	C/o			321546.50				


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Dr. S. M. RANI
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Activ
 Go to!

S. No.	Name of Equipment / Asset	Sanctioned Cost from DBT	Quantity Procured	Actual Cost (Actual figure, not to roundoff)	Date of Placing order	Date of Receiving Equipment	Payment Voucher No. with Date (Copy of payment voucher(s) may please be enclosed)	Balance to be reimbursed [Provide reason(s) for fluctuation in price (if any)]
1	2	3	4	5	6	7	8	9
	B/f			321546.50				
7	Cooling Equipment - Voltas A/c 1.5 Ton SAC 183 V C2P3 Star Inverter and Stabilizer		2	74400.00	15.02.2021	12.03.2021	Voucher No.270, dated 25.03.2021	-N.A.-
8	Analytical Balance (Digital) Capacity 210 gm Readability – 0.001g-SAB203-Scaletech		4	46032.74	15.02.2021	10.03.2021	Voucher No.271B, dated 25.03.2021	-N.A.-
9	Colorimeter Digital		3	35311.50	15.02.2021	16.03.2021	Voucher No.275, dated 25.03.2021	-N.A.-
10	Autoclave with Digital Temperature Indicator cum Controller-35 lts. LTAV102-Labtech.		1	35423.60	15.02.2021	20.03.2021	Voucher No. 327, dated 31.03.2021	-N.A.-
11	Laminar Air Flow Horizontal Unit		3	133006.65	15.02.2021	26.03.2021	Voucher No. 327, dated 31.03.2021	-N.A.-
12	UV Visible Spectrophotometer		1	90801.00	15.02.2021	10.04.2021	Voucher No. 4a, dated 17.05.2021	-N.A.-
13	Digital Flame Photometer		2	107896.25	15.02.2021	03.07.2021	Voucher No.7, dated 26.07.2021	-N.A.-
14	Analytical Balance Infra-4 Digit Model		1	53247.50	13.08.2021	25.08.2021	Voucher No. 17, dated 24.09.2021	-N.A.-
15	Agarose Gel Electrophoresis		1	6703.58	13.08.2021	25.08.2021	Voucher No. 17, dated 24.09.2021	-N.A.-
	C/o			904369.32				


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S. Beetha
FINANCE OFFICER


S.M. Meena Rani
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S. No.	Name of Equipment / Asset	Sanctioned Cost from DBT	Quantity Procured	Actual Cost (Actual figure, not to roundoff)	Date of Placing order	Date of Receiving Equipment	Payment Voucher No. with Date (Copy of payment voucher(s) may please be enclosed)	Balance to be reimbursed [Provide reason(s) for fluctuation in price (if any)]
1	2	3	4	5	6	7	8	9
	B/f			904369.32				
16	Analytical Balance-SAB224CL		1	65354.30	13.08.2021	11.09.2021	Voucher No. 18, dated 27.09.2021	-N.A.-
17	Multipurpose MIXIE (Butterfly-188)		1	3450.00	21.09.2021	27.09.2021	Voucher No. 25, dated 30.09.2021	-N.A.-
18	Photo Colorimeter		1	7398.60	13.08.2021	24.09.2021	Voucher No.26B, dated 30.09.2021	-N.A.-
19	pH Meter		1	6838.10	13.08.2021	24.09.2021	Voucher No.26B, dated 30.09.2021	-N.A.-
20	Midi Horizontal Gel Electrophoresis Unit		1	14797.20	13.08.2021	24.09.2021	Voucher No.26B, dated 30.09.2021	-N.A.-
	TOTAL	1000000.00		1002207.52	--	--	--	--
	Sub Total : (Six Departments)	6000000.00		6010283.21	--	--	--	--


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10. Details of colleges/schools mentored during the Star College Scheme Tenure (Name of the College/School; Class/Standard, No. of Students benefitted; Whether any mentored college applied under Star College Scheme, It yes, what was the outcome.

S.No.	Name of the College	Department
1	The Standard Fireworks Rajarathinam College for Women, Sivakasi	Mathematics
2	Srimad Andavan Arts and Science College, Trichy	Biotechnology
3	Islamiah College, Vaniyambadi	Biotechnology

Year	Name of the College/School	Class/Standard	Purpose	Beneficiary
2020-2021	Govt. Hr. Sec. School(Boys), Pandalkudi	XI	Practical Experiments	38
2020-2021	Govt. Girls Hr. Sec. School, Pandalkudi	XII	Training	58
2021-2022	Saraswathi Narayanan College, Perungudi, Madurai	II UG Chemistry	Project	12
2021-2022	Kalasalingam Engineering College, Krishnankoil	Final Year Biotechnology	Project	2
2021-2022	Govt. Hr.Sec. School(Boys), Pandalkudi	XI	Practical training	57
2021-2022	Govt. Hr.Sec. School(Boys), Pandalkudi	XII	Practical training	45
2021-2022	Govt. Hr.Sec. Schools – Chatrareddiyapatti,	XII	Practical training	82
	Virudhunagar.			
2022-2023	P.K.N. Arts and Science College, Thirumangalam.	Physics, Chemistry & Mathematics	Project	10

2022-2023	S.B.K.College, Aruppukkottai	III UG Chemistry	Workshop	12
2022-2023	Devangar Arts College, Aruppukkottai	III UG Chemistry	Workshop	7
2022-2023	Sri.S.R.N.M.College Sattur.	B.Sc. III Chemistry	JAM Entrance	6
2022-2023	The American College, Madurai.	III B.Sc. Mathematics	Coaching	1
2022-2023	G.T.N. College, Dindugal.			10
2022-2023	Sri.Meenakshi Government College, Madurai.			
2022-2023	Lady Doak College, Madurai			
2022-2023	V.H.N.S.N. College, Virudhunagar	II B.Voc(FSQM)	Hands on Training on Baking Technology	1
2022-2023	Sri Kaliswari College, Sivakasi.	III .B.Sc. Biotechnology	Hands on Training	7
2022-2023	Ayya Nadar Janaki Ammal College, Sivakasi	II B.Sc. Computer Science III B.Sc.Mathematics	Hands on Training	8 15
2022-2023	Sri Ramasamy Naidu Memorial College, Sattur	III B.Sc. Mathematics	Hands on Training	15
2022-2023	TPNM Higher Sec School, Virudhunagar	XI	Practicals training	128
2022-2023	TPNM Higher Sec School Virudhunagar	XII		145
2022-2023	Govt. Hr.Sec. School(Boys), Pandalkudi	XI	Practicals training	47
2022-2023	Govt. Hr.Sec. School(Boys), Pandalkudi	XII		63
2022-2023	Govt. Hr.Sec.Schools - Chatrareddiyapatti. Virudhunagar	XII	Practical training	85
	Govt. Hr.Sec.Schools - Chatrareddiyapatti. Virudhunagar	XI	Handling classes on theory	90
2022-2023	Govt. Hr.Sec.Schools - Chatrareddiyapatti. Virudhunagar	X	Handling classes on theory	90

2022-2023	S.R.N Government Girls Higher Secondary School, Thiruthangal, Sivakasi	X , XII	Career Guidance	120
2022-2023	Government Higher Secondary School, Ayikudi, Tirunelveli	XII Std	Career Guidance	60
2022-2023	Government Higher Secondary School, Sambavarvadakkalai, Tirunelveli.	XII Std	Career Guidance	150
2022-2023	Government Higher Secondary School, Sengappadai, Kallikudi	Hands on Training	Career Guidance	
2022-2023	Kshatria Hindu Nadar Higher Secondary School Perunali,2,3.	XI & XII	Career Counselling	205
2022-2023	Kshatria Nadar Girls Higher Secondary School, Aruppukottai			
2022-2023	Kshatria Nadar Matriculation Higher Secondary School, Kamuthi			

11. Details of increase in the faculty generated resources viz extramural research grants from other funding agencies to strengthen the Star College Scheme efforts

Details of the Project		Status
1	Department of Biochemistry Dr.P.Annapoorani, Associate Professor of Biochemistry Funding Agency: TNSCST Year : 2023 Amount :7500 Title: Analysis of Dopamine in suicide attempted Patients	Funded
2	Dr.P.Annapoorani, Associate Professor of Biochemistry Funding Agency:TNSCST Year : 2023 (2 years) Amount :2,40,000 Title: Identification of Biochemical and genetic markers for Psychiatric disorders-A study using Tamilnadu population	Funded

3	Dr.R.Mallika, Associate Professor of Biochemistry Funding Agency:TNSCST Year : 2021 Amount :50000/- Title: Through Screen printing and Mobile Servicing to differently-abled persons	Funded
4	Department of Physics: Name of the Faculty: Dr.R.Hemalatha Funding Agency:TNSCST Year : 2023 Amount :7500 Title: Treatment of textile industries waste water using Thetran Kottai Powder (<i>Strychnos potatorum</i>) and sodium alginate beads	Funded
5	Funding Agency : CSIR-HRDG-EMR-II ASPIRE Proposal ID 57840 Dr.Gloria Jemmi Christobel, Assistant Professor of Biochemistry has submitted the project titled “Synthesis, Characterization and Cytotoxic study of Folate Grafted Vincistine” is under prime facie in order and is under further processing	Under Process
6	Funding Agency : SERB-CRG/2023/001898 The project titled “Cost Effective <i>Strychnos potatorum</i> seeds reinforced Poly(acrylamid) super adsorbent membrane synthesis for water purification” It has been provisionally accepted for further processing.	Under Process
7	Department of Chemistry : DST/CURIE-PG/2023/14 TPN NO:88039 Dr.J.Kavitha, Assistant Professor of Chemistry has presented the project titled” The generation of bioenergy and wastewater effluent treatment by the development of microbial fuel cells using Fly ash/E-waste bacterial composite” in Advisory Committee PAC Meeting for evaluation of screened in proposals under CURIE-PG Colleges (Hybrid Mode) .	Under Process
8	Department of Zoology	Under Process
	Collaborative Research Project DBT-Department of Biotechnology, Ministry of Science and Technology Dr.M.Tamilselvi, Associate Professor of Zoology &Dr.H.Abdul Jaffar Ali, Assistant Professor of Biotechnology have presented the Project Title : DNA Barcoding of Ascidians of Indian Peninsula in TEC meeting held on 17 th August 2023	

12. SOPs developed, lab manuals and uploaded on website or submitted to DBT

SOPs Developed <https://vvvcollege.org/dbt.php>

Physics	SOP	Link
	Spot Reflecting Galvanometer, Digital Anemometer, Digital Precision Balance, Magnetic Stirrer with Hot Plate, Muffle Furnace, Planck's Constant by Photoelectric Effect, Optical Fibre Loss Numerical Aperture Acceptance, B-H Curve Apparatus, Searle's Apparatus, Dielectric Constant Apparatus, Solar Cell Characteristics, Digital pH Meter, Spectrometer, Cathode Ray Oscilloscope(CRO), Travelling Microscope, Callendar Barne's Apparatus, Function Generator, Polarimeter, Microprocessor, Logical IC Trainer, Phase Lock Loop Time Division Multiplexer, Strain Gauge.	https://rb.gy/o1bvjh
Chemistry	Analytical Balance, Autoclave, BOD Analyser, COD Digester, Digital Colorimeter, Digital pH Meter, Digital Flame Photometer, Electric Water Bath, Hot Air Oven ic Stirrer, Microwave Oven Furnace, Photo Flurometer centrifuge, Ultrasonicator, UV Photo Chemical Reactor	https://rb.gy/uxma62
Zoology	Digital Water and Soil Analysis Kit, Digital Sphymomanometer Stereomicroscope, Deep Freezer, Horizontal Laminar Air Flow Chamber, Trinocular Microscope, Binocular Microscope, Phase Contrast Microscope, Incubator, Flame Photometer, UV Transilluminator, Muffle Furnace, Stethoscope, Autoclave, Electronic Balance, Colony Counter Haemocytometer, Microwave Oven, Thermostatic Water Bath, Digital Colorimeter, Compound Light Microscope, Rotary Shaker, Agarose Gel Electrophoresis, Spin win Micro Centrifuge, Haemoglobinometer, Digital Haemoglobinometer, Magnetic Stirrer, Vortex Mixer, Digital Spectrophotometer.	https://rb.gy/txb6ze
Botany	Stereo Trinocular Microscope Zoom SZM-105, Stereo Binocular ZoomBZM-7000, Binocular, Camera, Trinocular Microscope LX500 with Adaptor	http://surl.li/ngile
Biotechnology	Cooling Microcentrifuge, Colorimeter, Incubator, Water Distillation Unit, Binocular Microscope, Autoclave, Vortex Mixer, Magnetic Stirrer With Hot Plate, Double Walled Temperature Controlled Water Bath, Microwave Oven, Uv Transilluminator, Orbital Incubator With Shaker, Laminar Air Flow Cabinet, LCD Digital Microscope, Bioreactor, Digital Colony Counter, Light Microscope	http://surl.li/nginu

Biochemistry	Digital Balance, Digital Colorimeter, UV-Visible Spectrophotometer, Agarose Gel Electrophoresis Unit, SDS-PAGE Electrophoresis, Orbital shaking Incubator, Digital Flame Photometer, Autoclave, Laminar Air Flow Chamber, Plant Tissue Culture rack.	http://surl.li/ngiou
Lab Manuals		
Physics	Digital Electronics	http://surl.li/ngivg
	General Physics I Lab Manual	https://rb.gy/6c2rde
Chemistry	Physical Chemical Experiments	http://surl.li/ngivz
	Analysis of Oil/Fat and Water	http://surl.li/ngiwm
	Gravimetric Analysis and Organic Preparation	http://surl.li/ngiwy
	Volumetric Analysis	http://surl.li/ngixi
Zoology	Invertebrata & Chordata	http://surl.li/ngixw
	Microbiology & Biotechnology	http://surl.li/ngiyk
	Biochemistry & Animal Physiology	https://rb.gy/t6t5xq
Biochemistry	Biochemical Analysis of Metabolites	http://surl.li/ngiyu
	Bioinformatics Laboratory Manual	https://rb.gy/8m98ue

13. Self Evaluation

S.No.	Department	Objectives	% Achieved	Reasons for under achievement? If achieved, state in quantitative metrics
1	Physics	Faculty Development Programme	100	2
		Training Programme to students		2
2	Chemistry	Interdepartmental Competitions organized	100	2
		Outreach Programme organized		2
		Student Minor Projects completed		2
		Capacity Building programme		2
		Faculty Development Programme		2
		Outreach Programme		2
		Research Centre and Industrial Visit		2
		Student Projects		2

3	Zoology	Capacity Building Programmes organized	100	2
		Interdepartmental competitions		2
		Research Centre and Industrial Visit		2
		Outreach /Extension activities organised		2
		Student Projects		2
4	B.Sc. Mathematics & B.Sc. Computer Science	FDP organized	100	2
		Interdepartmental competitions		2
		Capacity Building programmes organized		2
		Faculty Development Programme		2
		Student Minor Projects completed		2
5	Botany & B.Sc. Biotechnology (Self- Finance)	Capacity Building Programmes organized	100	2
		Research Centre and Industrial Visit		2
		Strengthened the academic ambience		2
		Interdepartmental competitions		2
		Student Minor Projects Completed		2
6	B.Sc. Biochemistry	State of the Art Lab established	100	2
		Faculty Development Programme		2
		Research Centre and Industrial Visit		2
		Capacity Building Programmes organized		2
		Student Minor Projects completed		2


Course Coordinator
(with Seal)

Dr. M. TAMILSELVI


Member Secretary / Co-ordinator

DBT - Star College Scheme

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Tamilnadu, India.


Head of the Institution
(with Seal)

Dr. S.M. MEENA RANI

Principal / Chairman

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