STRENGTHENING COMPONENT OF DBT STAR COLLEGE SCHEME

ANNUAL PROGRESS REPORT 2021-22

Submitted to



DEPARTMENT OF BIOTECHNOLOGY MINISTRY OF SCIENCE AND TECHNOLOGY GOVERNMENT OF INDIA

Submitted by:

Kristu Jayanti College, Autonomous

K. Narayanapura, Kothanur P.O., Bengaluru-560 077, Karnataka, India.



Department of Biotechnology

Proforma for submission of Annual Progress Report supported under

Star College Scheme

1. Name of the College: Kristu Jayanti College (Autonomous), Bengaluru

2. Name of Coordinator, designation, Address, Phone nos.:

Dr. Dileep Francis Assistant Professor Department of Life Sciences Kristu Jayanti College (Autonomous) Bengaluru, Karnataka- 560077

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3. Assessment duration: 01 / 04 / 2021 to 31 / 03 / 2022 Duration in years: 01

4. Details of Departments Supported:

SI	Name of	Cours	es offered	Regular Facu	lty Members
No.	Department				
1	Department of Life	1.	BSc Biotechnology &	Total = 22	
	Sciences		Genetics (BTGE)	With PhD	Without
		2.	BSc Biotechnology &	-	PhD
		E.	Biochemistry (BTBC)	20	02
		3.	BSc Microbiology &		
			Genetics (MBGE)		
		4.	BSc Botany &		
			Biotechnology (BOBT)		
		5.	MSc Biotechnology		
		6.	MSc Microbiology		
		7.	MSc Biochemistry (Introduced in		ì
			2020-21 academic year)		

Note: Programmes from 1-4 are as per the newly introduced NEP curricula.

NEP was introduced in the Academic year 2020-21.

5. Number & Date of Advisory committee meeting:

Sl. No	Date
1.	12/11/2020

6. Qualitative improvements due to DBT support:

I. Implementation of revised practical curriculum:

The Department revised the practical curricula for BSc Biotechnology, BSc Microbiology, BSc Genetics, and BSc Botany during the academic year 2020-21 in line with the objectives of the Star College Scheme, adding new practicals, removing redundancy, and converting demonstrated practicals into hands-on experiments. The revised curricula were approved by the Board of Studies and were implemented in the academic year 2021-2022.

- II. Improvised laboratory infrastructure and Learning Resources: The non-recurring grant was utilized to purchase equipment required for the newly introduced experiments. Further, high-value reagents and chemicals were purchased to decrease the reliance on kits. Learning Resources, such as books and journals, were also purchased.
- III. **Draft of Laboratory manuals:** The preparation of practical manuals was initiated soon after the implementation of the Star College Scheme. The first draft of the manuals has been completed. The manuals will be available to students starting next academic year.
- Iv. Inspire, Train, Implement (ITI): ITI, a consolidated training programme aimed at inculcating and nourishing interest in experimental biology in UG students, was initiated in 2020-21. The program continued in the current academic year also. The weekly activity, 'Café Curieux' introduced as part of the Inspire component, was conducted on Saturdays. Students were divided into five-member groups, and each group presented the activity during their turn.

V. Minor Research Projects

The final-year undergraduate students (III Year BSc) undertook research projects. Due to the pandemic, students were allowed to either take up a research project or an internship. Faculty members evaluated the projects/ internships through student presentations and viva voce

VI. Industry Visits:

Industry visits were conducted for final-year UG students. BSc MBG students visited Sula Vineyards, Bengaluru, while BSc BBG and BBB students visited Indo-American Hybrid Seeds (India) Pvt. Ltd., Bengaluru.

VII. 'Science-Setu' Lectures:

In Stem, Bengaluru has been organizing Science Setu lectures since March 2020 on selected scientific topics. The lectures, which eminent scientists from prominent research institutions deliver, serve to ignite a passion for Science in students. UG students from the Department have been a part of the Science Setu lectures.

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

1. Implementation of the ITI programme

The ITI training module, as depicted in the Figure below, was introduced in 20-21. The and continued in 21-22. The first-year component, Inspire, was successfully implemented for I-year UG students. Methodological training in selected workflows (Train) and Implement will be implemented in the current Academic year.



2. 'Prerana' - Outreach Programme:

As an outreach effort, the Department has initiated a training programme entitled 'Prerana- Introduction to experimental Science' for Higher Secondary and senior secondary school students. The training session seeks to introduce school students to the fascinating world of experimental Science through talks, hands-on training sessions, and demonstrations. Students from two schools were offered training under the program during the academic year 2020-21. More schools will be visited in the months of July and August 2022.

3. Introduction of Scientific Lecture Series:

Two scientific lecture series were introduced to complement the training activities for students. The **primer** series introduces students to the diverse sub-disciplines of Biotechnology. **Inspire** lectures are expert, in-depth discourse on advanced aspects of Biotechnology.

4. Training programme for school teachers:

A training programme for High and Higher Secondary School Teachers on essential Biotechnology tools and techniques have been initiated in the academic year 2021-2022. The Department of Life Sciences faculty will serve as the resource persons. Science teachers from schools in Bengaluru would be part of the training. The training is relevant considering that most of the school teachers are from Botany/ Zoology background and does not have specific training in Biotechnology. The training programme aims to bridge the gap and empower school teachers with skills in Applied Biology.

5. Training programme for Laboratory Assistants:

Another initiative in the current academic year is a training programme for laboratory technicians from colleges/universities. Faculty members of the Department will serve as resource persons and impart basic training on equipment handling, and troubleshooting, reagent preparation, biosafety, laboratory waste management, etc. will be imparted

6. In-house Faculty Development Programme

An in-house FDP on the essentials of animal cell culture is planned. An external expert will be training the faculty members on the campus. All faculty members from the Department of Life Sciences will be beneficiaries of the training

- 9. Lessons learnt/ difficulties faced/suggestions if any, in implementation of the programme and utilization of DBT grant. (Max 3 points within 300 words).
- 1. The covid-19 pandemic interfered with the smooth conduct of the programme. Workflow training planned for the II-year students was not conducted due to the online conduct of III semester classes. The training will be completed next academic year (V semester).

Key performance indicators

S	Indicator	Du	ring	Ist year	of sup	por	t			Dui	ring l	II nd y	ear	of su	ıppoı	rt		Remarks
No		(20	(20-21) (21-22)															
1	No. of	Tot	al (2	020-21	1)=161	Total (2021-22)=162				Total strength of								
	students	M=	57			F=	=104	4 M=62 F=100				BTBC, BTGE,						
	admitted																	BOBT,
		<u> </u>																&MBGE
		S	S	OB	G	S		OB	G		S	О	G	S	S	О	G	
		C	T	C		C	Т	C		С	Т	В		C	T	В		
												C				C		
		4	1	18	34	9	2	13	8	2	4	1	4	1	4	2	6	
	N. C	0.	ļ.,,		. 1 1				0	-		1	5	1		0	9	
2	No. of students	1		admit			~	,			dents					~ 1		
		E .		tudents r exam		took	k fina	al							took	final		
	passing out (%)	I)		r exam tudents			+	00			ester							
	Students			= 99/1		ng c	out-	99		NA	of st	ludei	ns t	oassii	ng ot	11—		
	Admitted/	1 as	3 /0	= 91	U J					(Data is based on the 2019-22 UG batch) (*End semester exams results for 2019-22 batch is yet to be								
	passing	(Da	ta is	based	on the	201	18-2	LIG										
	out (pass	bate		ouseu	on the	201	. 0 2	100										
	%)		,,,															
	,										lishe				,			
3	Drop-out	7. 3	3 %							3.93		-						*Results of
	rates																	2019-22 batch is
4	No. of	NA								NA								yet to be
	students																	published
	opting for																	
	MSc																	
5	Average	77.	75%							NA								
	marks																	
6	No. of			nology							techn							The newly
	hands-on			ology-						Microbiology- 92			introduced					
	experime			nistry-	73						chem		- 85	5				practical's have
	nts being		etics								etics							been
	conducted		any-								any-4							incorporated
		lot	al- 3	บช						Tot	al- 38	87						into the
																		curriculum
									_									starting from

				21-22
7	No. of new experime nts introduce d	Biotechnology- 0 Microbiology- 0 Biochemistry- 10 Genetics- 0 Botany-0 Total-10	Biotechnology- 32 Microbiology- 24 Biochemistry- 12 Genetics- 09 Botany-02 Total-79	New practicals were introduced in the first year of support for all the semesters (2021-22)
8	Publications (scopus indexed)/patents, if any.	Faculty- 6 Students -13 (Chapters in a book with ISBN)	Faculty a) Books- 02 b) Articles (Scopus) / Book Chapters: 24/2 Students Articles/ Book Chapter: 2/6	
9	Training received by faculty	Online Training/ Participation in FDPs- 10 NPTEL certificate courses-01	Online Training/ Participation in FDPs-09 Refresher Courses-24 NPTEL/ARPIT certificate courses-10	
10	Exhibitions/seminars/trainingcoursesconducted	Seminars/FDP- 05 Training (Value add courses) - 05	Seminars/Conference/ FDP/ Training - 04 Value added courses - 04	
11	Books/jou rnals subscribe d from grants	Books-15 Journals-05	Books-Nil Journals-Nil	
12	Outreach activities (Popular lectures)	02	06	
13	Colleges mentored to apply for DBT Star College grants	Nil	Nil	
14	Invited lectures	17	18	

^{*}List is appended as annexure I

Proof for serial numbers 8-14 can be accessed from https://drive.google.com/drive/u/1/folders/1nImYZjBtyOL1RniRxwz_tP32IOagXXSZ

10. Self- evaluation

Department	*Objective (as stated in proposal)	% achieved	Reasons for underachievement
			/ If achieved, state in
			quantitative metrics

Department of Life Sciences	1.	Enrich curriculum by introducing more practical component	100%	2 marks
	2.	Strengthen the infrastructure and resources in the laboratories	100%	2 marks
	3.	Introduce a novel training module (ITI)	50%	1 marks (Module is introduced. Workflow training was not implemented)
	4.	To develop interactive practical manuals, workflow manuals, SOPs and other resources to aid the training	75%	1.5 mark (Practical manuals (draft) are edited and compiled. Workflow manuals and SoPs are still being prepared)
	5.	Enrich the knowledge and skills of faculty members through faculty development programmes	30%	0.5 marks (Most of the training was online)
		Tot	al (Out of 10)	7 marks

Course Condition or District Scheme

Kristu Jayanti College, Autonomous Bengaluru - 560 077 Karnataka Head of the Institution (With Seal) PRINCIPAL

Kristu Jayanti College Autonomous K. Narayanapura, Kothanur PO Bengaluru - 560077





DEPARTMENT OF LIFE SCIENCES

DBT STAR COLLEGE SCHEME

Annual Progress Report (2021-22)

Proof for Key Performance Indicators

I(a). Faculty Publications (2021-22) (Scopus indexed)

(Response to Key performance indicator query No. 8)

Sl. No.	Name	Title of the Article	Details of Publisher	Month, Year of publication , IISSN No	Article URL
1.	Dr. Reena Josephine	Plant Growth Ameliorating and Rhizosphere Competent Native Acinetobacter pittii Strain F2 5 from the Rhizosphere of Zea mays L.	Indian Journal of Agricult ural Researc h	27-09- 2021, 03678245, 0976058X	https://arcejournals .com/journal/india n-journal-of- agricultural- research/A-5822
2.	Dr. Sangeetha Menon	Growth and nutritional indices of oyster mushroom (<i>Pleurotus ostreatus</i>) on different substrates	Current Trends in Biotechnol ogy and Pharmacy	October 2021 ISSN 0973- 8916 (Print), 2230-7303 (Online)	https://doi.org/10.5 530/ctbp.2021.3s.2 7
3.	Dr. Calistus Jude A.L.	A Study on the Cytotoxicity of Plectranthus amboinicus and Bacopa monnieri stem extracts on lung cancer cell line.	Current Trends in Biotechnol ogy and Pharmacy	October 2021 ISSN 0973- 8916 (Print), 2230-7303 (Online)	https://doi.org/10.5 530/ctbp.2021.3s.3 1

Sl.	Name	Title of the Article	Details of	Month,	Article URL
No.			Publisher	Year of publication , IISSN No	
4.	Dr. Esther Shoba R	A study on impact of medicinal plants Polyalthia longifolia and Bacopa monnieri with reference to acne treatment.	Current Trends in Biotechnol ogy and Pharmacy	October 2021 ISSN 0973- 8916 (Print), 2230-7303 (Online)	https://doi.org/10.5 530/ctbp.2021.3s.3 2
5.,	Dr. Esther Shoba R	Identification, Isolation and Characterizatio n of Poly Hydroxy Butyrate (PHB) Producing Bacteria, and Extraction of the PHB Granules			https://doi.org/10.5 530/ctbp.2021.3s.5 1
6.	Dr. U. Sivagamasundari. Dr. Hanumanthappa B Nayak, Dr. Elcey C.D.	Amelioration of farm land soil through the application of formulated microbial bio-fertilizer consortium	Current Trends in Biotechnol ogy and Pharmacy	October 2021 ISSN 0973- 8916 (Print), 2230-7303 (Online)	https://doi.org/10.5 530/ctbp.2021.3s.3 3
7.	Dr. Reena Josephine C.M.	Rhizosphere competent <i>Pseudomonas</i> indoloxydans (F3-47) as a plant growth promoter and enhancer of Zea mays l. under greenhouse and field trials	Current Trends in Biotechnol ogy and Pharmacy	October 2021 ISSN 0973- 8916 (Print), 2230-7303 (Online)	https://doi.org/10.5 530/etbp.2021.3s.3 4
8.	Dr. Sonia Angeline M Dr. Emmanuel C ES,	Antimicrobial and Antioxidant activity of Fermented Bamboo	Current Trends in Biotechnol	October 2021 ISSN 0973- 8916	https://doi.org/10.5 530/etbp.2021.3s.3 6

Sl. No.	Name	Title of the Article	Details of Publisher	Month, Year of publication , IISSN No	Article URL
		Shoot Dendrocalamus hamiltonii	ogy and Pharmacy	(Print), 2230-7303 (Online)	
9,	Dr. Sonia Angeline M Dr. Vijayanand S, Dr. Priya Josson Akkara	Water quality analysis of ground water from locations in North Bangalore	Current Trends in Biotechnol ogy and Pharmacy	October 2021 ISSN 0973- 8916 (Print), 2230-7303 (Online)	https://doi.org/10.5 530/etbp.2021.3s.3 7
10.	Dr. Hanumantappa B	Anti-inflammatory attributes using protein denaturation by saturated fatty acid (decanoic acid) isolated and identified from Tridax procumbens	Current Trends in Biotechnol ogy and Pharmacy	October 2021 ISSN 0973- 8916 (Print), 2230-7303 (Online)	https://doi.org/10.5 530/ctbp.2021.3s.3 8
11.	Dr. Indira M.N.	Growth Response of in vitro regenerated Drymaria cordata (L.) Willd. ex Roem. & Schult. to inoculation with Arbuscular Mycorrhizal fungi.	Current Trends in Biotechnol ogy and Pharmacy	October 2021 ISSN 0973- 8916 (Print), 2230-7303 (Online)	https://doi.org/10.5 530/ctbp.2021.3s.3 9
12.	Dr. Indira M.N.	Extraction of dyes from plant sources and their application on cotton and wool using mordants	Current Trends in Biotechnol ogy and Pharmacy	October 2021 ISSN 0973- 8916 (Print), 2230-7303 (Online)	https://doi.org/10.5 530/ctbp.2021.3s.4 6
13.	Dr. Manikandan Kathirvel	Green mediated synthesis of silver nanoparticles using <i>Ipomoea quamoclit</i> to	Current Trends in Biotechnol	October 2021 ISSN 0973- 8916	https://doi.org/10.5 530/ctbp.2021.3s.4 2

Sl. No.	Name	Title of the Article	Details of Publisher	Month, Year of publication , IISSN No	Article URL
		explore the potential antimicrobial activity against human pathogens	ogy and Pharmacy	(Print), 2230-7303 (Online)	
14.	Dr. Sriram T	Green synthesis of silver nanoparticles and its effect on the growth of Zea mays L.	Current Trends in Biotechnol ogy and Pharmacy	October 2021 ISSN 0973- 8916 (Print), 2230-7303 (Online)	https://doi.org/10.5 530/etbp.2021.3s.4 3
15.	Dr. U. Sivagamasundari.	Effect of bacterial endoph - Azospirillum brasilense Pseudomonas fluorescens growth and yield of Bri var. Annamalai in field tri	Trends in Biotechnol ogy and	October 2021 ISSN 0973- 8916 (Print), 2230-7303 (Online)	https://doi.org/10.5 530/ctbp.2021.3s.4 4
16.	Dr. U. Sivagamasundari.	Survey on crop varieties agricultural practice Karnataka	Current Trends in Biotechnol ogy and Pharmacy	October 2021 ISSN 0973- 8916 (Print), 2230-7303 (Online)	https://doi.org/10.5 530/ctbp.2021.3s.4 9
17.	Dr. Malathi	A study on the Electrolytes Concentration and Lipid Profile in Cardiac and Cardiovascular defective patients.	Current Trends in Biotechnol ogy and Pharmacy	October 2021 ISSN 0973- 8916 (Print), 2230-7303 (Online)	https://doi.org/10.5 530/ctbp.2021.3s.4 7

Sl. No.	Name	Title of the Article	Details of Publisher	Month, Year of publication , IISSN No	Article URL
18.	Dr. Malathi	Anti Hemolytic Activity of Rutin incase of Phenyl Hydrazine induced Hemolysis	Current Trends in Biotechnol ogy and Pharmacy	October 2021 ISSN 0973- 8916 (Print), 2230-7303 (Online)	https://doi.org/10.5 530/ctbp.2021.3s.4 1
19.	Dr. S. Vijayanand	Bioactive potential and pharmacological activity of Psidium <i>guajava</i> .	Current Trends in Biotechnol ogy and Pharmacy	October 2021 ISSN 0973- 8916 (Print), 2230-7303 (Online)	https://doi.org/10.5 530/ctbp.2021.3s.5 0
20.	Dr. S. Vijayanand	Green Synthesis of Silver Nanoparticles using Colacasia Escullenta, Abutilon Indicum and Muntinga Calabura	Current Trends in Biotechnol ogy and Pharmacy	October 2021 ISSN 0973- 8916 (Print), 2230-7303 (Online)	https://doi.org/10.5 530/ctbp.2021.3s.5 3
21.	Ms. Kushbu	Comparative Analytics of urine sample reported with Urinary tract infection	Current Trends in Biotechnol ogy and Pharmacy	October 2021 ISSN 0973- 8916 (Print), 2230-7303 (Online)	https://doi.org/10.5 530/ctbp.2021.3s.4 0
22.	Dr. P. Roopa	Production and Characterization of Bioactive Peptides by Purified Protease Isolated from Bacillus Sp. Mtcc 9558	Current Trends in Biotechnol ogy and Pharmacy	October 2021 ISSN 0973- 8916 (Print),	https://doi.org/10.5 530/ctbp.2021.3s.3 5

Sl. No.	Name	Title of the Article	Details of Publisher	Month, Year of publication , IISSN No	Article URL
				2230-7303 (Online)	
23.	Dr. Sangeetha Menon	Plant growth promotional studies of novel PGPR strains isolated from the rhizosphere of Neolamarckia cadamba (Roxb.) Bosser plantations in Narasipuram, Tamil Nadu	Research Journal of Chemisry and Environme nt	January 2022	https://worldresear chersassociations.c om/chemistryhome .aspx
24.	Dr. Elcey C.D	Iron oxide nanoparticles mediated hyperthermia oncancer cell lines.	IOP Conf. Series: Materials Science and Engineerin g	May 2021 doi:10.1088 /1757- 899X/1233/ 1/012009	https://iopscience.i op.org/article/10.1 088/1757- 899X/1233/1/0120 09

Books Published							
SI. No.	Name	Title of the Book	Details of Publisher	Month, Year of publication, ISBN No	DOI / ISBN No.		
1.	Dr. S. Vijayanand	A Potential inhibitor for enzymatic browning of Solanum melongena	Book: Darshan Publishers, Tamilnadu, India	June 2021	ISBN: 978- 81-947071- 5-8		
2.	Dr. Dileep Francis	International Virtual Conference on Evolving Paradigms in Biotechnology-	Kristu Jayanti College, Autonomous	April 2022, ISBN- 9788195681303	0.		

Books Published							
SI. No.	Name	Title of the Book	Details of Publisher	Month, Year of publication, ISBN No	DOI / ISBN No.		
		Proceedings and Abstracts of Papers					

Book	Chapters				
1.	Dr. Shinomol George	Understanding Mechanism underlying genes Regulating the production of Biosurfactant	Book Title Green Sustainabl e process for Chemical and Environme ntal Engineerin g and Science	March 2022	https://www.scienc edirect.com/scienc e/article/pii/B9780 323851466000358 #!
2.	Dr. Shinomol George	Chitosan – Halloysite Nanocompunds for scaffolds for Tissue Engineering.	Advanced application s of Micro and Nano clay Materials Research Forum LLC, U.S.	May 2022 Vol. 15 ISBN: 978- 1-64490- 191-5	DOI: https://doi.or g/10.21741/97816 44901915-5

I (b). UG Student publications (Articles/ Book Chapters)

(Response to Key performance indicator query No. 8)

The following students from BSc published articles

SI.	Reg. No.	Name of the	Title of the Programme & Venue	Title of Paper
No.		Student		Published
1.	19LS1A1010	Ms. Gimaya	Published in International Journal of	"An Overview on
		Gilbert	Science and Research.	The 10 Cellular
			ISSN: 2319 – 7064	Hallmarks of Cancer"

SI. No.	Reg. No.	Name of the Student	Title of the Programme & Venue	Title of Paper Published
			Paper ID: SR21626231002	
2.	19LS1A1009	Ms. Christina Rose George	Published in International Journal of Science and Research. ISSN: 2319 – 7064 Paper ID: SR21626231002	"An Overview on The 10 Cellular Hallmarks of Cancer"
3.	19LS1A1007	Mr. Blesson Varghese	Published in International Journal of Science and Research. ISSN: 2319 – 7064 Paper ID: SR21626231002	"An Overview on The 10 Cellular Hallmarks of Cancer"
4.	19LS1A1005	Ms. Angela Saji	Published Book chapter: in Book Entitled: Compendium of "Research insights of Life Science students" (ISBN: 978-81-947154-5-0) Volume – 2; Year - 2020 Chapter – 235, Page: 583 – 584.	Nano Drug Delivery
5.	20LS5A1008	Mr. Aswin	Compendium of "RESEARCH INSIGHTS OF LIFE SCIENCE STUDENTS" (ISBN: 978-93-91342- 27-2) Sector - Biotechnology Volume - 3; Year - 2021 Chapter - 222, Page: 612 - 617	Neurospora - A CRUCIAL FUNGI IN GENETIC STUDY
6.	20LS5A1008	Mr. Aswin	Compendium of "RESEARCH INSIGHTS OF LIFE SCIENCE STUDENTS" (ISBN: 978-93-91342- 27-2) Sector - Biochemistry Volume – 3; Year - 2021 Chapter – 192, Page: 532 - 534	PIWI- INTERACTING RNA- AN IMPORTANT NON-CODING RNA
7.	19LS1A1035	Neha R.	Compendium of "RESEARCH INSIGHTS OF LIFE SCIENCE STUDENTS" (ISBN: 978-93-91342- 27-2) Sector - Biochemistry Volume - 3; Year - 2021 Chapter - 192, Page: 532 - 534	CRISPR GENE TECHNOLOGY IN THE FIELD OF CANCER
8.	19LS1A1045	Aashritha	-Compendium of "RESEARCH INSIGHTS OF LIFE SCIENCE STUDENTS" (ISBN: 978-93-91342- 27-2) Sector - Biochemistry	CRISPR GENE TECHNOLOGY IN THE FIELD OF CANCER

SI. No.	Reg. No.	Name of the Student	Title of the Programme & Venue	Title of Paper Published
			Volume – 3; Year - 2021	
			Chapter – 192, Page: 532 - 534	

II (a). Faculty Training (online FDP/Webinars, Minimum 3 days duration)

(Response to Key performance indicator query No. 9)

Sl. No.	Date of the Event [DD/MM/YYYY]	Name of the Faculty	Level (State / National / International)	Nature of Programme (Seminar /Conference / Workshop / FDP, etc.)	Title of the Programme &Venue / Organizer details
1.	27/9/2021 – 1/10/2021	Dr. Manikandan Kathirvel	National	Faculty Development Programme	Research Opportunities in Biotechnology" conducted by Academic Staff College & Department of Biotechnology, Dr M.G.R Educational & Research Institute, Chennai.
2.	28/10/2021 - 30/10/2021	Dr. Sangeetha Menon	National	Faculty Development Programme	"Biodiversity of Microalgae and its Identification Techniques – tapping the ancient power of microalgae" organized by PG Department of Botany, Srimad Andavan Arts and Science College (Autonomous), Trichy, Tamil Nadu.
3,	Feb – March 2022	Dr. Sangeethe Menon	National	FDP	Computational Biology and Bioinformatics organized by the Bioinformatics Centre at National Centre for Aquatic Animal Health, Cochin University of Science and Technology, Kerala sponsored by the Department of Biotechnology, Government of India.
4.	2/3/2022 – 26/3/2022	Dr. Sangeethe Menon	National	FDP	Industrial Microbiology and Ferementation Technology organized by Punjab University, Chandigarh.
5.	23/5/2022 – 28/3/2022	Faculties, department	National	FDP	Unlocking the power of Library for Research organized by Library and

Sl. No.	Date of the Event [DD/MM/YYYY]	Name of the Faculty	Level (State / National / International)	Nature of Programme (Seminar /Conference / Workshop / FDP, etc.)	Title of the Programme &Venue / Organizer details
		of Life Sciences			information centre, Kristu Jayanti College, Bangalore.
6.	2/5/2021 - 10/5/2022	Dr. Sangeetha Menon	National	FDP	"Digital Literacy Learning" organised by Department of Commerce (UG), Kristu Jayanti College (Autonomous), Bengaluru
7,4	2/5/2021 - 10/5/2022	Dr. P. Roopa	National	FDP	"Digital Literacy Learning" organised by Department of Commerce (UG), Kristu Jayanti College (Autonomous), Bengaluru
8.	2/5/2021	Dr. Arpita Mishra	National	FDP	"Digital Literacy Learning" organised by Department of Commerce (UG), Kristu Jayanti College (Autonomous), Bengaluru
9.=	2/5/2021 - 10/5/2022	Mrs. Kushbu	National	FDP	"Digital Literacy Learning" organised by Department of Commerce (UG), Kristu Jayanti College (Autonomous), Bengaluru

	Online/Refresher Courses							
Sl. No.	Date of Certification [DD/MM/YYY Y]	Name of the Faculty	Title of the Course	Complete Details of Course provider	Weblink of the Course Home Page			
1.	04/07/2021 to 08/08/2021	Dr. Manikandan Kathirvel	Microbial inoculants technology (Phase I)	Department of Microbiology, Sacred Heart college, Tirupattur, Tamilnadu in collaboration with Microbiologists Society, India and	https://bivashvlog.com/i nternational-online- certificate-courses- phase-i/			

Annexure I: Key Performance Indicators-List

	Online/Refresher Courses							
SI. No.	Date of Certification [DD/MM/YYY Y]	Name of the Faculty	Title of the Course	Complete Details of Course provider	Weblink of the Course Home Page			
				West Zone State University Foundation (UEZO), Rio de Janeiro, Brazil				
2	4/7/2021 — 8/8/2021	Mrs. Kushbu	Four weeks International Faculty Development Online Certificate Course on "BASIC TECHNIQUES IN MICROBIOLO GY (Phase IV)"	Department of Microbiology, Sacred Heart College (Autonomous), Tirupattur, Tamil Nadu, India in association with Microbiologists Society, India and Laboratory of Chemical and Biological Analysis (LAQB), Western Rio Janeiro State University (UEZO), Rio de Janeiro, Brazil.	https://www.shctpt.edu/department.php?deptid= MB			
3.	04/7/2021 08/8/2021	Mrs. Kushbu	Microbial Inoculants Technology	Sacred Heart College (Autonomous), Tirupattur, Tamil Nadu, India in association with Microbiologists Society, India and Laboratory of Chemical and Biological Analysis (LAQB), Western Rio Janeiro State University (UEZO), Rio de Janeiro, Brazil.	https://www.google.com /search?q=%E2%80%9 CMICROBIAL+INOC ULANTS+TECHNOLO GY+(Phase+I)%E2%80 %9D&oq=%E2%80%9 CMICROBIAL+INOC ULANTS+TECHNOLO GY+(Phase+I)%E2%80 %9D&aqs=chrome69i 57j0i33312.820j0j15&so urceid=chrome&ie=UT F-8			
4.	2/2/2022 — 15/2/2022	Dr.S. Vijayanand	UGC Sponsored Refresher course on Environment	Bharathidasan University,	https://www.bdu.ac.in/s chools/environmental- sciences/environmental-			

	Online/Refresher Courses							
SI. No.	Date of Certification [DD/MM/YYY Y]	Name of the Faculty	Title of the Course	Complete Details of Course provider	Weblink of the Course Home Page			
			& Sustainable development (Multidiciplinary	Tiruchirapalli, Tamilnadu	science-and- management/index.php			
5.	2/2/2022 — 15/2/2022	Dr. Challaraj Emmanuel	UGC Sponsored Refresher course on Environment & Sustainable development (Multidiciplinary)	Bharathidasan University, Tiruchirapalli, Tamilnadu	https://www.bdu.ac.in/s chools/environmental- sciences/environmental- science-and- management/index.php			
6.	2/2/2022 – 15/2/2022	Dr. Hanumanthappa B.	UGC Sponsored Refresher course on Environment & Sustainable development (Multidiciplinary)	Bharathidasan University, Tiruchirapalli, Tamilnadu	https://www.bdu.ac.in/s chools/environmental- sciences/environmental- science-and- management/index.php			
7.	14/2/2022 – 21/2/2022	Dr. M. Sonia Angeline	UGC Sponsored Refresher course on Environmental Sciences	University of Madras, Tamilnadu	https://www.unom.ac.in/ asc/			
8.	14/2/2022 – 21/2/2022	Dr. Priya Jossan	UGC Sponsored Refresher course on Environmental Sciences	University of Madras, Tamilnadu	https://www.unom.ac.in/ asc/			
9.	14/2/2022 – 21/2/2022	Dr. Sivagamasundar i	UGC Sponsored Refresher course on Environmental Sciences	University of Madras, Tamilnadu	https://www.unom.ac.in/ asc/			

Annexure I: Key Performance Indicators-List

	Online/Refresher Courses							
Sl. No.	Date of Certification	Faculty		Complete Details of Course provider	Weblink of the Course Home Page			
	[DD/MM/YYY Y]							
10.	14/2/2022 – 21/2/2022	Dr. Esther Shobha R	UGC Sponsored Refresher course on Environmental Sciences	University of Madras, Tamilnadu	https://www.unom.ac.in/ asc/			
11.	20/2/2022 – 6/3/2022	Dr. Manikandan Kathirvel	Refresher course on Research Methodology	Ramanujan College University of Delhi under the aegis of Ministry of Education	https://ramanujancollege .ac.in/two-week- refresher-course-in- research-methodology- 20-feb-06-mar-2022/			
12.	20/2/2022 – 6/3/2022	Dr. Sriram T	Refresher course on Research Methodology	Ramanujan College University of Delhi under the aegis of Ministry of Education	https://ramanujancollege .ac.in/two-week- refresher-course-in- research-methodology- 20-feb-06-mar-2022/			
13.	28/3/2022 – 11/4/2022	Dr. Sangeetha Menon	Environment and Human Health	Teaching Learning Center & Department of Environmental studies, Ministry of India	https://ramanujancollege .ac.in/two-week- interdisciplinary- refresher-course-on- environment-human- health-28-mar-11-apr- 2022/			
14.	28/3/2022 — 11/4/2022	Dr. Arpitha Mishra	Environment and Human Health	Teaching Learning Center & Department of Environmental studies, Ministry of India	https://ramanujancollege .ac.in/two-week- interdisciplinary- refresher-course-on- environment-human- health-28-mar-11-apr- 2022/			
15.	20/4/2022 – 26/4/2022	Dr.U.Sivagamas undari	Impact and Panacea of Environmental Pollution: The	Raj Rishi Govt. Autonomous College, Rajasthan	https://www.campuzine. com/international-short- term-training- programme-2-on- impact-and-panacea-of-			

Annexure I: Key Performance Indicators-List

			Online/Refresher C	ourses	
SI. No.	Date of Certification [DD/MM/YYY	Name of the Faculty	Title of the Course	Complete Details of Course provider	Weblink of the Course Home Page
	Y]				
			Past, Present and Future		environmental- pollution-the-past- present-and-future/
16.	25/4/2022 - 09/5/2022	Mr. Ashok D	Zoology	Teaching Learning Center, Ramanujan College, University of Delhi.	https://remooes.in/Broch ures/Zoology_April_20 22.pdf
17.	25/4/2022 - 09/5/2022	Dr. Indira MN	Zoology	Teaching Learning Center, Ramanujan College, University of Delhi.	https://remoocs.in/Broch ures/Zoology April 20 22.pdf
18.	25/4/2022 - 09/5/2022	Dr. Malathi	Zoology	Teaching Learning Center, Ramanujan College, University of Delhi.	https://remooes.in/Broch ures/Zoology_April_20 22.pdf
19.	February 2022	Mrs. Kushbu	Academic Writing	Swayam Online Course	https://onlinecourses.sw ayam2.ac.in/cec21_ge32 /preview
20.	February 2022	Mrs. Kushbu	Research Ethics	Swayam Online Course	https://onlinecourses.sw ayam2.ac.in/cec21_ge19 /preview
21,	22/4/2022 – 6/5/2022	Mrs. Kushbu	Advanced Research Methodology	Teaching Learning Center, Ramanujan College, University of Delhi	https://ramanujancollege .ac.in/workshops- conferences-fdp- refresher-induction/

Annexure I: Key Performance Indicators-List

		C	online/Refresher C	ourses	
Sl. No.	Date of Certification [DD/MM/YYY Y]	Name of the Faculty	Title of the Course	Complete Details of Course provider	Weblink of the Course Home Page
22.	22/5/2022 – 5/6/2022	Mr. Don Caeiro	Advanced Research Methodology	Teaching Learning Cent University of Delhi	https://remoocs.in/Progr ams/all_prog.php?id=res earch
23.	22/5/2022 — 5/6/2022	Mr. Jeremiah Justus	Advanced Research Methodology	Teaching Learning Cent University of Delhi	https://rcmoocs.in/Progr ams/all_prog.php?id=res earch
24.	22/5/2022 – 5/6/2022	Dr. Shinomoel George	Advanced Research Methodology	Teaching Learning Cent University of Delhi	https://remoocs.in/Progr ams/all_prog.php?id=res earch

NPTEL/	ARPIT Cour	rses			
1.	20/10/20 21	Dr. Indira MN	Organic Farming and sustainable Agricultural Production	NPTEL Online certification, AICTE	https://www.google.com /url?q=https://onlinecou rses.nptel.ac.in/noc21_a g05/preview&sa=D&so urce=editors&ust=1634 016423577000&usg=A OvVaw2zP84qaQwchR zlCDiGnRjK
2.	20/10/20	Dr. Reena Josephine	Organic Farming and sustainable Agricultural Production	NPTEL Online certification, AICTE	https://www.google.com /url?q=https://onlinecou rses.nptel.ac.in/noc21_a g05/preview&sa=D&so urce=editors&ust=1634 016423577000&usg=A OvVaw2zP84qaQwchR zlCDiGnRjK
3.	20/10/20 21		Cell Culture Technlogies	NPTEL Online certification, AICTE	https://www.google.com /url?q=https://onlinecou

		Dr. Elcey C.D			rses.nptel.ac.in/noc21_b t28/preview&sa=D&sou rce=editors&ust=16340 97392665000&usg=AO vVaw1X6EuBWGTNIp 6bVA2h_LFj
4.	20/10/20	Dr. M. Sonia Angeline	Cell Culture Technlogies	NPTEL Online certification, AICTE	https://www.google.com /url?q=https://onlinecou rses.nptel.ac.in/noc21_b t28/preview&sa=D&sou rce=editors&ust=16340 97392665000&usg=AO vVaw1X6EuBWGTNIp 6bVA2h_LFj
5.	20/10/20	Dr. Dileep Francis	Introduction to R Software	NPTEL Online certification, AICTE	https://www.google.com/url?q=https://onlinecourses.nptel.ac.in/noc21_ma75/preview&sa=D&source=editors&ust=163_4119836170000&usg=_AOvVaw3dL0iiYCxok9_NgNQDgXgL7
6.	13/10/20	Dr. P. Roopa	Tissue Engineering	NPTEL Online certification, AICTE	https://www.google.com /url?q=https://onlinecou rses.nptel.ac.in/noc21_b t33/preview&sa=D&sou rce=editors&ust=16352 26967848000&usg=AO vVaw1qMsoKC1jDQ4 KMGgM94D99
7.	21/8/202	Dr. Calistus Jude A.L	Leadership and governance in Higher Education – Level 2	Swayam ARPIT online course certification	https://iul.ac.in/DWC/R esearch/PDF/202104051 01322213Swayamcertifi cate.pdf
8.	11/11/20 21	Dr. Dileep Francis	Functional Genomics	NPTEL – Online Certification	https://nptel.ac.in/course s/102/104/102104056/

9.	July – Sep 2021	Mrs. Kushbu	Environmnetal Biotechnology	Faculty Development Programme	NPTEL - AICTE
10.	July – Sep 2021	Dr. Malathi	Introduction to Proteomics	Faculty Development Programme	NPTEL - AICTE

III (a). Exhibitions/seminars/training courses conducted

(Response to Key performance indicator query No. 10)

S. No.	Date	Full Title	Name of the Resource Person(s) with designation	Type of Event	Internal participants	External participants
1.		National Level FDP Technical Session I: 'Structural Biology of Alzheimer's Disease' Technical Session II: 'NGS Data Analysis: Concept and Challenges' Technical Session III: 'Personal Genomes to Precision Medicine' Technical Session IV: 'Bioinformatics: An Essential Tool in Genome Research'	Dileep Vijayan, Scientist D, Jubilee Centre for Medical Research, Jubilee Mission Medical College & Research Institute, Trissur, Kerala Dwijesh Chandra Mishra, Senior Scientist (Agricultural Statistics), Centre for Agricultural Bioinformatics (CABin), ICAR-Indian Agricultural Statistics Research Institute Indian Council of Agricultural Research, Library Avenue, PUSA, New Delhi 110012 Vinod Scaria MBBS, Principal Scientist, CSIR Institute of Genomics and Integrative Biology (CSIR-IGIB) South Campus, Mathura Road, New Delhi 110 025. India	National FDP	90	50

S. No.	Date	Full Title	Name of the Resource Person(s) with designation	Type of Event	Internal participants	External participants
			Gandhimathi Arumugam, Associate Principal Scientist, Genotypic Technology Pvt. Ltd. Bengaluru			
2.	10/2/2022	Vignana Vicintana	Dr. Arunkumar Dhayalan, Associate Professor Department of Biotechnology, School of Life Sciences, Pondicherry University, Pondicherry. Dr. Priya Josson, Assistant Professor, Department of Life Sciences, Kristu Jayanti College (Autonomous), Bengaluru. Dr. Sreekumar H, Research Scientist, Vitalsense Pvt. Ltd., Bengaluru Ms. Eliel Salome Zahire, IV Semester	Research Colloquim	93	
3.	5/3/2022	National Quiz Competition in commemoration of Dr. Arthur Kornberg's	M. Sc. Microbiology – Kristu Jayanti College. Dr. Sriram T Kristu Jayanti College	Quiz Competition	213	22
3.4.	1/4/2022 2/4/2022	Evolving Paradigms in Biotechnolgy: Combating Contemperory Challenges	Dr. K. P Mohanakumar Director, Inter University Centre for Biomedical Research & Super Speciality Hospital, Mahatma Gandhi University, Kerala	International Conference	250	27

III (b). Add-on Courses, Value Added courses

(Response to Key performance indicator query No. 10)

Sl. No.	Type of Course	Title	Date	Resource Person	Beneficia ries	Numbers benefitted
1.	VAC	Vermicomposting Technology	9/8/2021 — 19/8/2021	Dr. Hanumanthappa & Dr. Manikandan	III Sem. B.Sc. BBB	58
2.	VAC	Principles of Seed Technology	9/8/2021 — 19/8/2021	Dr.U.Sivagamas undari & Dr. Indira	III Sem. B.Sc. BBG & MBG	97
3.	VAC	Basics in Research Methodology	9/8/2021 — 19/8/2021	Dr. Sriram Dr. Roopa Dr. Malathi	V Sem. B.Sc. BBG MBG BBB F.Sc.	165
4.	VAC	Environmental issues and management	22/9/2021 — 1/10/2021	Dr. Reena Josephine Mr. Ashok Mrs. Kushbu	I sem. B.Sc. BBG, MBG, BBB and FS	230
5.	Certifica te Course	Sports and Nutrition	17/7/2021 — 16/10/2021	Dr. Sonia Angeline	8 (KJC Students)	37 (Outside Participants)

IV. Outreach Activities

(Response to Key performance indicator query No. 12)

SI	Date	Title	Resource Person	Resource	Beneficiaries
No.	Bute	11010		Person	

1,	21/6/22	Hands-On Training On Essential Techniques In Biotechnology For Secondary And Higher Secondary School Biology Teachers	Faculty Members, Department of Life Sciences	Training	09
2.	22/6/22	Hands-on Training for Laboratory Assistants - You reach - We teach	Faculty Members, Department of Life Sciences	Training	4
3.	28/8/2021	How are protein structures determined?	Dr.C. Sadasivan Professor Dept. of Biotechnology and Microbiology School of Life Sciences, Dr. Janakiammal Campus, Thalaserry Kannur University, Kerela	Primer - National Level Lecture	385
4.	9/10/2021	Genesis of Gene Therapy	Dr. Sam Laurel Stephen Scientist Bio strategy Department Boehringer Ingelheim Germany	Primer - National Level Lecture	340
5.	26/11/2021	Overcoming Hurdles in Clinical Genetic Medicine'	Dr. Sam Laurel Stephen Scientist Bio strategy Department Boehringer Ingelheim Germany	Inspire- National Level Lecture	268
6.	5/3/2022	DNA Replication and Genome Instability	Dr. Ganesh Nagaraju Professor Department of Biochemistry, Indian Institute of Sciences, Bangalore	Plexus-22 Celebrating the Life and Work of Dr. Arthur Kornberg Inaugural Lecture	213

V. INVITED LECTURES (2021-22)

(Response to Key performance indicator query No. 14)

			Name of the			
S. No.	Date	Full Title	Resource Person(s) with designation	Type of Event	Internal	External
1.	28.08.2021	Wellness Webinar on Postural Health	Dr. D. M Manoj Director, Physio Active -The Wellness Hub Gurgaon, Haryana Co-founder of Mudra Physical Therapy, Orthopedic and Sports Injury Rehab Clinic in Gurgaon	Guest lecture	280	•
2.	25/9/2021	Alumni expert talk on Scope of Biotechnology in Biotech and Pharmaceutical industry and its applications	Mr. Abhijeet Paul Batch (B.Sc. BBG 2007 -2010) Research Associate GCC Biotech PVT.LTD Kolkata	Alumni expert talk	150	
3.	9/10/2021	Genesis of Gene Therapy	Dr. Sam Laurel Stephen Scientist Bio strategy Department BoehringerIngelheim Germany	Lecture Series	280	60
4.	23/10/2021	"How much water do we EAT? Do we have enough water to produce food for us in future"	Prof. M S Sheshshayee Department of Crop Physiology University of Agricultural Sciences, Bangalore	Lecture Series	178	
5.	30/10/2021	Cytoskeleton Dynamics in Bacterial cell Division	Mr. Ajay Kumar Sharma Senior Research Fellow Cytoskeleton and Cell Division Lab School of Biological Sciences National Institute of Science Education & Research	Expert Lecture	179	

S. No.	Date	Full Title	Name of the Resource Person(s) with designation	Type of Event	Internal	External
			Bhubaneshwar, Odisha			
6.	6/11/2021	Unravel your future with your presence	Dr. H. Shylaja Jebashree Assistant Professor Department of Botany Lady Dok College, Madurai, Tamilnadu.	Expert Lecture	180	
7.	23/11/2021	Being Unstoppable	Ms. Tanushree Nair Energy Conciousnous coach Bengaluru	Expert Lecture	160	
8.	2/12/2021	Plant Taxonomy and Patriotism	Dr. Ganesh Babu N M Associate Professor Center for conservation of Natural Sciences The University of Transdiciplinary Health Sciences and Technology, Bengaluru	Expert Talk	43	
9.	29/1/2022	Emerging opportunities and future prospects in Marine Biotechnology	Dr. S. Jayanthi Assistant Professor Post Graduate and Resaerch Department of Zoology Ethiraj College (Autonomous), Chennai	Expert Lecture	215	
10	16/2/2022	Cancer Day	Dr. Guru Suhas MDS, Manager Medical Screening Indian Cancer Society, Bengaluru Dr. Swathi, MBBS, PGDYTD,M.Sc, Psy	Guest Lecture	421	
11	24/2/2022	Life and works of Charles Robert Darwin	Dr.John Milton M C Head, Department of Advanced Zoology & Biotechnology, Loyola College	Expert Lecture	429	

S. No.	Date	Full Title	Name of the Resource Person(s) with designation	Type of Event	Internal	External
			(Autonomous), Chennai			
12	24/2/2022	LOQUACIOUS- Quality of Being Facile in Speaking	Dr. Ruth Magdalene Assistant Professor Department of English Kristu Jayanti College, Bengaluru. Ms. Rini Reba Mathew Assistant Professor Department of English Kristu Jayanti College, Bengaluru	Expert Lecture	261	
13	26/2/2022	Climate change during Holocene: Evolution to Extinction of Birds	Dr. Ashutosh Singh Scientist Salim Ali Center for Ornithology and Natural History (SACON) Coimbatore, Tamilnadu	Expert Lecture	426	
14	28/2/2022	Biosynthesis of Nanomaterials	Prof. Rajasab Pro Vice Chancellor & Registrar Khaja Bandanawaz University, Gulbargha	Guest Lecture	379	
15	11/3/2022	NSS Awareness camp - An awareness program on organic farming and vermicomposting	Dr. Elcey CD, Professor and Head Dr. Esther Shoba R, Dr.Hanumantappa and Mr.Ashok D Assistant Professor, Department of Life Sciences	Awareness camp	-	95
16	18/3/2022	Effective Communication Skills	Ms. Alna Maria Isac Associate Profeesor Department of English (UG),	Guest Lecture	180	

S. No.	Date	Full Title	Name of the Resource Person(s) with designation	Type of Event	Internal	External
			Kristu Jayanti College (Autonomous), Bengaluru			
17	12/4/2022	"Career Prospects in Clinical Research"	Dr.Ranjit Nair Head Operations, Cliniserve Pvt.Ltd., Hyderabad	Expert Lecture	180	
18	23/5/2022	Expert Lecture on Endemic Biodiversity of Peninsular India and their Conservation Importance" during the visit.	Dr. S. Karrupusamy, Associate Professor, PG Department of Botany, Deputy Controller of Examinations, The Madura College, Autonomous, Tamilnadu	Expert Lecture / Commemoration of World Biodiversity day	219	

Coordinator

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