Department of Biotechnology

Proforma for submission of Annual Progress Report supported under Star College Scheme 2020-21

1. Name of the College: PES's Modern College of Arts, Science and Commerce, Ganeshkhind, Pune 16

2. Name of Coordinator, designation,   Ranjana S. Shevkar, Assistant Professor,
    Address, Phone nos.   Modern College of Arts, Science and Commerce, Ganeshkhind, Pune 16,
    9850887338

3. Assessment duration: <u>01/05/2020</u> to <u>25/05/2021</u>   Duration in years: 01

4. Details of Departments Supported

Sl No	Name of Department	Courses (B.Sc./M.Sc./PG Diploma, certificate etc) offered	Regular Faculty members	
			Total =	
			With Ph.D.	**Without Ph.D.**
1	Computer Science	B.Sc (Computer Science)	4	15
		MSc (Computer Science)		
		M.Sc(Computer Application)		

5.   Number & Date of Advisory committee meeting:

6.   Qualitative improvements due to DBT support. Please highlight 5 salient points (within 500 words).

(You may enumerate 5 minor projects where students were involved and their impact or similar activities and their outcome; this is for representative purpose and coordinator may include details as per his own choice; kindly refrain from providing philosophical data Avoid any introduction. All the justifications must be very crisp like any aspect non-existent pre-STAR Scheme and you achieved after the grant).

I.   Students could explore various research areas while participated in intercollegiate E-Poster competition
   - TYBSc (Computer Science) student Vishesh Malik won a cash prize worth Rs. 1000/- in the Intercollegiate E-poster competition conducted by the department under DBT star scheme.

II.   Anubhuti
        13 Students participated in Quiz and Poster competition conducted by Science exhibition: Anubhuti
III.   Department has conducted on-line intercollegiate competition for undergraduate and postgraduate students
IV.   In pandemic situations during lockdown many students have completed online courses conducted by NPTEL(exams yet to be conducted), Udemy, Perfect Plan B etc.
V.   FIVE best projects

Sr. No	Project Title	Outcome
1	Improving Accuracy of Handwritten Text Recognition using Tesseract OCR engine	Tesseract OCR is modified to improve the accuracy of handwritten text recognition.

2	Door Alarm System	This project is automated home security uses a microcontroller and identifies a person entering the home by using user-id connected to user mobile. It raises alarm if any intruder breaks-in.
3	Land Transaction Security Approach using Blockchain	Distributed ledger Blockchain using hash function locks the land record immediately it is sold till it gets registered, avoids fraud in land selling.
4	Departmental Web Portal	The Head of Department will create users and give authorization to department staff and volunteer students to upload images and display updated information about class-wise syllabus, timetable, up-coming & ongoing exams, seminars, workshops, conferences and activities conducted by department.
5	Online Leave and WFH Tracker	System is designed as per the college administrative requirement to help college staff members apply for leave online, apply for work from home (WFH) request, submit work from home report and track approval records of different authorities online.

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

    I. Planning to conduct lecture series on IPR and Patents for faculty and students
    II. To inculcate and enhance the Research oriented thinking among the students the department is planning to purchase Journals and books.

8. Lessons learnt / difficulties faced/suggestions if any, in implementation of the programme and utilization of DBT grant. (Max 3 points within 300 words).
    I. Students learnt the latest programming language- Python used for latest technologies like IoT, Blockchain, Machine Learning and many others. Also leant to handle Microsoft Word, Excel, Access and Powerpoint to store, analyze data and prepare well formatted documents and presentations.
    II. Students interacted with eminent speakers working in different areas like Machine Learning, Big Data Analytics, Blockchain, IoT in Agriculture, Artificial Intelligence, Bioinformatics etc. from renowned institutes, universities and colleges.
    III. Could not conduct hands-on training due to Covid-19.

9. Key performance indicators

PLEASE FILLL ALL THE DETAILS and details in the separate list

S. no	Indicator	Pre-support								During /After Support								Rem arks
1	No. of students admitted	Total =577								Total =634								
		M=321				F=256				M=425				F=209				
		SC	ST	OBC	G	SC	ST	OBC	G	SC	ST	OBC	G	SC	ST	OBC	G	

	FYBSc(CS) SYBSc(CS) TYBSc(CS)	18	5	37	105	18	0	17	63	**16**	**3**	**31**	**71**	**1**	**0**	**13**	**27**	
		10	0	12	54	11	2	11	58	**17**	**4**	**33**	**147**	**16**	**1**	**13**	**61**	
		11	1	15	53	14	1	13	48	**13**	**1**	**13**	**76**	**9**	**1**	**4**	**63**	
2	No. of students passing out (%) Students Admitted/ passing out (pass %)	FYBSc: 57.97% SYBSc: 84.16 % TYBSc: 58.97%								FYBSc: 93.03% SYBSc: 94.96% TYBSc: 86.43%								
3	Drop-out rates	NIL								NIL								
4	No. of students opting for MSc	46								51								
5	Average marks	FY- 87 out of 100 SY- 32 out of 50 TY – 37 out of 50																
6	No. of hands-on experiments being conducted																	
7	No. of new experiments introduced									3								
8	Publications (scopus indexed) /patents, if any.									1								
9	Training received by Faculty									52								
10	Exhibitions/seminars /training courses conducted									Two Online certificate courses conducted								
11	Books/journals subscribed from Grants																	
12	Outreach activities (Popular lectures)									Intercollegiate E-Poster Competition								
13	Colleges mentored to apply for DBT Star College grants																	
14	Invited lectures									8 Lectures								

10.   **Self-evaluation**

Department	*Objective (as stated in proposal)	% achieved	Reasons for underachievement / If achieved, state in quantitative metrics
Computer Science	Give add-on courses with hands on training apart from syllabus (Conducted two online certificate courses)	**100%**	

	Identify the projects and publish research paper in reputed journals	**10%**	**Could not recognize the appropriate research oriented project.**
	Eminent Guest Lectures series	**100%**	
	Motivate students to participate in various intercollegiate competitions.	**100%**	

* For quantitative analysis you may fix five objectives (max) each having 2 marks and accordingly can calculate the matrix.

DETAILS *(Please fill all the details)*

1.   **Hands-on training programs/workshops conducted**

2.   **New experiments introduced/conducted**

A. Write a program to implement a menu driven program as follows.
1.Factorial
2.Prime or Not Prime
3.Even/Odd
4.Exit

B. Write a program (using functions!) that asks the user for a long string containing multiple words. Print back to the user the same string, except with the words in backwards order. E.g " I am BSc student" is :"student BSc am I"
C. Write a program that takes a list of numbers (for example, a = [5, 10, 15, 20, 25]) and makes a new list of only the first and last elements of the given list.

3.   **List of Publications (Scopus Indexed only)**

Sr. No	Year	Title of Publication	Impact factor
1.	2021	Performance Based Analysis of Blockchain Scalability Metric Tehnicki glasnik/Technical Journal, Print: ISSN 1846-6168, Online: ISSN 1848-5588	0.388

4.   **Training received by the faculty**

Sr. No.	Name of staff member	Duration	Type of course	Details of the course
1	Dr Ashwin Tomar	14-19 Sept 2020	Artificial Intelligence using python	DETE & BrainVision Solution Pvt. Ltd
2	Dr Ashwin Tomar	11-19 Nov 2020	Selenium webdriver using Python	MS Ramiah Institute of Technology Bangalore
3	Dr Ashwin Tomar	4-9th May 2020	Drupal Training	MIT Polytechnique with IIT Mumbai
4	Dr Ashwin Tomar	3-8th May 2020	Python 3.4.3 Training	Sinhgad Institute of Technology with IIT Mumbai
5	Dr Ashwin Tomar	14-19 Dec 2020	Block chain Technology using Use Case	VIT Department of Computer Engineering, Pune
6	Ranjana Shevkar	28 Dec 2020 to 2 Jan 2021	AICTE sponsored one week online Short Term Training Program on	VIIT, Department of Computer Engineering, Pune

			'Blockchain Technology and use cases Thread III'	
7	Ranjana Shevkar	23 Nov 2020 to 27 Nov 2020	AICTE Training And Learning (ATAL) Academy Online FDP on "Block chain"	Swami Keshvanand Institute of Tech., Management & Gramothan, Jaipur
8	Ranjana Shevkar	8 Aug 2020 to 14 Aug 2020	7 days webinar on Blockchain Technology	Oyster Training (Online)
9	Ranjana Shevkar	July 27 - August 01, 2020	E-content Development & Delivery, Research Methodology and Autonomy,One week Online FDP	Modern College, Shivajinagar, Pune and Kamla Nehru Mahavidyalay,Nagpur in collaboration with RUSA, Maharashtra
10	Ashwini Pawar	15 Apr 2020 to 20 Apr 2020	One week OnlineFDP on Boss Linux Ubuntu	Karmaveer Bhaurao Patil College of Engineering,Satara in association with IIT Bombay
11	Ashwini Pawar	1 May 2020 to 7 May 2020	Python 3.4.3 Training One week FDP Online	Abeda Inamdar College,Pune in association with Spoken Tutorial Project, IIT Bombay, funded by National Mission on Education through ICT, MHRD, Govt., of India.
12	Ashwini Pawar	26 Aug 2020 to 1 Sept 2020	One week National Level Workshop on Research Methodology and its strategies	Government First Grade College Channarayapatna Hassan Karnataka
13	Kulkarni Sonal Ramesh	July 27 - July 31, 2020	Simulation and Modeling of Data communications and network,One week Online FDP	Dept. of electronics and Comm. Engineering ,Mahatma Gandhi Insti. of Tech, Hyderabad
14	Kulkarni Sonal Ramesh	June 04 - July 01, 2020	4-week Induction/Orientation Programme for Faculty in Universities/Colleges/Institutes of Higher Education	TLC, Ramanujan College University of Delhi
15	Kulkarni Sonal Ramesh	July 27 - August 01, 2020	E-content Development & Delivery, Research Methodology and Autonomy,One week Online FDP	Modern College, Shivajinagar, Pune and Kamla Nehru Mahavidyalay,Nagpur in collaboration with RUSA, Maharashtra
16	Kulkarni Sonal Ramesh	21st-26th May 2020	Multimedia enriched e- Content Development, One week Online FDP	GAD-TLC SGTB Khalsa College, University of Delhi under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) of MHRD.
17	Kulkarni Sonal Ramesh	August 17-22, 2020	Machine learning and Deep Learning: Research &Applications Perspectives (Part - 2),AICTE sponsored One Week Short Term Training Programme (STTP)	Dept. of Comp. Sci. & Engineering, Poornima College of Engineering, Jaipur sponsored by AICTE Quality Improvement Scheme (AQIS).
18	Dr. Pallawi Bulakh	30-06-2020	Refresher Course in Teacher Teaching in Higher Education	ARPIT
19	Dr. Pallawi Bulakh	21st-26th May 2020	Multimedia enriched e- Content Development, One week Online FDP	GAD-TLC SGTB Khalsa College, University of Delhi under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) of MHRD.
20	Dr. Pallawi Bulakh	July 27 - August 01, 2020	E-content Development & Delivery, Research Methodology and Autonomy,One week Online FDP	Modern College, Shivajinagar, Pune and Kamla Nehru Mahavidyalay,Nagpur in collaboration with RUSA, Maharashtra
21	Dr. Pallawi Bulakh	13 July 2020 to 17 July 2020	Evolution of IOT and Its Real Time Applications	Malla Reddy Institute of Technology and Science, Net

				Delhi
22	Dr. Pallawi Bulakh	1July - 7 July 2020	Teachers on Tools for Online Teaching Learning and Evaluation	Swami Ramanand Teerth Marathwada University Nanded
23	Dr. Pallawi Bulakh	27 may - 2 june 2020	ICT based Tools and Its applications in teaching learning process	BSVS Educational LEaring Center Nagpur
24	Dr. Pallawi Bulakh	28 may to 30 may 2020	Python Programming and Applications in Artificial Intelligence and Data Science	KK Wagh Institute of Engineering Education and Research, Nashik
25	Dr. Pallawi Bulakh	22 may -26 may 2020	Artificial Intelligence	Universal College of Engineering,Mumbai
26	Dr. Pallawi Bulakh	17 may - 21 may 2020	Learning, Pedagogy and Effective use of case methodology	ASAM Group of Institutes
27	Dr. Pallawi Bulakh	25 may to 29 may 2020	R Programming	IMS Noida andSpoken tutorial MHRD(IIT Bombay)
28	Dr. Pallawi Bulakh	11 may - 15 may 2020	Open Source Software for Education	Vellore Institute of Chenni & IIT Bombay(Spoken Tutorial)
29	Prof. Meenal Jabde	21st-26th May 2020	Multimedia enriched e- Content Development, One week Online FDP	GAD-TLC SGTB Khalsa College, University of Delhi under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) of MHRD.
30	Prof. Meenal Jabde	July 27 - August 01, 2020	E-content Development & Delivery, Research Methodology and Autonomy,One week Online FDP	Modern College, Shivajinagar, Pune and Kamla Nehru Mahavidyalay,Nagpur in collaboration with RUSA, Maharashtra
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37	Prof. Meenal Jabde	25 may to 29 may 2020	R Programming	IMS Noida andSpoken tutorial MHRD(IIT Bombay)
38	Prof. Meenal Jabde	11 may - 15 may 2020	Open Source Software for Education	Vellore Institute of Chenni & IIT Bombay(Spoken Tutorial)
39	Dr. Dipali Meher	21st-26th May 2020	Multimedia enriched e- Content Development, One week Online FDP	GAD-TLC SGTB Khalsa College, University of Delhi under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) of MHRD.
40	Dr. Dipali Meher	July 27 - August 01, 2020	E-content Development & Delivery, Research Methodology and Autonomy,One week Online FDP	Modern College, Shivajinagar, Pune and Kamla Nehru Mahavidyalay,Nagpur in collaboration with RUSA, Maharashtra
41	Dr. Dipali Meher	13 July 2020 to 17 July 2020	Evolution of IOT and Its Real Time Applications	Malla Reddy Institute of Technology and Science, Net Delhi
42	Dr. Dipalil Meher	1July - 7 July 2020	Teachers on Tools for Online Teaching Learning and Evaluation	Swami Ramanand Teerth Marathwada University Nanded
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45	Dr. Dipali Meher	22 may -26 may 2020	Artificial Intelligence	Universal College of Engineering,Mumbai
46	Dr. Dipali Meher	17 may - 21 may 2020	Learning, Pedagogy and Effective use of case methodology	ASAM Group of Institutes
47	Dr. Dipali Meher	25 may to 29 may 2020	R Programming	IMS Noida andSpoken tutorial MHRD(IIT Bombay)
48	Dr. Dipali Meher	11 may - 15 may 2020	Open Source Software for Education	Vellore Institute of Chenni & IIT Bombay(Spoken Tutorial)
49	Dipali Tamhane	1/05/2020 to 7/05/2020	Python 3.4.3 Training One week FDP Online	Abeda Inamdar College,Pune in association with Spoken Tutorial Project, IIT Bombay, funded by National Mission on Education through ICT, MHRD, Govt., of India.
50	Dipali Tamhane	25/05/2020 to 29/05/2020	Five days webinar on "COMPUTER SCIENCE AND APPLICATIONS FOR NET/SET PREPARATION"	Department of Computer Science, Rani Channamma University, Vidyasangam Belagavi
51	Dipali Tamhane	23/12/2020 to 13/02/2021	Introduction to Cloud	Edx Online Course, Course of study offered by IBM
52	Dipali Tamhane	20/01/2021 to 13/02/2021	Enabling Technologies for Data Science and Analytics: The Internet of Things	Edx Online Course, Course of study offered by ColumbiaX

5.   **Exhibitions/seminars/training courses conducted**

Sr. No.	Name of Program	Duration	No of Beneficiary
1	On-line Certificate Course, "Python Programming for Data Science and Machine Learning" (30 hours)	18/01/2021 to 30/01/2021	**115**
2	On-line Certificate Course, "Microsoft-Office: From Beginners to Advanced" (40 hours)	05/02/2021 to 04/03/2021	**253**

6.   **Outreach Activities**

Sr. No.	Activity	Title	Duration	No of Beneficiary
1	Intercollegiate E-poster Competition	New Health Challenges & Solutions In 21st Century	06/06/2020 to 20/06/2020	105

7.   **Invited Lectures (Online, give details of author, topic, date and time, targeted students, their department and number of attendees)**

Sr. No.	Date & Time	Name of Speaker and details	Topic of the lecture	Targeted Students and their department	Number of Attendees
1	12/01/2021 10.00am to 12.00noon	Dr. Ramesh Manza, Associate Professor, Department of Computer Science and IT, Dr. Babasaheb Ambedkar Marathwada University,	Machine Learning	Bsc (Computer Science),	149

		Aurangabad 9421308853/ 9765800600 rrmanza.csit@bamu.ac.in		BCA(Science)	
2	12/01/2021 12.30 noon to 2.30pm	Mr. Atul Kahate, Author and Visiting Faculty of Computer Science 9372411845 akahate@gmail.com	Data Science opportunities	Bsc (Computer Science), BCA(Science)	131
3	13/01/2021 10.00am to 12.00noon	Dr. Baljeet Kaur, Assistant Professor, Bharati Vidyapeeth Deemed to be University, Institute of Management and Entrepreneurship Development, Erandwana, Pune 8459178957/ 9657223780 baljeet.rayat@gmail.com	Cyber Security	Bsc (Computer Science), BCA(Science)	83
4	13/01/2021 3.00pm to 5.00pm	Dr. ManojKumar Deshpande, Director, Prestige Institute of Engineering Management & Research, Indore, Madhya Pradesh. 9892061141 manojvilasrao@gmail.com	Emerging Technology applications in agriculture	Bsc (Computer Science), BCA(Science)	94
5	14/01/2021 10.00am to 12.00noon	Dr. Jyoti Yadav, Assistant Professor, Department of Computer Science, Savitribai Phule Pune University, Pune. 9881252910 yadav.jyo@gmail.com	Big Data Analytics	Bsc (Computer Science), BCA(Science)	207
6	14/01/2021 12.30 noon to 2.30pm	Mr. Winit Nilkant Anandpawar, Assistant Professor, Dr. Ambedkar College, Deeksha Bhoomi, Nagpur. 9767939131 winit.anand@gmail.com	Artificial Intelligence	Bsc (Computer Science), BCA(Science)	80
7	15/01/2021 10.00am to 12.00noon	Dr. Sonali Patil, Head of Department, IT Engineering, Pimpri Chinchwad College of Engineering, Pimpri Chinchwad, Pune 44. 9423527197 sonalimpatil@gmail.com	Blockchain	Bsc (Computer Science), BCA(Science)	213
8	15/01/2021 12.30 noon to 2.30pm	Dr. Pramod Wangikar, Professor, Department of Chemical Engineering, IIT-Bombay, Powai, Mumbai. +91 (22) 2576 7232 wangikar@iitb.ac.in	Bio-informatics trends and opportunities	Bsc (Computer Science), BSc(Biotechnology) , BCA (Science)	181