

Department of Biotechnology

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

1. Name of the College: PDEA'S Waghire College Arts, Commerce and Science, Saswad.

2. Name of Coordinator, designation: Dr. Vidya Vivek Ptatankar
Address, Phone nos. Assistant Professor
Department of Botany,
Waghire College Saswad
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3. Assessment duration 24/08/2022 to 23/08/2023 Duration in years: 1 year

4. Details of Departments Supported

Sr. No	Name of Department	Courses (B.Sc./M.Sc./PG Diploma, certificate etc) offered	Regular Faculty members		
			With Ph.D.	Without Ph.D.	Total
			Total =22		
1.	Chemistry	BSc, MSc	4	9	13
2.	Microbiology	BSc, MSc	2	7	9
3.	Botany	BSc	3	3	6
4.	Zoology	BSc	2	1	3

5. Number & Date of Advisory committee meeting:

Meeting Number: 04

Dates of meeting: 23/08/2022, 31/10/2022, 10.11.2022 (Advisory meeting with DBT), 8/03/2023

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

Organization of offline Workshops: With regards to provision of practical knowledge for better understanding of the respective subjects, Botany department has organised one day hands on training on aerobiology techniques and use of air sampler which we bought under DBT star scheme. The interdisciplinary hands-on training workshop on nanoparticle synthesis was organised by department of chemistry, Microbiology and Botany under DBT STAR scheme of the college during the academic year 2022-2023 on 13/02/2023 at 11:00 am to 2::30 pm on very important topic "Nanoparticle Synthesis". The students prepared the gold nanoparticle using extract of *Phyllanthus emblica* and Pomegranate. The students have learned the synthesis of nanoparticles and enjoyed both the sessions on nanoparticle synthesis. Guest lecture -eminent guest speakers like Dr. Gulab D. Khedkar, Dr. Laxmikant V. Shinde, Dr. Narsingrao N. Bandela, Dr. S. L. Laware, Dr. Aruna Bhambare and Ms. Chaitali Kshirsagar spoke on various topics related to Life science. Topics covered were Techniques in Biodiversity conservation; Environmental Awareness; Ecosystem and its role; Research Ethics; New Trends in Environmental Science; Billion Dollar Biological Threat- Mosquito.

Faculty Development Programme organized:

The department of Microbiology had organised One day Workshop on 'Mind Power and Stress Management' under the guidance of Principal Sir, Dr. Pandit Shelake for teachers, administration staff and students to cope up with day-to-day stress and how to deal with all these situations in life. "Two-day Seminar on IPR and Scientific writing." Students and faculty got motivated and came up with some patent ideas and problems related to this area. We are thanking DBT for giving us opportunity to arrange such motivational talks, seminar, workshops and hands on training programs.

Utilisation of Grant to enhance Research activities: Although this year we tried to utilise the grant 100% by the benefitted departments plan to utilize it for students and teaching pragmas to enhance the quality of teaching and learning. We have assigned a project already to students where they can do referencing and basic work at home when pandemic restrictions were there and college is closed for them only online teaching was going on. Some second year B.Sc. students are doing small project of composting all kitchen waste at home under guidance of Microbiology department. Some of the students have started production of Biofertilizer, Jeevamrut etc. from Botany Department. One innovative project of FY BSc Botany students is collecting seeds of local varieties which are conserved generation to generation and they are displaying in the Exhibition organised by Community Seed Bank Project -Gram Gourav Pratishtan, Pani Panchayat Khalad. Zoology department involved in birds, moth biodiversity small survey projects of their localities. Department of Chemistry involved in soil and water testing projects. We have also organised Science Exhibition in month of December to motivate the innovative ideas of students.

Skill development program: As we mentioned in earlier reports, this year we focused on organization of more skill-based development programs. We organised Flower arrangement programs, Science exhibition, Soap and detergent making workshop, Interactive panel training, PTC hands-on workshop, Mushroom cultivation, Chromatographic techniques workshop, Molecular techniques workshop etc. Also, Through the hands-on training on Beekeeping by Zoology Department, which serves as a skill development program for students, the students fear regarding the honeybee stinging and handling was reduced. all these skill-based training programs and workshops were organised by funded departments to enrich entrepreneurship and professional skills in students. Students are highly motivated and started thinking of opportunities in life sciences and Biotechnology which is possible because of funding and guidelines provided by DBT to motivate and create awareness in students. Our teachers skills enhanced by organizing the faculty development program in coordination with UGC-HRDC SPPU Pune.

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

- In pandemic situations we have used virtual lab platforms of IIT, AMRITA University, an initiative of Ministry of Education under the National Mission of Education through ICT.
- Faculty Development program in collaboration with UGC-HRDC first time happened in the history of our college under that CAS advancement certificate programs on interdisciplinary and Chemical science subject we have organised due to the support provided by the Star DBT Scheme.

- All faculties of science have completed various training programs and trainings on online tools, blended learning tools, various programs organised by our institution as well as other institutions.
- Zoology department has set up small scale Apiary in the College campus through the Bee boxes purchased through DBT- STAR College Grant. Honey extraction process was also shown to the students.

-Novel aspect planning to introduced:

- We would like to start online short-term courses on Cell and Molecular biology, Nanobiotechnology, DNA sequencing, Science in day-to-day life, Medicinal Plant etc.
- Publications and Patent by Students: Project will be allotted to students of BSc first year. These projects will be mentored 3 yrs. Then the work of students will be published in reputed journals also students will be guided for patenting.
- We are based in rural part of Pune so we would like to train our students for food processing techniques of fruits as Purandar is known for figs and custard apple production as for vegetables as majority people are farmers.
- Separate academic calendar for DBT Star College activities and annual bulletin of DBT star college activities in annual academic periodical publication of the College.
- We would like to incorporate the training courses on germplasm conservation and preservation techniques.

8. Lessons learnt / difficulties faced/suggestions if any, in implementation of the programme and utilization of DBT grant.

Academic year 2022-23 saw the use of residual grants from the previous year as well as the opening of an ICICI account, which is a CNA special account with a zero balance. This account opening process took a full year, and we finally received it in April. Because Saswad branch staff took 7 months to comprehend the processes, asking for paperwork, etc., till they couldn't do it, we were finally directed to Pune main branch, where they took their time but completed the process, allowing our college to open an account. We are expecting for our next funding for greater academic utilisation, which is crucial. We cannot measure numerically due to the covid influence, but we can feel the difference in pupils' mindsets.

Faced Difficulties in arranging the following programs: ICICI Bank account opening process

9. Key performance indicators:

Department of Chemistry																	
S. no	Indicator	Pre-support							During /After Support							Remarks	
1	No. of students admitted	Total = 72 (TY BSc)							Total = 54 (TY BSc)								
		M= 34			F=38				M= 23			F= 31					
		SC	S T	O B C	G	SC	ST	O B C	G	S C	ST	OBC	G	SC	ST		O B C
2	No. of students passing out (%) Students Admitted/passing out (pass %)	66.66 % 72 students admitted 48 students passed out (66.66 %)							-								
3	Drop-out rates	-							-								
4	No. of students opting for MSc	19							-								
5	Average marks	First Class							-								
6	No. of hands-on experiments being conducted	-							0								

7	No. of new experiments introduced	-	0	
8	Publications (scopus indexed) /patents, if any.	03	03	
9	Training received by faculty	2	0	
10	Exhibitions/seminars/training courses conducted	01 (“ Emerging trends in Life Sciences ” (ETLS-2020) organized by department of Chemistry, on 7 th -8 th Feb-2020)	01 hands on training workshop on Metal nanoparticle synthesis)	
11	Books/journals subscribed from grants	2	01 (Urasian Chemical Communications)	
12	Outreach activities (Popular lectures)	-	1. Synthesis of metal nanoparticle by Dr. Bankar Ashok, Assistant Professor, Abasaheb Garware College, Pune.	
13	Colleges mentored to apply for DBT Star College grants	-	01 Annasaheb Waghire College, Otur during application for the scheme	
14	Invited lectures	07	01	

Department of Microbiology																			
S. no	Indicator	Pre-support								During /After Support								Remarks	
1	No. of students admitted (T.Y.B.Sc.)	Total = FYBSc-130 SYBSc-119 TYBSc-60								Total = FYBSc-70 SYBSc-88 TYBSc-54									
		M= 22				F=38				M= 23				F= 31					
		SC	ST	OBC	G	SC	ST	OBC	G	SC	ST	OBC	G	SC	ST	OBC	G		
2	No. of students passing out (%) Students Admitted/passing out (pass %)	95%								Results not yet declared									
3	Drop-out rates	Zero								Zero									
4	No. of students opting for MSc	In house:14 Other college:4								Results not yet declared									
5	Average marks	62.36%								Results not yet declared									
6	No. of hands-on experiments being conducted	Nil								01									
7	No. of new experiments introduced	Nil																	
8	Publications (scopus indexed) /patents, if any.									Nil									
9	Training received by faculty	Nil								01(Mind Power training and Stress Management)									
10	Exhibitions/seminars/training courses conducted	1								1/4									
11	Books/journals subscribed from grants	1								1 (AIMS Microbiology)									
12	Outreach activities (Popular lectures)	-								Biofertilizer application in field.									
13	Colleges mentored to apply for DBT Star College grants									02 Annasaheb Magar College, Hadapsar, Pune Annasaheb Waghire College, Otur during application for the scheme									

14	Invited lectures		5 (In Annexure I)	
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Department of Zoology																	
S. no	Indicator	Pre-support							During /After Support							Remarks	
1	No. of students admitted	Total = 119 (SY) + 132 (FY)							Total = 92 (S.Y)+ 104 (F.Y)								
		M= 48 (S.Y)+61 (F.Y)							M= 47 (S.Y)+ 34 (F.Y)								
		F=71 (S.Y) +71 (F.Y)							F= 45 (S.Y) +70 (F.Y)								
		SC	S T	O B C	G	SC	ST	O B C	G	S C	ST	OBC	G	SC	ST	O B C	G
2	No. of students passing out (%) Students Admitted/passing out (pass %)	96%							90.46%								
3	Drop-out rates	-							-								
4	No. of students opting for MSc								-								
5	Average marks	First class							-								
6	No. of hands-on experiments being conducted	0							0								
7	No. of new experiments introduced	0							06 1. Introduction to working and principle of instruments used in laboratory. 2. Study of water parameters with the help of water analyser. 3. Zooplankton identification. 4. Identification of insects on the basis of their types of antennae. 5. Identification of insects on the basis of their types of eggs. 6. Study of pre-embryonic development with the help of chick egg.								
8	Publications (scopus indexed) /patents, if any.	0							0								
9	Training received by faculty	0							0								
10	Exhibitions/seminars/training courses conducted	0							02 (One day Workshops on Life sciences organised on 30 th and 31 st January, 2023)								
11	Books/journals subscribed from grants	1							1 (Advances in Environmental Science)								
12	Outreach activities (Popular lectures)	0							1 (Wildlife and Wildlife photography organized on 10 th October, 2022)								
13	Colleges mentored to apply for DBT Star College grants	0							02 Annasaheb Magar College, Hadapsar, Pune Annasaheb Waghire College, Otur during application for the scheme								
14	Invited lectures	0							3								

Key Performance Indicator Department of Botany																
S. no	Indicator	Pre-support							During /After Support							Remarks
1	No. of students admitted (Benifitted Departments)	Total = 119 (SY) + 132 (FY)							Total = 92 (S.Y)+ 104 (F.Y)+ 09 (T.Y)							
		M= 48 (S.Y) +61 (F.Y) F=71 (S.Y) +71 (F.Y) T.Y.= 12							M= 47 (S.Y)+ 34 (F.Y) F= 45 (S.Y) +70 (F.Y) T.Y. = 9							
		S C	S T	O B C	G	S C	S T	O B C	G	S C	S T	O B C	G	S C	S T	
	07	10	31	115	15	18	43	119	11	16	49	132	1	25	61	171
2	No. of students passing out (%) Students Admitted/passing out (pass %)	Admitted-161 Passed-152 Percentage -94.40%							Admitted-158 Result awaited							
3	Drop-out rates	NA							-							
4	No. of students opting for MSc	6							-							
5	Average marks	First Class							-							
6	No. of hands-on experiments being conducted	54							68							
7	No. of new experiments introduced	35							-							
8	Publications (scopus indexed) /patents, if any.	4							8							
9	Training received by faculty	Training: 3 Faculty: 14							Training: 12 Faculty: 28							
10	Exhibitions/seminars/training courses conducted	06							12							
11	Books/journals subscribed from grants	2- (1. Plant Cell Biotechnology and Molecular Biology 2. International Journal of Current Research and Review) Journal subscribed							2 (1. Plant Cell Biotechnology and Molecular Biology 2. International Journal of Current Research and Review) Journal subscribed Journals periodicals subscribed							
	Outreach activities (Popular lectures)	4 -Online National Webinar (20-25 th March 2021) All Guest lectures are well known from other universities and big institutes like NCL,Osmania University, Goa university, Marwadi University, Saurashtra University, IIT Kharagpur etc.							5 -1 FDP interdisciplinary and 2 nd on chemical science-analytical techniques with UGC HRDC SPPU, Pune was appreciated by college teachers as well as outside teachers those who are participated. -Guest Lecture on Carrier Opportunities in pharmaceutical sciences for chemistry students by Pravin Kumar - Chromatographic techniques and Basic Molecular Biology techniques in collaboration with IIT Kharagpur							

13	Colleges mentored to apply for DBT Star College grants	02 - Annasaheb Magar College, Hadapsar, Pune -Annasaheb Waghire College, Otur during application for the scheme	03 - Annasaheb Magar College, Hadapsar, Pune -Annasaheb Waghire College, Otur during application for the scheme -Vinzer College	
14	Invited lectures	26	39	

• Proofs (S.No. 6-14 not more than 5 pages, 1.5 line spacing 11 times roman font size) to be provided duly attested by Principal and Coordinator. (Annexure I: Proofs)

10. Self-evaluation

Department	*Objective (as stated in proposal)	% achieved	Reasons for underachievement / If achieved, state in quantitative metrics
Chemistry	-Equipment purchase -Extra practicals -Guest lecture -Workshops -Hands on training -MOU with other institution and companies -Industrial visits	100%	Reason for under achievement- 1. Pandemic impositions, -Workshop and hands on training -Industrial/Field visits delayed
Microbiology	-Equipment purchase -Extra practicals -Guest lecture -Workshops -Hands on training -MOU with other institution and companies -Industrial visits	100%	Reason for under achievement- 1. Pandemic impositions, 2. Lack of manpower, -Workshop and hands on training -Industrial/Field visits, -Extra practicals because of pandemic restrictions and no offline schools.
Botany	-Equipment purchase -Extra practicals -Guest lecture -Workshops -Hands on training -MOU with other institution and companies -Industrial visits	100%	Reason for under achievement- 1. Pandemic impositions first semester, -MOU in process with Marwari University Rajkot, Gujrat - Industrial/Field visits delayed because of pandemic restrictions and no offline schools/colleges.
Zoology	-Equipment purchase -Extra practicals -Guest lecture -Workshops -Hands on training -MOU with other institution and companies -Industrial visits	100%	Reason for under achievement- 1. Pandemic impositions, -Workshop and hands on training delayed -Industrial/Field visits delayed because of pandemic restrictions and no offline schools/colleges. -MOU KVK Baramati is in progress

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

Course Coordinator
(With Seal)

Head of the Institution
(With Seal)



Pune District Education Association's
Waghire College of Arts, Commerce & Science, Saswad.

Tal - Purandar, Dist - Pune. 411 001. Maharashtra
NAAC Re-accredited: B++



Under DBT STAR College scheme,
TWO DAYS SEMINAR
ON
IPR and SCIENTIFIC WRITING

Date
24th-25th Jan 2023
Time 10.00 am to onwards



Resource person



Prin, Dr. Harish Tiwari,
PCCOE, Ravet Campus,
Pune



Prin, Dr. Sanjay Chakane,
T. J. College,
Khadki, Pune.

DBT-STAR College
Coordinator
Dr. V. V. Patankar

Co-Convener
Prof. S. B. Bhujbal
Dr. S. D. Jagadale
Dr. S. S. Wavhal
(Vice-Principal)

Convener
Prin. Dr. P. N. Shelke



Prof. H. V. Sonawane
(HOD Microbiology)

DBT Star Scheme Departments
Dr. B. U. Mane (HOD Zoology)
Dr. M. M. Jagtap (HOD Chemistry)

Dr. S. S. Jagtap
(HOD Botany)

“Two-day Seminar on IPR and Scientific writing”

(24th-25th Jan 2023, at 10:00 AM Onwards)





Shri. Prashant Borawake on "Wildlife and Wildlife Photography" on 10th Oct, 2022



Collage painting and Drawing representations done by students



Felicitations of Guest speakers on 30th January and 31st January, 2023 respectively



Dr. S.L. Laware delivering his talk on "Techniques in Biodiversity Conservation" on 30th Jan, 2023



Dr. Gulab Khedkar delivering his talk on Research Ethics on 31st January, 2023.



Dr. Narsing Bandela delivering his talk on New Trends in Environmental science on 31st January, 2023.



Dr. Laxmikant Shinde delivering his talk on Research Ethics on 31st January, 2023.



DrDatta Kohinkar

Just now · 🌐

पुणे जिल्हा शिक्षण मंडळाच्या सासवड येथील वाघेरे महाविद्यालयात स्टाफ साठी माईड पॉवर ट्रेनर डॉ. दत्ता कोहिनकर यांची 'मनाची अमर्याद शक्ति व तणाव मुक्तीची कार्यशाळा' आयोजित करण्यात आली होती. प्राचार्य पंडित शेळके, प्राचार्य राजश्री चव्हाण यांची प्रमुख उपस्थिती होती. प्रोफेसर नीता पाटील, उपप्राचार्य जगदाळे साहेब, वावळ साहेब, सोनवणे मॅडम यांनी या कार्यशाळेसाठी विशेष पुढाकार घेतला होता..



Scientific Writing and Communications: Papers, Proposals and Presentations

Department wise activities in 2022-23

Sr. no.	Activity Name and Details	Department	Dates	TIME	Students/Staff
1	Workshop on Nanoparticle Synthesis	chemistry, Microbiology and Botany	13-02-2023	11:00 am	94
2	Mind Power and Stress Management	Microbiology	17-01-2023	10-00 am to 2.00pm	96
3	Future in Life Sciences	Microbiology	02-02-2023	10.30 a.m.	46
4	Guest lecture on "Wild Life and Wild Life Photography"	Zoology	10-10-2022	10 am onwards	54
5	Organization of Quiz; Puzzle activity and a Drawing competition themed "Umbrella and Keystone species of Ecosystem"	Zoology	06-10-2022	10 am onwards	111
6	Two-day workshop titled "Workshop on Life science"	Zoology	30 th -31 st -01-2023	10 am onwards	74
7	Guest lecture -eminent guest speakers like Dr. Gulab D. Khedkar, Dr. Laxmikant V. Shinde, Dr. Narsingrao N. Bandela, Dr. S. L. Laware, Dr. Aruna Bhambare and Ms. Chaitali Kshirsagar spoke on various topics related to Life science. Topics covered were Techniques in Biodiversity conservation; Environmental Awareness; Ecosystem and its role; Research Ethics; New Trends in Environmental Science; Billion Dollar Biological Threat- Mosquito.	Zoology	30 th -31 st -01-2023	11 am onwards	131
8	Two-day Seminar on IPR and Scientific writing	Botany	24 to 25-01-2023	10:00 AM Onwards	76