

Interim Report
STAR AWARD DBT
April 2017
Kishinchand Chellaram College

Department of Chemistry, Statistics, Life Sciences, Microbiology & Biotechnology.

**K.C.College, 124, Vidyasagar Principal K.M.Kundanani Chowk,
Dinsha Waccha Road, Churchgate, Mumbai-400020.**

K.C. COLLEGE
STAR COMMITTEE

Co-ordinator- Dr. Sagarika Damle

Contact Details:

Designation: Head of the Department

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Annexure I

General Information		
A-1	Name of the College	Kishinchand Chellaram College
	Name of the Society : Hyderabad (Sind) National Collegiate Board Govt. permission to start the college: UBF-4256 dated 9th July, 1956 Age of the College: 51-75 years	
A-2	Nature of the College (Government, Private, Autonomous)	Government
	Whether registered under 12(b) and 2 (f) of the UGC? Please enclose documentary evidence	Yes Enclosure
	Affiliated to which university University Permission to start the college:	University of Mumbai 5435 of 1954 dated 8th March, 1954
A-3	Women's College or Co-educational	Co-educational
A-4	Location of the College	Urban
A-5	Number of Departments supported: 5 Name of the Departments for which the support is sought under Star College scheme.	Chemistry Statistics Life Sciences Microbiology Biotechnology
A-6	NAAC Ranking	
A-7	Details of extra mural funding received in the last 3 years:	FIST Grant in aid, Rs. 80/- lakhs 2016-21
A-8		

Annexure I

	Title of Project & Name of Investigator	Cost	Durati on	Date sanction of	Name of Funding Agencies
1	"Improvements in the chemical etching properties of tracks in the commercially available solid state nuclear track detectors- SSNTDs", Principal Investigator- Dr. Hemlata Bagla	Rs. 30,000/-	2016-17	Jan 2017	Mumbai University Research Grant Project No : 339
2	"Study of L- Asparaginase enzyme production, Isolation and Purification from halophiles" Principal Investigator -Dr. Shalini Rai	Rs. 30,000/-	2016-17	Jan 2017	Mumbai University Research Grant Project No : 385
3	"Extraction and detection of antimicrobial effect of plant based dyes" Principal Investigator - Dr. Sejal Rathod	Rs. 30,000/-	2016-17	Jan 2017	Mumbai University Research Grant Project No : 256
4	"Bromelain: Possible phyto-remedy for breast cancer" Principal Investigator- Dr. Tejashree Shanbhag	Rs. 30,000/-	2016-17	Jan 2017	Mumbai University Research Grant Project No : 388
5	"Cloning and sequencing of the Myb gene from Aloe Vera" Principal Investigator -Dr. Suvarna A. Sharma	Rs. 25,000/-	2016-17	Jan 2017	Mumbai University Research Grant Project No : 389
6.	Screening and Characterization of salivary markers in Oral Tobacco consumers. Principal Investigator- Dr. Anupma Harshal	Rs.25,000/-	2016-17	July 2016	SRIDHAR BHATT LABS- BANGALORE
7.	Evaluation of metabolic markers in oral swabs of smokeless tobacco consumers Principal Investigator-Dr. Anupma Harshal	Rs.4,50,000 /-	2014-16	24 th April 2015	UGC Minor
8.	Molecular Cloning Of Stress Resistant Gene Of <i>Aloe Vera</i> For Production Of Transgenic Plant' Principal Investigator-Dr. Suvarna Sharma Co investigator :Dr. Anupma Harshal	Rs.9,38,800 /-	2012-15	1 st July 2012	UGC Major Research File No.41-580/2012(SR)

9.	Gene sequencing. Co investigator :Dr. Anupma Harshal	Rs.15,000/-	2014-15	July 2014	SRIDHAR BHATT LABS-BANGALORE
10	A study of and development of risk prediction model for Breast and Lung cancer	1.7 lakhs	2014-15 to 2016-17	Oct 2014	UGC
11	A study of retinal diseases in diabetic patients.	0.3 lakhs	2014-2015	March 2015	University of Mumbai

Annexure I

1. Name of the College:
2. Status(Govt./ Govt. Aided/ Autonomous/Pvt)
3. Women's College or Co-educational
4. Urban/Rural
5. No. of departments supported
6. NAAC Ranking + Year
7. Details of extramural funding received in the last 3 years (UGC, DBT, DST; duration, period and amount)

Quantitative: (data to be provided in the figures as well as bar graphs, before and after the Star College Scheme was implemented in the college)

8. No. of applicants vs No. of seats in each department
9. Number of students admitted year wise in different courses supported under the Star College Scheme
10. Change in the cut off percentage/admission
11. Change in the dropout rate
12. Data on pass percentage (UG level)
13. Data on how many students opted for PG courses

We are among the top 5 colleges in Mumbai for courses in Biosciences, Chemistry, Statistics. The statistics & microbiology department have the distinction of holding the University top rank for the last several years. The Life Sciences department boasts of the largest and oldest museum of specimens in the University. The college offers an UG research program JIGYAASA for a few selected students which make it a sought after College in Mumbai.

	FYBSC	2016	2015	2014	2013	2012	2011	2010
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1	Chemistry	140	147	201	160	211	330	203
2	Statistics	54	38	67	62	84	132	97
3	Biotech	33	33	33	29	36	32	35
4	Life Sciences	64	81	91	54	114	101	45
5	Microbiology	51	93	82	69	74	91	48

	SYBSC	2016	2015	2014	2013	2012	2011	2010
1	Chemistry	104	158	120	144	131	121	97
2	Statistics	31	53	22	21	33	39	28
3	Biotech	26	33	29	29	35	35	28
4	Life Sciences	48	63	35	50	44	30	34
5	Microbiology	46	69	45	49	44	41	25

	TYBSC	2016	2015	2014	2013	2012	2011	2010
1	Chemistry	94	59	56	34	36	14	16
2	Statistics	45	30	18	33	29	26	11
3	Biotech	34	28	28	34	35	28	36
4	Life Sciences	25	18	16	28	18	25	22
5	Microbiology	28	25	19	28	28	20	18

Subject	2016	Pass %	2015	Pass %	2014	Pass %	2013	Pass %	2012	Pass %	2011	Pass %
Chemistry	58	70.69	45	88.89	56	69.64	34	58.82	33	72.73	17	70.59
Statistics	28	78.57	20	60.00	18	72.22	33	96.97	29	82.76	27	100
Biotech	27	85.19	29	96.55	28	92.86	34	97.06	35	100	27	100
Life Sciences	18	100	19	100	16	100	28	100	18	100	22	100
Microbiology	26	76.92	24	83.33	26	90	28	96.43	28	96.43	20	95

Qualitative: - (data to be provided should contain the details of the activity i.e title, number and names of students (year/semester) who benefitted, name of teacher/ (s) involved; department wise, for one FY where the data is best reflecting the impact)

14. List of additional practicals introduced

Department of Biotechnology:

Sr.No.	F.Y.B.Sc.	SYBSc	TYBSc
	SEM II	SEM IV	SEM VI
1.	Micro-pipette handling	Separation of lipids by TLC	Extraction of

			phytochemicals from medicinal plants
2.	Motility of Microbes	Separation of pigments by Column Chromatography	
3.	Study of Fermentation	Extraction of phytochemicals from medicinal plants	
4.	Bioluminescence	Extraction of amylases from different sources	

Department of Chemistry:

Sr.No.	F.Y.B.Sc.		SYBSc		TYBSc	
	SEM I	SEM II	SEM III	SEM IV	SEM V	SEM VI
1.	Separation of plant pigments using paper chromatography		Standardisation of lead nitrate using complexometric titration	SAP value of oil	Calibration of glass apparatus	Hands on Training of Mass Spectrometry
2.	Estimation of hardness of water sample obtained from different locations		Isolation and estimation of Casein from different milk samples	Free acid in oil		
3.	Standardisation of sodium thiosulphate using iodometry					

Department of Life Sciences:

Sr.No.	F.Y.B.Sc.		SYBSc		TYBSc
	SEM I	SEM II	SEM III	SEM IV	SEM V
1.	Aseptic Techniques	Digitization of plant species	Separation of Proteins by PAGE	Separation of Nucleic Acids by PAGE	Microbial Techniques
2.	Good Lab Practices				Preparation of Media

Department of Microbiology:

Sr. No.	F.Y.B.Sc.		SYBSc		TYBSc	
	SEM I	SEM II	SEM III	SEM IV	SEM V	SEM VI
1.	Hands On training in Aseptic Transfer Techniques	Study of Normal flora of gastrointestinal tract and respiratory tract	Study of microbial load of air flora from various places	Isolation and visualization of Plasmid DNA from bacteria	Determination of sugar concentration in commercial drinks	Determination of Host specificity of phage
2.		Preparation of fermented foods	Lipid extraction and estimation by Soxhlet's method	Platform tests for milk samples	Isolation of lactic acid bacteria from probiotics	Synergistic activity of antibiotics
3.		Determining RBC count using Hemocytometer	Potability of water from various drinking outlets	Study of enzymes causing spoilage in food		Bioautography
4.		Study antibacterial spectrum by agar strip method	Study of Extremophiles: metallotolerants, osmophiles, anaerobic organisms	Microbiological analysis of spoiled milk products		Effect of Plasmid curing on Antibiotic Susceptibility of organism.
5.		Optimization studies	Winogradsky column :Study of zones using	Studying the		

		for cultivation of phages	soil and water samples from Sanjay Gandhi National Park	significance of phosphate buffered saline		
6.		Analysis of growth of bacteria under stressed conditions and determination of generation time	Hands On training :Agarose Gel Electrophoresis	Column chromatography		
7.		Studying effect of desiccation		Use of Rotary Vacuum evaporator for extraction and drying of plant pigments.		
8.		Effect of Nitrogen fixers on sprouting of seeds and its growth		Study antibacterial spectrum of insoluble drug		
9.		Testing of pH of various commercial soft drinks .		Determination of MIC by agar dilution method		

10.				Isolation and visualization of Plasmid DNA from bacteria		
11.				Study of organism causing food spoilage.		
12.				Microbiological analysis of milk products		

Department of Statistics:

Sr.No.	F.Y.B.Sc.		SYBSc		TYBSc	
	SEM I	SEM II	SEM III	SEM IV	SEM V	SEM VI
1.	Training on “analysing and Visualising data with R” Resource Person:	Training on “analysing and Visualising data with R Software” Resource Person: Prof. Prashant Shah, Associate Professor,	Training on “analysing and Visualising data with Excel” Resource Person:	Training on “analysing and Visualising data with R Software” Resource Person: Sreelekshmy S, Assistant Professor, Department of Statistics,	Training on “analysing and Visualising data with Excel” Resource Person:	Training on “analysing and Visualising data with R Software” Resource Person: Sreelekshmy S, Assistant Professor, Department of Statistics,

		Department of Statistics. , K. J. Somaiya College of Commerce and Science, Vidyavihar, Mumbai		Government Victoria College, Palakkad		Government Victoria College, Palakkad
2.		Training on “Analysing and Visualising Data with Excel” Resource Person: Mrs Jayshree Shetty, Vice principal & head, Department of Computer, Mathematics and Statistics, K.P.B. Hinduja, College Mumbai	Training on “Analysing and Visualising Data with Excel” (Advanced Statistical functions)” Resource Person:	Training on “analysing and Visualising data with R Software” Resource Person: Dr.Vivek Belhekar, Assistant Professor, Department of Psyschology , University of Mumbai , Vidya Nagari, Mumbai	Training on “Analysing and Visualising Data with Excel” (Advanced Statistical functions)” Resource Person:	Training on “analysing and Visualising data with R Software” Resource Person: Dr.Vivek Belhekar, Assistant Professor, Department of Psychology , University of Mumbai , Vidya Nagari, Mumbai
3.		Training on Correlation, Regression and Curve fitting Resource Person: Dr. Asha Jindal, Associate Professor				

		and Head, Department of Statistics, K.C.College, Mumbai				
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15. List of minor projects implemented, name of students and supervisor

Department of Biotechnology:

Sr No	Title	Name of the Students	Supervisor
1	Qualitative Analysis of Various Adulterants and Microbes in Milk Samples Collected from Different Areas Of Mumbai.	Ms. Jayshree Sonagra, Ms. Krisha Desai	Dr. Sheela Valecha Inter- disciplinary
2	HPLC Analysis and Evaluation of Antimicrobial Activity of two weed plants.	Ms. Shreshtha Shah	Ms. Anushi Divan
3	Characterization of altered oral microbiome & analysis of salivary biomarkers in smokeless tobacco consumers.	Ms. Jareena Joseph	Dr. Anupma Harshal
4	Microbial Characterization of smokeless tobacco products and its effect on the oral cavity.	Mr. Adarsh Chalke	Dr. Anupma Harshal
5	Factors affecting the uptake of Hookah and Alcohol among youngsters- A cohort study	Ms Shaba Parpia , Mr.Rohit Halder	Ms. Anushi Divan
6	Prevalence of PCOS among women in Mumbai and relation of its symptoms with work hours- A randomized controlled study	Ms. Madiha Sheikh, Ms. Rutuja Walavalkar, Ms. Madhu Kumari	Ms. Nandini Desai
7	Extraction and detection of antimicrobial Effect of plant based dyes.	Ms. Bushra Khan, Ms. Ramya Sindhyan	Dr. Sejal Rathod Ms. Anushi Divan
8	Study and Causes of ADHD among school	Ms. Mayuri Iyer, Ms.	Dr. Sejal Rathod

	children in Mumbai	Samrin Shaikh	Ms. Anushi Divan
9	Extraction of Endophytic fungal metabolites and characterization of Soil Microflora from mangrove Environment	Ms. Saloni Samant, Ms. Prachi Pawar	Dr. Pratibha Shah Ms. Nandini Desai
10	Anti- helminthic and Anti- microbial activity of some plants belonging to Malvaceae family	Ms. Samta Veera, Ms. Dhanashree Bothare	Dr. Sagarika Damle Ms. Sharon K.
11	Analysis of quality of water in local stations around Mumbai.	Mr. Abhijay Joshi Ms. Samreen Shaikh, Ms. Simtalsarkar, Ms. Bayaan Sarang	Ms. Anushi Divan Ms. Sharon K.
12	Characterization of Garden Soil & Formulation of immobilized Biopesticide & Biofertilizer	Ms. Sana Boblai, Ms. Mayuri Iyer, Ms. Namrata Singh	Ms. Nandini Desai
13	Isolation of buccal microflora and quantification of salivary biomarkers in smokeless tobacco consuming population	Ms. Manali Kadu, Ms. Pranita Rane, Mr. Ajay Narayanana	Dr. Anupma Harshal Ms. Nandini Desai
14	Green synthesis of Nanoparticles	Ms. Nadera Dada, Mr. Ashwini Kumar, Ms. Shrabasti Banerjee, Ms. Kanchi Jain	Ms. Amina Dholkawala

Department of Chemistry:

Sr.No.	Title of the Project	Student	Supervisor
1	Qualitative Analysis Of Various Adulterants And Microbes In Milk Samples Collected From Different Areas Of Mumbai	Krishna Desai, Jayshree Sonagra	Dr. Sheela Valecha
2	Soil Testing And Determination Of Heavy Metal Contamination In Soil	Ms. Saloni Agarwal	Dr.Yogitashinde
3	Characterization Of Commercial Detergents And Natural Cleansing Agents With Comparison Of Their Potential For Biodegradability	Anjali Mer	Rajesh Samant, Prabhpadmanabha

4	Comparative Study Of Matting Agents In Nail Lacquers Using Titanium Dioxide And Fumed Silica	Devesh Tejwani	Dr. Sushil Puniyani
5	Estimation Of Metallic Elements Present In Banana Inflorescence (Musa Acuminata) Essential For Progesterone Regulation In Females	Affan Z Karel	Dr.Satish Kolte
6	Determination Of Heavy Metals In Various Lipstick Brands	Avanti Mhatre	Mr Karun Sodah

Department of Life Sciences:

Sr.No	Title of the Project	Student	Supervisor
1	Development, Formulation And Evaluation Of Teeth Whitening Herbal Toothpaste Containing Cinnamomum Tamala	Urmi Dhamnaskar,	Tejashree Shanbhag
2	Isolation And Characterization Of L-Asparaginase Producing Micro-Organisms	Pooja Nair	Dr. Shalini Rai
3	A Study Of Isolation Of Myb Gene From Aloe Vera	Devika Mahimkar	Suvarna Sharma, Sharon Kadirvelu
4	Antimicrobial Properties Of Capsaicin	Chandan Das, Olivia Dias, Pranay Agarwal	Dr. Tejashree Shanbhag
5	Coffee Consumption In Urban Population And Estimation Of Caffeine From Different Coffee Brands	Uttara Sawant, Nikita Thakur	Sagarika Damle
6	Screening Of Peltophorum Pterocarpum Flowers For Different Biological Activities	Vaidehi Shirke, Manasa Ashokkumar	Dr. Aashu Vajpai

7	Health Problems Of Traffic Police Officers In Mumbai	Supriya Adak, Jayesh Sawant	Dr. Archana Thite
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Department of Microbiology:

Sr.No.	Title of the Project	Student	Supervisor
1.	Study of beta lactam resistance in ground water	Urvi Shah, Akanksha Singh, Sharmila Chaudhary	Mr. V. Thigle Dr. Pratibha S
2.	Study of lipase from organisms causing spoilage of food products.	Ankita Rathore, Aishwarya Pande	Dr. Prabha P.
3.	Isolation of Dye Degradars from Textile Effluent and Studying its kinetics.	Aditee Ashar, Runali Jagtap, Diksha Sawant	Dr. Pratibha S
4.	Detection of Drug Resistant Organisms from fomites.	Shraddha Gore, Minu Agrawal, Janvi Shah	Dr. Sejal R.
5.	Study of Antibacterial activity of <i>Tinospora cordifolia</i> and Cinnamon	Bhumika Kumari, Yashodhara Shinde	V. Thigle, Dr. Pratibha S
6.	Detection of Drug Resistant Organisms from natural water bodies.	Neha mudaliar, Kaiful shaikh, Nitesh kanojia	Mrs. Prabha P. Dr. Sejal R.

16. Faculty improvement activities such as training courses, seminars etc. conducted and their impact, Module names.

Sr. No.	Training	Host Department	Beneficiaries	Total Numbers
1.	Skill Development at Ram Bhau Malghi Prabhodini	Life Sciences	Teachers across the different disciplines and colleges of Mumbai	35

17. Outreach activities conducted and their impact/ follow-up

Sr. No.	Activity	Host Department	Beneficiaries	Total Numbers
1.	Microfiesta	Microbiology	Students across the schools and Junior Colleges of South Mumbai	72(School) 43(Junior College)

18. Any outstanding achievement by student/faculty (merit, award, research paper, presentation in national/international conference/ etc; full citation to be provided)

GENE SEQUENCES			
GS-1	Padmanabha ,P. Kothare, A.A , and Ghosh , A. Published Degradation of PAH's by Sphingomonas species Accession ID: KJ794190 to Gen Bank. Released on Jan 15' 2015, NCBI, EMBL & DDBJ.		
GS-2	Harshal,A., Adarsh Chlake, Jareena Jacob, Sharma,A Nucleotide Sequences of novel Klebsiella strain from oral swabs of smokeless tobacco consumers. Accession Bank SUB1391942 Sequenceid1 KU937106 Released on 4th Apr 2016.		
Date	Event Name	Accolades	Participants
7th March '17	National Seminar on Plant Biology-New Frontiers at Bhavans college(Andheri)	Best Paper Presentation Award (1st prize) Ms. Shreshtha Shah	Jareena Joseph Adarsh Chalke
24 th Feb 2017	Tantra Avishkar 2K17,a National Level Engineering Symposium at I. E(I)-TSEC [Thadomal Shahani Engineering College]	2 nd Prize Ms. Shreshtha Shah	Urmi Dhamnaskar Devesh Tejwani
16th Feb 2017	Student Outreach Programme at Bombay Convention Exhibition Center Goregaon.		Devesh Tejwani
16th Feb 2017	8th Indian Youth Science Congress (Science & Tech) organized by University of Mumbai, M S Swaminathan Research Foundation, SRM University and Rajiv Gandhi National Institute of Youth Development.	3rd Prize Jareena Joseph Adarsh Chalke	Ms. Shreshtha Shah Pranay Agarwal, Chandan Das Olivia Dias Pooja Nair Affan Karel
22nd Jan 2017	"Science Research Contest -		Affan Karel

	2016" Held In & By Marathi Vidnyan Parishad.		
18th Jan 2017	Konark Memorial National Poster Competition by Sajjan Gupta Konark Grp of companies	3rd Prize Jareena Joseph Adarsh Chalke	Ms. Shreshtha Shah Pranay Agarwal, Chandan Das Olivia Dias Saloni Agarwal
19th Dec 2016	Avishkar State Level Inter Collegiate Poster Competition by University of Mumbai	3rd District Qualifiers Jareena Joseph Adarsh Chalke	Ms. Shreshtha Shah Pranay Agarwal, Chandan Das Olivia Dias Saloni Agarwal

No.	Prize	Subject	Title & Authors
1	1 st	UG Chemistry	Pharmacognostic evaluation of a traditional <i>Unani</i> formulation, Sunita Shailajan*, Mayuresh Joshi, Suraj Mishra, Bhavna Bisht, Priyanka Mahanty, Ruia College.
	2 nd		Soil testing and determination of heavy metal contamination in soil Ms. Saloni Agarwal*, Dr.YogitaShinde, K.C.College.
	3 rd		Qualitative analysis of various adulterants and microbes in milk samples collected from different areas of Mumbai, Krisha Desai, Jayshree Sonagra, Dr. Sheela Valecha*, K.C.College.
2	1 st	PG Bio Analytical Techniques (Chemistry)	Phyto, Physicochemical screening of Bhuvaneshvar Vati, Chahat Saxena, Shivani Dalvi, Shruti Shah, Dr.Sonali Patil*, Birla College.
	2 nd		Jawarish-E-Amla Sada: Preparation, Assessment and Evaluation Mrudula Sawant, Shamaparvin Shaikh, Shruti Shah, Dr.Sonali

			Patil*, Birla College.
3	1 st	UG, Comp Science,	Hand Gesture Recognition of English Alphabets, Sonia Deora, Mansi Pawar, Geeta Brijwani* K.C.College.
	2 nd	Physics,	Synthesis and charecterization of nickel ferrite nanoparticles by using autocombustion method, Swapnil Kosalge*, Pinki Londhe, Surya Nair, Mantasha Bano, Karishma Singhadiya, Sweta Gupta, Guru Nanak College of Arts, Science and Commerce.
	3 rd	Maths	Application of differential equations in cancer treatment, Ruby E. Nadar, Archana Devendra, Guru Nanak College of Arts, Science and Commerce.
4	1 st	UG LifeSciences	Antimicrobial properties of capsaicin, Chandan Das, Olivia Dias, Pranay Agarwal, Dr. Tejashree Shanbhag*, K.C.College.
	2 nd		A study of isolation of myb gene from Aloe vera Devika Mahimkar, Suvarna Sharma, Sharon Kadirvelu, K.C.College.
	3 rd		Development, Formulation and evaluation of teeth whitening herbal toothpaste containing Cinnamomum tamala, Urmi Dhamnaskar, Tejashree Shanbhag*, K.C.College.
	3 rd		Isolation and characterization of l-asparaginase producing micro-organisms, Pooja Nair, Dr. Shalini Rai, K.C.College.
5	1 st	UG Biotechnology	Exploring the bioactive potential of Garciniatal botiusing invitro and in-silico technique for human welfare, Mansi Mulay, Jayesh Anerao*, Vikas Jha & Sneha Panvalkar, Khalsa College.
	2 nd		Molecular characterization and study of industrial applications of a prodigiosin producing soil prokaryote, Ruqayya M, Shiza S, Kruti P*, Jai Hind College.
	3 rd		Comparative study of alcohol based commercial deodorant and homemade herbal mist, Arul Jyothi, Paramasivam, Disha Poojary, Mithila Mhatre, Jai Hind College.

	3 rd		HPLC Analysis & Comprehensive Evaluation of Antimicrobial Properties of two weeds & Formulation of Herbal Lotion, Shreshtha Shah, Anupma Harshal, *Anushi Divan, K.C.College.
6	1 st	UG Microbiology	Microbial Fuel Cell: Remedy for the treatment of polluted Mithi river and simultaneous electric current generation, Pranita Poojary, Nijamuddin Shaikh, Prashant Poojary, Adrian Dsouza, Dhaval Gogri, Frezaan Sutaria, Sharavari Sawant, Swamini Patade, Radhika Birmole and K.Aruna*, Wilson College.
	2 nd		Tagging kinetochore proteins in “Rice Blast Fungus”- Magnaporthe oryza, Sandeep Venkatraman*, B.B. Chattoo, Ruia College.
	3 rd		Cytochrome b5 reductase 3 as novel anti-hypertensive therapeutic target, Priti Shenoy, Gaurav Kumar, Sanjay Kumar Dey and Suman Kundu, Ruia College.
9	1 st	PG Biotechnology & Microbiology	Evaluation of pstS1, towards development of novel drug susceptibility assay of tuberculosis, Vikas Jha ¹ , B.S.Ajit Kumar ² , N.Jayasuryan, Khalsa College.
	2 nd		Sequence to structure: in silico approach for ‘Ano3’ protein structure prediction, Ketaki Bachal, Kimaya Meher, Alison Vaz, Junita Desouza and Norine Dsouza *, St. Xaviers College.
10	1 st	Post Post Graduate (PPG)	Multiple single nucleotide polymorphisms and oral cancer risk in tobacco habitués, Wendy Andrea D’Souza, Dhananjaya Saranath *, Sunanda Divetia School of Science, NMIMS.
	2 nd		Screening for potential nano silver synthesising actinomycetes: an unexplored green synthesis, Lynn D’ Lima* & Manju Phadke, S.I.E.S College of Science, Arts and Commerce.

19. List of Short term training courses/workshops conducted for students and faculty, including title, duration, no. of beneficiaries

Sr. No.	Training	Host Department	Beneficiaries	Total Numbers
1.	Safety Awareness in Science laboratories (One Day)	Chemistry	Interdisciplinary (UG,PG and PhD Students;Faculty members from different colleges)	92
2.	Statistics for Biologists (Three Day)	Life Sciences	Interdisciplinary	100

3.	<i>Chlamydomonas reinhardtii</i> – The How, Now and Wow	Life Sciences	Students of TYBSc Life Sciences, PhD student from other college, Faculty across different departments	25
4.	Basic training program in computers	Microbiology	Non teaching staff across the various departments	09
5.	Training on “analysing and Visualising data with R Software”	Statistics	Interdisciplinary	40
6.	Training on “analysing and Visualising data with R Software”	Statistics	Interdisciplinary	50

20. Guest Lectures (details like name of scientist, topic, no. of students)

21. Visits to industries, institutes etc (name of place, duration of visit and no. of students)

22. List of Lab manuals/SOPs generated for all participating departments

- List of Laboratory manual/SOPs will be priority for the departments of Biotechnology, Chemistry, Life Sciences and Microbiology for the experiments conceptualized and carried out; while department of Statistics is in the process of making the laboratory manual.

23. Feedback mechanism adopted (to be indicated in term of how the quality of teaching and hands on training improved)

24. Any special innovative approach adopted by the college in improving the UG education

25. A summary on “how the Scheme helped in strengthening of the UG education and what would not have been possible without this” (not more than 1000 characters)

Kishinchand Chellaram College has completed 60 glorious years of academic excellence. It has established itself as an institute of repute in research activities, especially at the undergraduate level. It has received the Best College Award instituted by the Mumbai University for the year 2013-2014. K.C. as a Knowledge centre believes in celebrating academic excellence and fostering greater integration of all its stakeholders. The college offers a wide range of courses, which caters to the diversified needs of the students. In view of the expanding spectrum of opportunities available in Biological and other sciences, the star DBT Scheme at K.C. College was begun with the following aims and objectives:

1. To introduce a research aptitude, promote analytical thinking and foster an Interdisciplinary research environment with an 'Open door policy' between various science departments.
2. To foster a progressive research and development culture through partnerships between the stakeholders industry and academia.
3. To upgrade and scale up core research at undergraduate level leading to sustainable development by initiating Innovative programs such as 'Jigyasa'.
4. To facilitate use of e. learning resources such as INFILBNET and access to National and International journals of repute.
5. 'Train the trainers' - promoting teachers to participate in trainings sessions of high quality thus **enhancing their bench skills. Also motivating them to organize and participate in** workshops, seminars and conferences to update their knowledge.
6. Encouraging students to participate in summer trainings, internship & field visits with specific learning outcomes so as to reduce the gap between academic training and employability.
7. Creating an 'Entrepreneur Cell' and motivating young entrepreneurs for self employment.
8. To engage other sections of academia and society through outreach programs. For eg. Organizing need based training sessions for Junior college teachers
9. To promote progression and education, skill development among the weaker sections of society and girl students from the minority communities.

The above objectives were to a large extent achieved under the aegis of the Star DBT Scheme. The 5 deprtments participating in the schemeplanned the activities in the academic year 2016-17 individually as well as through multidisciplinary approach carried out the following activities:

1. Chromatography an experiment that was a demonstration module was conducted as a hands on experiment wherein students were able to use different leaves, solvent system and evaluate the learning outcomes based on which the objective of separation of plant pigments using Chromatography was explained to them.
2. The hands On Training on "Handling of Micropipettes" helped students understand measurements of small volumes as required in the practicals. This experiment will be of help to students in Molecular Biology.
3. Statistics for Biologists a 3day workshop to promote analytical thinking and fostering an interdisciplinary research environment. For eg. Application of Statistical methods for Biological data sets for stake holders and teachers.
4. An Intercollegiate Research Scholars Poster presentation meet was held on the under the aegis of the Star DBT Scheme on the 15th Feb 2017. It was attended by undergraduate, post graduate students and Research Scholars wherein out of the 70 presentations held 21 were presented by inhouse students while 49 were contributed by participants from other colleges. The poster meet offers a platform for all the young scientists from various colleges to come together and engage in scholastic deliberations. It also invites a distinguish panel of judges who give valuable inputs for budding researchers that help them to plan their future research

strategy. It also increases visibility of their research and connects them with important research institutes through the distinguished judges.

5. To improve the academic engagements within and across other institutions through training programs, internships and collaborative research so as to narrow the gap between classroom learning and skill set required for employability. Scientists from B.A.R.C. conducted a day long hands on training on Mass Spectroscopy for students of the Final year B.Sc. Chemistry that will enhance their bench skills and increase employability.
6. Stake holders received hands on training in Poly acrylamide gel electrophoresis that are otherwise demonstration experiments as listed in the curriculum facilitated by the sets of apparatus we could procure under the Star DBT Scheme.
7. Students received hands on training in preparing data for analysis of data using Excel.
8. Students will be encouraged to take part in different conference, seminar and workshop organised by different institution as a new insight in subject to inspire them for research in the subject.
9. The students will be taught various basic skills which includes
10. Basic laboratory skills- Handling glassware, media preparation & sterilization-Preparation of glasswares, culture media, basic sterilization methods, calibration of instruments was carried out for students of different departments that included those from Chemistry and Statistics.
11. Air samples from different environment were monitored by students, on campus and different parts of the city over different seasons which gave them basic understanding of airborne pathogens. Also they will learn use of air samplers along with statistical analysis.
12. Module on Water analysis-emphasis on sophisticated methods of analysis: S.Y.B.Sc. Batch & 20 students/semester from other departments.
13. Chlamydomonas reinhardtii –The How, Now and Wow a daylong workshop help students and faculty to learn the culture of model organisms and not just know about their life cycle, this workshop was conducted by Dr Jacinta D'Souza, Ms Marylin , Mr Venkat G. from DAE, University of Mumbai, Centre for excellence.
14. The students for the last 5 years enroll for a certificate program in molecular biology, immunological and plant tissue culture techniques at Shreedhar Bhatt Laboratories, Bangalore for duration of 1month, in their May summer vacation. The department proposes to extend similar modules at affordable prices in the laboratory.

Keeping in mind the Vision and Mission, the main objective of this exercise is to create an environment for and lifelong learning for **maximum number** of students at **Undergraduate level** of the department of sciences.

26. Suggestions/feedback for improving the scheme

Kindly arrange to send the following:

1. Logo of the College
2. Photographs of events/activities/celebrations held in the college under the support of Star College Scheme.

The photos should be in high resolution, sharp, good quality and no grains in .jpeg format, 300 pixels easy to scale down. The photos should be either landscape format (10 x7 inches) or square (10x10 inches)

3. A passport size photo of the coordinator, front pose, no side posture, sharp and best quality, no grains and 200-300dpi; with name, designation and complete address