



*Progressive Education Society's,*

**Modern college of Arts, Science and Commerce,  
Shivajinagar, Pune 411005, Maharashtra.**

# **The Annual Quality Assurance Report (AQAR) of Internal Quality Assurance Cell**



**2015-2016**

[www.moderncollegepune.com](http://www.moderncollegepune.com)

**The Annual Quality Assurance Report (AQAR) of the IQAC**

*(July 1, 2015 to June 30, 2016)*

## Part – A

### 1. Details of the Institution

1.1 Name of the Institution

Progressive Education Society's  
Modern College of Arts, Science and Commerce

1.2 Address Line 1

Shivajinagar

Address Line 2

Modern College Road, Off J. M. Road,

City/Town

Pune

State

Maharashtra

Pin Code

411005

Institution e-mail address

principal@moderncollegepune.com

Contact Nos.

(020)25535927

Name of the Head of the Institution:

Dr. Rajendra S. Zunjarrao

Tel. No. with STD Code:

(020)25535102

Mobile:

09922007302

Name of the IQAC Co-ordinator:

Prof. S. R. Chaudhari

Mobile:

09822682812

IQAC e-mail address:

iqacmodern@gmail.co

1.3 NAAC Track ID (For ex. MHCOCN 18879)

MHCOCN10219

**1.4 NAAC Executive Committee No. & Date:**

EC/52/RAR/04 dated 28 March 2010

(For Example EC/32/A&A/143 dated 3-5-2004.  
This EC no. is available in the right corner- bottom  
of your institution's Accreditation Certificate)

**1.5 Website address:**

www.moderncollegepune.com

**Web-link of the AQAR:**
<http://www.moderncollegepune.com/administration/internal-quality-assurance-cell-iqac/>
**1.6 Accreditation Details**

Sr. No.	Cycle	Grade	CGPA	Year of Accreditation	Validity Period
1	1 <sup>st</sup> Cycle	B++	-	21/03/2003	-
2	2 <sup>nd</sup> Cycle	A	3.15	28/03/2010	28/03/2015
3	3 <sup>rd</sup> Cycle	-	-	-	-
4	4 <sup>th</sup> Cycle	-	-	-	-

**1.7 Date of Establishment of IQAC:**

11/02/2004

**1.8 AQAR for the year (for example 2010-11)**

2015-16

**1.9 Details of the previous year's AQAR submitted to NAAC after the latest Assessment and Accreditation by NAAC ((for example AQAR 2010-11 submitted to NAAC on 12-10-2011)**

- i. AQAR: 2010-2011 submitted on 27/08/2011
- ii. AQAR: 2011-2012 submitted on 29/09/2012
- iii. AQAR: 2012-2013 submitted on 20/08/2013
- iv. AQAR : 2013-2014 submitted on 28/01/2016
- v. AQAR : 2014-2015 submitted on 13/02/2016

**1.10 Institutional Status****University**State  Central  Deemed  Private **Affiliated College**Yes  No **Constituent College**Yes  No **Autonomous college of UGC**Yes  No

**Regulatory Agency approved Institution** Yes  No

(Eg. AICTE, BCI, MCI, PCI, NCI)

**Type of Institution** Co-education  Men  Women

Urban  Rural  Tribal

**Financial Status** Grant-in-aid  UGC 2(f)  UGC 12B

Grant-in-aid + Self Financing  Totally Self-financing

### 1.11 Type of Faculty/Programme

Arts  Science  Commerce  Law  PEI (Phys Edu)

TEI (Edu)  Engineering  Health Science  Management

Others (Specify)

### 1.12 Name of the Affiliating University (*for the Colleges*)

Savitribai Phule Pune University  
(Formerly University of Pune)

### 1.13 Special status conferred by Central/ State Government-- UGC/CSIR/DST/DBT/ICMR etc

**Autonomy by State/Central Govt. / University**

University with Potential for Excellence  **UGC-CPE**

**DST Star Scheme**  **UGC-CE**

UGC-Special Assistance Programme  **DST-FIST**

UGC-Innovative PG programmes  Any other (*Specify*)

UGC-COP Programmes

## **2. IQAC Composition and Activities**

<b>2.1 No. of Teachers</b>	<input type="text" value="08"/>
<b>2.2 No. of Administrative/Technical staff</b>	<input type="text" value="05"/>
<b>2.3 No. of students</b>	<input type="text" value="01"/>
<b>2.4 No. of Management representatives</b>	<input type="text" value="02"/>
<b>2.5 No. of Alumni</b>	<input type="text" value="01"/>
<b>2.6 No. of any other stakeholder and community representatives</b>	<input type="text" value="01"/>
<b>2.7 No. of Employers/ Industrialists</b>	<input type="text" value="02"/>
<b>2.8 No. of other External Experts</b>	<input type="text" value="02"/>
<b>2.9 Total No. of members*</b> (Including 1 Chairperson, 1 Coordinator)	<input type="text" value="24"/>
<b>2.10 No. of IQAC meetings held</b>	: 2

<b>2.11 No. of meetings with various stakeholders:</b>	No.	<input type="text" value="1"/>	Faculty	<input type="text" value="2"/>
	Non-Teaching Staff	<input type="text" value="-"/>	Alumni	<input type="text" value="1"/>
	Students	<input type="text" value="-"/>	Others	<input type="text" value="-"/>
<b>2.12 Has IQAC received any funding from UGC during the year?</b>	Yes	<input type="text"/>	No	<input checked="" type="checkbox"/>
	If yes, mention the amount	<input type="text" value="NIL"/>		

### **2.13 Seminars and Conferences (only quality related)**

(i) No. of Seminars/Conferences/ Workshops/Symposia organized by the IQAC

Total Nos.	<input type="text" value="5"/>	International	<input type="text" value="1"/>	National	<input type="text" value="1"/>	State	<input type="text" value="2"/>	Institution Level	<input type="text" value="25"/>
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#### **(ii) Themes**

1. Lecture of Dr. Yael Sharan Pedagogy Expert from Israel 29<sup>th</sup> January 2016 on Innovations in Teaching Learning and evaluations.
2. Lectures of Dr. C.R. Mukundan, Dr. Jitendra Mohan, Dr. Radha Sharma on Emotional intelligence and its role in human life.

## 2.14 Significant Activities and contributions made by IQAC

- IQAC has taken initiatives to establish a Centre for Teaching, Learning and Evaluation and thereby played a significant role in enhancing the quality of education in the college.
- A Centre for Promotion of Research is established successfully by the initiatives taken by IQAC and 84 members are registered under the same.
- IQAC has played a significant role in establishing the Centre for guidance of competitive examinations to encourage and guide the students.
- IQAC has given important contribution to streamline the process of online feedback mechanism. IQAC also analyses teaching – learning feedback from teachers, students and parents.
- Decisions for improving the academic process, the infrastructure, library facilities, and laboratory up-gradations were recommended to Local Managing Committee for their proper implementation.
- IQAC implemented the process of maintaining teaching plan (lecture plans) by each teacher, weekly worksheets and teacher’s diary to continuously monitor and improve teaching learning process.
- Time tables for practical and theory classes are planned in three sessions by considering the students’ convenience especially from the co-ordination point of view.
- IQAC has insisted and encouraged the use of ICT for enhancing the quality of teaching-learning process.
- IQAC has organized lecture series, quality enhancement workshops, seminars, and conferences for facilitating interaction with the experts in respective fields.
- IQAC has also contributed in the field of Examination reforms.

## 2.15 Plan of Action by IQAC/Outcome

The plan of action\* towards Quality Enhancement chalked out by the IQAC in the beginning of the year and the outcome achieved by the end of the year is stated below:

Sr.No	Plan of Action*	Outcome /Achievements
1.	Curricular Aspects: Suggestions for addition of new courses to keep pace with the changing needs of academia and industry	1. Post Graduate Course in Physics (M.Sc. Physics) is started from academic year 2015-16. 2. Post Graduate Course in Zoology (M.Sc. Zoology) is started from academic year 2015-16. 3. A 1 year Diploma course in “Dress Designing and Tailoring” is started under UGC Community Scheme.
2.	Enhancing Quality of Teaching and Learning	• Implementation of Teachers Diary that contains detailed information regarding the teaching plan, execution, and recording of the day wise activities of the teacher. • Successful organization of International conference on “ <b>Teaching Learning and Evaluations</b> ” was held on 29-30 January 2016
3.	Preparation of SSR , SWAC analysis	Seven different criteria wise subcommittees were formed in order to prepare the SSR.

Sr.No	Plan of Action*	Outcome /Achievements
4.	Vision 20-20 document	Vision 20 / 20 document of the college was successfully prepared.
5.	Admission Process	Implementation of Online Admission process for all courses
6.	Enhancing results	Brainstorming meetings of teachers teaching F.Y.B.A., B.Com. and B.Sc. were organized and preparation strategies were drawn for enhancing the results.
7.	Digitization of office records	IQAC proposed digitization of office records and the process is initiated. Online Admission system is implemented for all the courses.
8.	Sports Initiatives (Implementation of <i>Tri-sutri</i> formula : freedom, budget and expert coaching)	The college received Best College Award, Sports by SPPU in the academic year 2015-16.
9.	More ICT facilities in classes	ICT enabled classrooms and laboratories are 53.
10.	ISO Certification to be done	ISO 9001:2008 certification process by British Standards Institution (BSI) is successfully completed.
11.	Green Campus Initiative	The college has completed Green Audit, Biodiversity Audit and solar panels have been installed in the college in 2014-15 and as a part of continuation of the audits the suggestions were implemented in 2015-16
12.	Enhancing Value based education programme	Value based education programmes/activities are organized by NSS / NCC unit. Organization of various programs on value education by value based Committee*
13.	To enhance extension activities	Rice Plantation move Visit to <i>Anandvan</i> by Zoology Department
14.	SSR Preparation	SSR preparation for third cycle of accreditation by NAAC was in progress for more than 6 months. IQAC along with teaching and non-teaching staff members of all the departments were involved in this process. Several meetings and discussion sessions were arranged during this process. Finally SSR was submitted to NAAC on 24 <sup>th</sup> June 2016.

\* *Academic calendar Part A Annexure I.*

\* *List of value education programmes Part A Annexure II.*

2.15 Whether the AQAR was placed in statutory body      Yes  No

Management  Syndicate  Any other body

**Provide the details of the action taken**

- LMC approved to upgrade internet leased line from 2 mbps to 10 mbps
- LMC approved to enhance the facilities related to Digital Library and Digital Language Laboratory.
- LMC suggested implementing online admission system for all the courses.
- LMC suggested opting for academic and administrative audit.

**Part – B**  
**Criterion – I**  
**1. Curricular Aspects**

**1.1 Details about Academic Programmes**

Level of the Programme	Number of existing Programmes	Number of programmes added during the year	Number of self-financing programmes	Number of value added / Career Oriented programmes
Ph.D.	7	0	7	-
PG	15	02	17	-
UG	22	-	4	-
PG Diploma	2 (Banking and Finance & Fashion Technology)	-	-	-
Advanced Diploma	-	-	-	-
Diploma	-	-	-	-
Certificate (skill Development Courses)*	-	-	28 programs on autonomous and self financed basis have been conducted and certificates have been awarded by the college.	21
Others	-	-	-	-
<b>Total</b>	46	2	41	21

Interdisciplinary	-	1.Biostatistics 2.Animal Tissue Culture 3.Plant Tissue Culture 4. Training course on “ <i>Modi Script</i> ”
Innovative	Fashion Technology	1.Training course on Chemical Based Product preparation 2.Training course on Herbal Product Preparation

\* *Skill Development Courses Part B Annexure I (Criteria I).*

**1.2 (i) Flexibility of the Curriculum: CBCS/Core/Elective option / Open options**

With effect from academic year 2013-14, the SPPU, Pune has implemented the Choice Based Credit System to all P.G. courses. The System allows the students to opt for certain elective subjects in the second year of the course. Additional Ten credit points are compulsory along with the main subject courses. They are: Human Rights (2 Credits), Introduction to Cyber security and Information security (4 Credits) and Skill Development (4 Credits).



**(ii) Pattern of programmes:**

Pattern	Number of programmes
Semester	11 (B.Sc.)+ 1 B.B.A. and B.B.A.-C.A. (B.C.A.)
Trimester	-
Annual	11 (B.A.) + 1 B.Com. PGDBF

**1.3 Feedback from stakeholders\*** Alumni  Parents  Employers  Students   
(On all aspects)

Mode of feedback : Online  Manual  Co-operating schools (for PEI)

\* *Feedback Part B Annexure II (Criteria I).*

**1.4 Whether there is any revision/update of regulation or syllabi, if yes, mention their salient aspects.**

- Syllabus of First Year Undergraduate courses was revised and updated by SPPU (formerly University of Pune) from June 2013. The courses were revised by the University keeping in mind the changing trends and patterns in education and to keep pace with the global change in research and development.
- Choice based credit system was introduced for Masters Courses.

**1.5 Any new Department/Centre introduced during the year. If yes, give details.**

Yes.

1. Centre for Teaching, Learning and Evaluation,
2. Centre for Promotion of Research
3. Centre for guidance of Competitive Examinations

## Criterion – II

### 2. Teaching, Learning and Evaluation

**2.1 Total No. of permanent faculty**

Total	Asst. Professors	Associate Professors	Professors	Others
185	154	28	NIL	3

**2.2 No. of permanent faculty with Ph.D.**

43
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**2.3 No. of Faculty Positions Recruited (R) and Vacant (V) during the year**

Asst. Professors		Associate Professors		Professors		Others		Total	
R	V	R	V	R	V	R	V	R	V
-	18	-		-		-	-	-	18

**2.4 No. of Guest and Visiting faculty and Temporary faculty**

Guest Lecturers	Visiting Faculty	Temp. Faculty
13	14	40

**2.5 Faculty participation in conferences and symposia:**

No. of Faculty	International level	National level	State level
Attended	26	41	34
Presented papers	18	15	10
Resource Persons	03	02	5

**2.6 Innovative processes adopted by the institution in Teaching and Learning:**

- A group of staff members is formed to discuss and implement various pedagogic techniques in teaching. A workshop in this regard was organized.
- Dr. Yael Sharan from Israel was invited for guiding the staff members on pedagogic techniques.
- The college has established the Centre for Teaching, Learning and Evaluation under the able guidance of Dr. S. D. Joag.
- The college organized an International conference of Innovations in Teaching, Learning and Evaluation.
- The Department of Botany has developed a Digital Herbarium that can be accessed from the URL [www.indianflora.org](http://www.indianflora.org).
- Efforts are taken to adopt advanced technology in teaching certain topics with the help of computer simulations, demonstration in class with LCD and Laptop, use of virtual classes and virtual laboratories.
- Innovative pedagogical method called cooperative learning is adopted by teacher, Dr. S. D. Joag, Department of Chemistry in classroom teaching. This resulted improvement in the performance of the students in internal examination.
- Many departments use the John Dewey's Project Based Learning Approach based on pragmatic teaching and learning so that students learn by doing projects based on that particular topics.
- The college enhanced the facility of its Digital Library and Digital Language Laboratory.
- Few staff members used their personal website and blog.

**2.7 Total No. of actual teaching days during this academic year**

183

**2.8 Examination/ Evaluation Reforms initiated by the Institution (for example: Open Book Examination, Bar Coding, Double Valuation, Photocopy, Online Multiple Choice Questions)**

1. Bar coding and online question paper delivery system has been introduced by SPPU and is implemented by the college successfully. The college has created necessary infrastructure facility for this.
2. Under CBCS all the Post graduate courses conduct examination in the form of
  - Open Book Test
  - Multiple Choice Test
  - Debates
  - Presentations
  - Review writing
  - Seminars
  - Quizzes
  - Group Discussions

**2.9 No. of faculty members involved in curriculum Restructuring/ revision/ syllabus development**

(i)

10

(ii)

16

(iii)

55

as (i) member of Board of Study(ii) Faculty(iii) Curriculum Development workshop

One staff member is Chairperson, BOS.

Ten teachers are Members of BOS of SPPU and other universities.

Sixteen faculty members are also the members of syllabus sub-committees of BOS.

**2.10 Average percentage of attendance of students**

UG: 75- 80 %

PG: 80- 90%

Ph. D: 90- 100 %

**2.11 Course/Programme wise distribution of pass percentage:**

Title of the Programme	Total no. of students appeared	Division (in %)				
		Distinction	First Class	Second Class	Third Class	Passing
B.Sc. Botany	21		71.42			85.71
B.Sc. Biotechnology	41	14.63	53.65	14.63	-	97.56
B.Sc. Chemistry	51	19.60	43.13	7.84	-	70.58
B.Sc. Computer Science	140	7.85	20	20.71	0.7	49.28
B.Sc. Electronic Science	20	33.33	58.33	8	-	60
B.Sc. Physics	36	30.56	38.89	-	-	72.22
B.Sc. Mathematics	51	47.05	21.56	1.96	-	70.58
B.Sc. Microbiology	35	46	29	14	0	89
B.Sc. Statistics	28	60.71	28.57	-	-	89.28
B.Sc. Zoology	30	46.6	30	10		86.66

Title of the Programme	Total no. of students appeared	Division (in %)				
		Distinction	First Class	Second Class	Third Class	Passing
B.Sc. Animation	First Batch will be passing out in academic year 2015-16					
M.Sc. Botany	21	23.80	42.85	33.33	-	100
M.Sc. Biotechnology	24	54	41.6	2.4	-	100
M.Sc. Computer Science	66	19.69	56.06	13.63	-	100
M.Sc. Chemistry	39		38.46			66.66
M.Sc. Electronics	20	15	60	20	--	95
M.Sc. Microbiology	41	21.95	39.02	17.07		80.48
M.Sc. Statistics	29	-	20.68	55.17	3.45	79.31
B.A. Economics	47	31	24	26	15	96
B.A. English	15	13.33	20	46.66	13.33	100
B.A. History	10	20	20	40	20	100
B.A. Marathi	16	-	6	-	-	100
B.A. Geography	37	16.21	54.05	16.21	-	86.48
B.A. Political Science	51	15.68	23.52	9.8	17.30	23.52
B.A. Psychology	30	13.33	20	50	16.66	100
B.A. Hindi	5	-	20	-	80	100
M.A. English	46	4.34	19.56	43.47	10.86	91.30
M.A. Economics	12	17	33.33	17	17	100
M.A. Marathi	16	-	6.2	68.75	-	100
M.A. Geography	16		87.5			100
M.A. Psychology	34	14.7	47.5	20.58	11.76	97.05
BBA	107	1.8	23.36	36.44	10.28	71.96
BCA	183	1.6	11.47	27.86	7.6	48.63
B.Com	405	4.27	20.72	50.42	-	91.46
M.Com.	52	29	41	4	-	46.15

### 2.12 How does IQAC Contribute/Monitor/Evaluate the Teaching & Learning processes:

- IQAC has taken initiatives to establish a Centre for Teaching, Learning and Evaluation and has thereby played a significant role in enhancing the quality of education in the college.
- A Centre for Promotion of Research is established successfully by the initiatives taken by IQAC and 84 members are registered under the same.
- IQAC has played a significant role in establishing the Centre for guidance of competitive examinations to encourage and guide the students.
- IQAC analyses teaching – learning feedback from teachers, students and parents.
- Decisions for improving the academic process, the infrastructure, library facilities, and laboratory upgradations are recommended to Local Managing Committee for their proper implementation.
- IQAC implements the process of maintaining teaching plan (lecture plans) by each teacher, weekly worksheets and teacher's diary to continuously monitor and improve teaching learning process.
- Time tables for practical and theory classes are planned in three sessions by considering the students' convenience.
- IQAC has insisted and encouraged the use of ICT for enhancing the quality of teaching-learning process.
- IQAC has organized lecture series, quality enhancement workshops, seminars, and conferences for facilitating interaction with the experts in respective fields.

### 2.13 Initiatives undertaken towards faculty development

<i>Faculty / Staff Development Programmes</i>	<i>Number of faculty benefitted</i>
Refresher courses	5
UGC – Faculty Improvement Programme	2
HRD programmes	-
Orientation programmes	2
Faculty exchange programme	-
Staff training conducted by the university	1
Staff training conducted by other institutions	-
Summer / Winter schools, Workshops, etc.	8
Others	-

### 2.14 Details of Administrative and Technical staff

<b>Category</b>	<b>Number of Permanent Employees</b>	<b>Number of Vacant Positions</b>	<b>Number of permanent positions filled during the Year</b>	<b>Number of positions filled temporarily</b>
Administrative Staff	99	6	-	-
Technical Staff	58	7	-	-

## Criterion – III

### 3. Research, Consultancy and Extension

#### 3.1 Initiatives of the IQAC in Sensitizing/Promoting Research Climate in the institution

- Newly appointed teaching staff as well as graduate and postgraduate students are encouraged to participate in various National and International conferences, seminars, similarly for guiding students for their projects at Under Graduate and Post Graduate level such as 'Avishkar' organized by SPPU, 'Ignited innovators of India' (I<sup>2</sup>I) organized by COEP in collaboration with Bhau Institute, Pune and participating in Project competitions organized by Departments of the college.
- Students are encouraged to participate in research activities like Avishkar organized by BCUD, SPPU, International Conference 'Youth United for voluntary Action' (YUVA-2013) organized by 'The Energy and Resource Institute' (TERI) and 'Pune Intercollegiate Consortium' (PICC).
- The college is promoting research amongst undergraduate and Post Graduate students under 'Yuva Sanshodhak' scheme by funding the projects of the students by college under the guidance of faculty members.
- Presentation of faculty research work under BCUD funded projects in National Seminars such as INNOVATIONS.
- Students are encouraged to apply for DST INSPIRE scheme to promote basic science research.
- Display of notices with respect to conferences, seminars, workshops, training programmes for P.G. students and research students.
- Recruitment of Ph.D. candidates is preferred, so as to pursue research.
- Interaction of the students with the scientists from various industries and institutes.
- Visits are arranged for students to various research organizations.
- U.G. as well as P.G. students are encouraged and motivated to take part and perform experiments in small research projects.
- Provide infrastructure for in-house and inter-departmental research projects.
- Encourage faculty for submission of research proposal to various funding agencies.

#### 3.2 Details regarding major projects

Details*	Completed	Ongoing	Sanctioned	Submitted
Number	1	5	1	1
Outlay in Rs. Lakhs	Rs. 16,04,000/-	Rs. 85,76,173/-	Rs. 17,00,000/-	Rs. 57,27,691/-

\* Major Projects Part B Annexure III (Criteria III).

#### 3.3 Details regarding minor projects

Details*	Completed	Ongoing	Sanctioned	Submitted
Number	3	15	1	1
Outlay in Rs. Lakhs	Rs. 4,50,000/-	Rs. 24,00,000/-	Rs. 3,35,000/-	Rs. 2,10,000/-

\* Minor Projects Part B Annexure IV (Criteria III).

### 3.4 Details on research publications

Details*	International	National	Others
Peer Reviewed Journals	26	2	1
Non-Peer Reviewed Journals	2	-	-
e-Journals	1	-	-
Conference proceedings	7	3	-

\* **Research Publications Part B Annexure V (Criteria III).**

### 3.5 Details on Impact factor of publications:

Range  Average  h-index  Nos. in SCOPUS

### 3.6 Research funds sanctioned and received from various funding agencies, industry and other organisations

Nature of the Project	Duration Year	Name of the funding Agency	Total grant Sanctioned (in Rs.)	Received Amount (in Rs.)
Major projects	2013-17	ICSSR, UGC, CSIR, DST-FIST	85,76,173/-	21,17,447/-
Minor Projects	2014-17	UGC, BCUD	21,91,000/-	11,74,500/-
Interdisciplinary Projects	2015-16	-	-	-
Industry sponsored	2015-16	-	-	-
Projects sponsored by the University/ College	2015-16	-	-	-
Students research projects (other than compulsory by the University)	2015-16	College	-	-
Any other(Specify)	2015-16	Biodiversity audit and green campus audit	1,07,67,113/-	32,91,947/-
Total	-	-	<b>1,18,43,286/-</b>	<b>6,58,3894/-</b>

3.7 No. of books published i) With ISBN No.  Chapters in Edited Books

ii) Without ISBN No.

\***Books published Part B Annexure VI-a (Criteria III).**

3.8 No. of University Departments receiving funds : Not Applicable

UGC-SAP  CAS  DST-FIST   
DPE  DBT Scheme/funds

3.9 For colleges           Autonomy      CPE      DBT Star Scheme     
                                   INSPIRE      CE      Any Other (specify)   

UGC Community College Scheme is awarded to college during the academic year 2015-16

Rs. 46,00,000/-

3.10 Revenue generated through consultancy   

3.11 No. of conferences organized by the Institution

Level	International	National	State	University	College
Number	1	1	2	-	-
Sponsoring agencies	SPPU QIP	SPPU QIP	SPPU QIP	-	-

**3.13 No. of faculty served as experts, chairpersons or resource persons**

No. of collaborations International      National      Any other   

*\*Collaboration Details Part B Annexure VII-a (Criteria III).*

**3.14 No. of linkages created during this year**

*\*Linkages Created Details Part B Annexure VII-b (Criteria III).*

**3.15 Total budget for research for current year in lakhs :**

From Funding agency (Research Project)   

From Management of University/College   

Total   

**3.16 No. of patents received this year : Nil**

Type of Patent		Number
National	Applied	-
	Granted	-
International	Applied	-
	Granted	-
Commercialised	Applied	-
	Granted	-



**3.17 No. of research awards/ recognitions received by faculty and research fellows of the institute in the year**

Total	International	National	State	University	Dist	College
2	1	1	-	-	-	-

1. Dr. Mrs. S.D. Joag received prestigious INSA award.
2. Prof. Anjali Sardesai received Best Paper award in 6<sup>th</sup> World Conference on Soft Computing, University of California, USA.

**3.18 No. of faculty from the Institution who are Ph. D. Guides and students registered under them**

12      19

*\*Ph.D. guide list and Students registered for Ph.D. Part B Annexure VIII-a, VIII-b (Criteria III).*

**3.19 No. of Ph.D. awarded by faculty from the Institution**

01

**3.20 No. of Research scholars receiving the Fellowships (Newly enrolled + existing ones)**

JRF      4      SRF      -      Project Fellows      -      Any other RA      1

**3.21 No. of students Participated in NSS events:**

University level      50      State level      05  
National level      -      International level      -

**3.22 No. of students participated in NCC events:**

University level      47      State level      11  
National level      13      International level      -

**3.23 No. of Awards won in NSS:**

University level      -      State level      -  
National level      -      International level      -

**3.24 No. of Awards won in NCC:**

University level      -      State level      -  
National level      1      International level      -

**3.25 No. of Extension activities organized**

University forum      -      College forum      3  
NCC      3      NSS      5      Any other      -

### **3.26 Major Activities during the year in the sphere of extension activities and Institutional Social Responsibility.**

1. Rice plantation (Paddy Cultivation) programme, “*Ek Divas Shetasathi Shetkaryanacha Madatisathi*” (One day for farming, for helping the farmers) was organised at village Vinzar, Taluka Velhe Dist. Pune, Maharashtra where 1100 students from our college participated with NSS officers where students helped the local farmers in rice plantation (31 July 2015).
2. Blood Donation Camp and NSS day was celebrated on 5 December 2015 where 117 student volunteers donated blood for KEM Hospital, Pune.
3. Road Safety Awareness Programme was organised to emphasize the importance of Road safety in Pune city. In the same camp Haemoglobin checking activity was also conducted in which 224 students participated.
4. Students of BBA and BCA have been organizing the “Social Week” since Dec 2015. The core motive behind observing the “Social Week” is to inculcate a sense of social responsibility amongst our students who are the future of tomorrow.
5. Workshop on awareness about opportunities for visually challenged students was organized January 2016
6. Awareness workshop organized in association with Pune Police about Self defence.
7. Workshop ‘*Apulki ek Samajik Bandhilki*’ was organized by NSS in collaboration with *Apulki* NGO on ‘Child Abuse and laws to stop child abuse’. (16 September 2016)
8. Tree plantation : 90 different plants including medicinal plants were planted near Paud. (24 September 2015)
9. Organized National Safety awareness programme in collaboration with RTO, Pune.
10. Cloth Collection camp : Cloths were collected and donated to NGOs. ( 19 January 2016)
11. NCC cadets of Naval unit actively participated in communicating welfare schemes of Government of India and Maharashtra to the beneficiaries in the villages around Pune city.

## Criterion – IV

### 4. Infrastructure and Learning Resources

#### 4.1 Details of increase in infrastructure facilities:

Facilities	Existing	Newly created	Source of Fund	Total
Campus area	3 acres	2 acres	College	5 acres
Class rooms	77	6	College	83
Laboratories	48	1 (B.Sc. Animation), 1( Physics), 1(Zoology)	College	51
Seminar Halls	2	-	-	2
No. of important equipments purchased ( $\geq$ 1-0 lakh) during the current year.	-	-	XII Plan	-
Value of the equipment purchased during the year (Rs. in Lakhs)	Rs. 2596557/-	-	XII Plan	-
History Museum	-	1	College	300 sq. ft.
Centre for Promotion of Research	-	1	College	600 sq. ft.
Centre for Teaching, Learning and Evaluation	-	1	College	150 sq. ft
Centre for guidance of competitive examinations	1	Renovation	College	400 sq ft
Others	-	-	-	-

#### 4.2 Computerization of administration and library

- Admissions to all the courses are made online.
- A **separate administration building** of 6000 sq. ft. is available for office and is in use for office administration purpose.
- Each staff is provided with a computer of latest configuration and '*Vridhhi*' **office automation software** installed on it. The office administration has reorganised the activities of the office for rendering good service to staff by utilising '*Vridhhi*' Software for database management
- **Digital record room** is established, from where digitized reference books, teachers' notes are accessible to students.
- A **digital Library** is established in the college. It was inaugurated on 31<sup>st</sup> July 2013.
- Ambiance of the library with infrastructure, new storage cupboards and easily accessibility through computerized data, OPAC helps to relatively easily locate the status of a book / journal in the library.

### 4.3 Library services:

	Existing		Newly added		Total	
	No.	Value Rs.	No.	Value Rs.	No.	Value Rs.
Text Books	104722	27,29,501/-	1795	2,60,180/-	108025	36,23,757/-
Reference Books			1508	6,34,076/-		
e-Book(e-resources) & e-journals (Digital Database)	97000+ & 6000+	5,000/-	4,82,000 +& 385000+	32,193/-	579000+ & 391000+	37,193/-
Journals	118	1,22,342/-	132	18,990/-	118	1,41,332/-
CD & Video	238	79,458/-	5	-	243	79,458/-
Others (specify)	1. Jaykar Library 2. Gokhale Institute 3. Deccan College Library		-	-	3	16,000/-

### 4.4 Technology upgradation (overall)

	Total Computers	Computer Labs	Internet	Browsing Centres	Computer Centres	Office	Departments	Others
Existing	539	6	100	1	1	1	24	-
Added	51	6	17	-	-	-	-	-
Total	590	12	117	1	1	1	24	-

### 4.5 Computer, Internet access, training to teachers and students and any other programme for technology upgradation (Networking, e-Governance etc.)

- Upgradation of internet leased line from 2 mbps to 10 mbps.
- Installation of firewall.
- Organization of a Google App training programme for students and teachers.

### 4.6 Amount in lakhs spent on maintenance in lakhs :

i) ICT	Rs. 14,09,838/-
ii) Campus Infrastructure and facilities	Rs. 30,52,276/-
iii) Equipments	Rs 81,54,170/-
iv) Others (Gymkhana & Repairs and maintenance )	Rs. 35,57,813/-
<b>Total :</b>	<b>Rs. 16,17,40,197/-</b>

## Criterion – V

### 5. Student Support and Progression

#### 5.1 Contribution of IQAC in enhancing awareness about Student Support Services

- Remedial coaching
- Government scholarships and freeships
- Financial help through Students' Aid Funds
- Earn and Learn Scheme
- Concession in fees.
- Installments in fees.
- Financial help by well wishers for weak students.
- Staff members give monetary help and help in kinds from time to time for needy students.
- SET-NET coaching, Competitive exam coaching, equal opportunity cell.

#### 5.2 Efforts made by the institution for tracking the progression

- The institution consistently makes the efforts and guides the students to reach higher goals in their life to pursue higher academics and jobs.
- Career guidance by placement cell and aptitude test and career counseling by psychology department.
- Interaction between the representatives of foreign universities and the UG-PG students of the college.
- Regular feedback of students is taken.

#### 5.3 (a) Total Number of students

UG	PG	Ph. D.	Others
5697	1398	46	-

#### (b) No. of students outside the state

74
----

#### (c) No. of international students

77
----

	No	%		No	%
Men	3330	46.63	Women	3811	53.37

Last Year 2014-15						This Year 2015-16					
General	SC	ST	OBC	Physically Challenged	Total	General	SC	ST	OBC	Physically Challenged	Total
3789	626	103	411	5	4934	4887	1002	158	1094	-	7141

Demand ratio 1:1 to 1:2      Dropout % - 0.5 to 1 % (The dropout percentage is negligible)

#### 5.4 Details of student support mechanism for coaching for competitive examinations (If any)

Competitive examination guidance centre is established in the college which conducts regular programmes on every Friday and Saturday. Guidance from experts is provided from time to time to

the students enrolled in the Centre. A separate library room is established for these students which is made available from 2.30 p.m. to 11.30 p.m. in the campus.

No. of students beneficiaries

### 5.5 No. of students qualified in these examinations amble sire

NET  SET/SLET  GATE  CAT   
 IAS/IPS etc  State PSC  UPSC  Others

### 5.6 Details of student counselling and career guidance

No. of students benefitted

Department of Psychology is running the counselling centre since 1991. It provides Psychological counselling, career counselling to students, teachers, non-teaching staff and neighbourhood community.

Aptitude testing and career counselling is a unique feature of Department of Psychology and 'I AM', the standardized software is used for the same. From March 2015 -June 2015, 63 students of 10<sup>th</sup>, 12<sup>th</sup> standards in addition to other students have benefitted from this test.

### 5.7 Details of campus placement

<i>On campus</i>			<i>Off Campus</i>
Number of Organizations Visited	Number of Students Participated	Number of Students Placed	Number of Students Placed
68	119	117	2

Representative data of Placement Cell of Computer Science Dept

### 5.8 Details of gender sensitization programmes

- In order to supplement the existing syllabus on gender issues, the college has initiated several programs such as – Gender Sensitization workshop, Guidance lectures by Lady Police officers to the ladies student.
- Programs on women employment, self defence training for ladies students, lecture on legal provisions for women and their safety.
- Workshops on pre-marital counselling are organized for both boys and girls by Department of Psychology.
- Staff Academy and PG Association organize various sensitization programs through which gender inclusion and environment related issues are emphasized.

### 5.9 Students Activities

#### 5.9.1 No. of students participated in Sports, Games and other events

State/ University level  National level  International level   
 No. of students participated in cultural events  
 State/ University level  National level  International level

**5.9.2 No. of medals /awards won by students in Sports, Games and other event**

Sports : State/ University level  National level  International level   
 Cultural: State/ University level  National level  International level

**The college received Best College Award, Sports by SPPU in the academic year 2015-16.**

**5.10 Scholarships and Financial Support**

Source of Support	Number of Students	Amount Rs.
Financial support from institution	-	-
Financial support from government	1614	1,73,41,492/-/-
Financial support from other sources	1571	24,36,146/-/-
Sports Scholarship (University and College level)	24	39,000/-
Number of students who received International/ National recognitions	-	-

**5.11 Student organised / initiatives**

Fairs : State/ University level  National level  International level

Exhibition: State/ University level  National level  International level

**5.12 No. of social initiatives undertaken by the students** 

(*Dhristi Abhiyaan*, Rice Plantation, Voting Camp, Cleanliness Drive, Road Safety Awareness Programme)

**5.13 Major grievances of students (if any) redressed: NIL**

## Criterion – VI

### 6. Governance, Leadership and Management

#### 6.1 State the Vision and Mission of the institution

##### Vision of the institute

The Vision statement of the institute is ‘ज्ञानमयो भव’, meaning ‘Be Knowledge Incarnate’. The word ‘EXCELSIOR’ at the bottom of the logo is an expression of incessant aspirations of higher attainment.

##### Mission Statement

*“To create multidisciplinary best citizens to suit the local, national and international needs, having scientific temperament, moral, ethical values and multifaceted proactive personality, by providing excellent education”*

##### Objectives

- Use of ICT and other advanced technologies for enhancing the quality of education.
- Increasing Co-curricular and Extra-curricular activities.
- Supplementing formal education with skill development.
- Infrastructural improvement for enhancing academic ambience.
- Inculcating research culture among staff members and students.
- Educational quality enhancement through ‘Trisutri’ (Three Point) program of Decentralised Governance, Increased Budgetary Provision and Specialized Training.
- To inculcate ethical and moral values among the youth.

#### 6.2 Does the Institution has a management Information System

YES. Management Information System is in place. The college also uses *Vridhhi* software which is recommended by S.P. Pune University (Formerly University of Pune)

#### 6.3 Quality improvement strategies adopted by the institution for each of the following:

##### 6.3.1 Curriculum Development

- Number of demonstration experiments was increased
- Involvement of maximum teachers in curriculum development at university level and college level
- Add on courses were increased
- Workshops were organised on syllabus designing, restructuring and implementation
- Teachers are encouraged to participate in seminars, conferences and workshops on curriculum development by other colleges

##### 6.3.2 Teaching and Learning

- Use of ICT enabled teaching
- Modern Pedagogical methods are used for teaching like Cooperative learning and PBL.
- Use of Traditional methods in combination with advanced method is encouraged
- Efforts are made to have classroom ambience supportive for teaching and learning
- More CCTV terminals are installed for safety, security and monitoring.



### **6.3.3 Examination and Evaluation**

- Compulsory questions on problem solving were introduced.
- Summative and Formative evaluation and examination reforms for overall continuous assessment of student
- Since SPPU has started online question paper system, the Examination Control room is made well equipped

### **6.3.4 Research and Development**

- More number of departments should make efforts for recognized research Centers.
- Continue organization of seminars and conferences
- The students are encouraged to select project themes which aim at focussing and resolving issues of the society or which have social economic relevance. E.g. Vermiculture and bio-fertilizer production project
- Teachers are encouraged to avail facility of FIP-UGC for improving and advancing their qualifications
- The college encourages teachers to undertake minor and major research schemes from various funding sources like BCUD, SPPU, Pune, UGC, DST, DBT, etc.
- Teachers who are research guides in our Research Centres are guiding research scholars working for Ph.D. in the college.
- In the institution the departments have research projects funded by BCUD, UGC, 'Avishkar' and PICC which are undertaken by the students. This helps in nurturing innovative and research aptitude among the students.

### **6.3.5 Library, ICT and physical infrastructure / instrumentation**

- Use of advanced technology is encouraged to make library services more effective and convenient.
- All the required equipments as per the syllabus are purchased and made available to the students
- In addition to the instruments prescribed by University, advanced equipment are purchased for promoting research

### **6.3.6 Human Resource Management**

- To organize training programme/ workshops/ conferences etc for human resource development and human resource management
- Use of computer technology for HR management

### **6.3.7 Faculty and Staff recruitment**

- Regulations and norms of UGC, Govt of Maharashtra and SPPU are followed for staff recruitment.
- Conducting entrance examination, classroom demonstration in addition to the formal interview.
- Preference is given to those fulfilling basic requirements but also have additional qualifications.

### 6.3.8 Industry Interaction / Collaboration

- Because of industry academia cell, collaboration with industries and national laboratories has increased.
- To develop strategies, encouraging industry academia collaboration through establishment of industry academia committee
- Arranging industry academia meets every year
- To arrange industrial visits and encourage research projects in collaboration with industry

### 6.3.9 Admission of Students

- Use of technology for making admission process effective, transparent and convenient to the student through online admissions.
- College has purchased *Vridhhi Edubrain* software and in some cases college has taken help of external agencies for online admissions, namely e-Pravesh.

### 6.4 Welfare schemes for

Teaching	1. Cooperative credit Society 2. Staff welfare fund
Non teaching	1. Cooperative credit Society 2. Staff welfare fund
Students	Student Welfare Scheme

### 6.5 Total corpus fund generated

Rs.4, 35, 73,735/-

### 6.6 Whether annual financial audit has been done

Yes  No

### 6.7 Whether Academic and Administrative Audit (AAA) has been done?

Internal audit has been initiated and steps to conduct a systematic audit by external agency are underway.

Audit Type	External		Internal	
	Yes/No	Agency	Yes/No	Authority
Academic	YES	SPPU, Pune	YES	-
Administrative	YES	SPPU, Pune	YES	-
ISO	YES	BSI	YES	ISO Internal Auditor

### 6.8 Does the University/ Autonomous College declare results within 30 days?

For UG Programmes Yes  No

For PG Programmes Yes  No

### 6.9 What efforts are made by the University/ Autonomous College for Examination Reforms?

Not applicable

### **6.10 What efforts are made by the University to promote autonomy in the affiliated/constituent colleges?**

The college has initiated autonomous skill development courses. The college also has an autonomous Life Science Research Centre.

### **6.11 Activities and support from the Alumni Association**

- Modern Alumni Association has been registered (Registration No. 945).
- Online registration form is made available on College website. Department wise alumni meet are arranged.
- In Computer Science Department, successfully placed Alumni visit the college for weekly interactive meetings and guide the present students for enhancing their employability.
- Alumni interact with the stakeholders namely teachers, non teaching staff and present students and give their feedback about various criteria.
- For students excelling in Sports, a separate Alumni association '*Modern Past Association*' is also formed.
- The Alumni from Dept. of Physical Education and Sports participate in conducting of Inter Collegiate Sports events.

### **6.12 Activities and support from the Parent – Teacher Association**

Many of the Departments arrange Parent Teacher meetings in their departments. In such meetings, Parents are made aware about the facilities and activities of the department. Feedback is taken from the parents. Interaction between parents and teachers is facilitated. Based on feedback of the parents possible actions are initiated. Some parents have installed scholarships for giving financial support to needy students.

### **6.13 Development programmes for support staff**

Meetings of Lab assistants and lab attendants are conducted for giving guidance on laboratory safety. Training activities like campus safety, use of fire extinguisher, lab safeties etc are conducted for their development. The support staffs are trained according to the needs of their specific departments. Workshop on lab safety was organised for Lab assistants and attendants. Training for using Safety equipment like fume hoods and safety materials like lab shoes, apron, and gloves are provided.

### **6.14 Initiatives taken by the institution to make the campus eco-friendly**

- NSS unit of our college implemented some activities in the college and in the adopted village.
- Survey on e-waste management in adopted village Phulgaon, District Pune.
- Organized lecture of experts on this topic in NSS special camp and in college.
- Prepared and displayed posters / banners on this subject in NSS camp at Phulgaon.
- Started e-waste collection Centre at our college NSS unit.
- The Department of Computer Science donates the old versions of computers to the schools of our organization.
- The faculty members and students of Department of electronics and computer science of the college are working on different aspects of e-waste management.
- The college has conducted Energy Audit, Green Audit, and Biodiversity Audit. Collection of Biomedical Waste is done periodically.
- E-waste management, Biodegradable Urban Waste management are done regularly.
- Use of renewable energy is promoted.

## Criterion – VII

### 7. Innovations and Best Practices

#### 7.1 Innovations introduced during this academic year which have created a positive impact on the functioning of the institution. Give details.

1. The Library has its separate website designed in which the Library interactive programme is also linked.
2. The college has developed an innovative Centre for Teaching, Learning and Evaluation to strength the teaching learning activities.
3. The college has established the centre for Promotion of Research to focus the staff and students research and to promote more research related activities.

#### 4. Digital Record room

Digital Record room is used for preserving the data. Human resource utilized is to the minimum; also time is saved and at a time data can be accessed by number of people and data is easily available for the compliance of RTI.

- As data is preserved in digitized format use of paper is reduced and eco friendly message is given.
- As data is preserved in digitized format, less storage is required.
- We can save various important research papers, as well as conference proceedings in the form of soft copies.

#### 5. Digital Library

For a college, library is always considered as an asset. In order to further improve the functioning library is made digital.

With successful use of advanced scanners, the stock verification of library books has become more effective and less time consuming.

- We have taken subscription of e-resources like N-list, British library etc.
- Digitization of college annual magazines of last 40 years and scanning of various rare and old books, various question papers and project report is in process.
- Use of OPAC is implemented

#### 6. Use of ICT:

The World is increasingly revolving on technological axis. To access internet via computer, Smart phone is fundamental, not just for individual for personal communication and creativity, but also for educational institution. In Modern College, Pune-5, we are focusing on use of ICT. We are using digital technology for education and other services, and focus is on creating Best Digital Citizens. We have,

- Virtual Classroom
- Digital Classroom
- Advanced laboratories
- Use of ICT in the classrooms

#### 7.2 Provide the Action Taken Report (ATR) based on the plan of action decided upon at the beginning of the year

All the plans chalked out during the beginning of the year as mentioned in 2.15 as in Part A, were completed successfully

#### 7.3 Give two Best Practices of the institution (please see the format in the NAAC Self-study Manuals)

##### Best Practices of the Institution\*

1. Use of Electronic and Computer Technology in academics and administration

## 2.Green Campus Initiative

### **\*Best Practices Part B Annexure IX (Criteria VII).**

#### **7.4 Contribution to environmental awareness / protection**

- Environmental education course is conducted at the second year of all graduation programmes. The study material for the said course is prepared by the college for the benefit of students.
- Students are encouraged to undertake the projects on various issues of environment studies.
- Some of the projects prepared by the students have received awards in *International Youth Convention*.
- College has initiated efforts for formation GCI (Green Campus Initiative) committee.
- Bio-diversity audit and green audit of college campus have been initiated.
- Several conferences are organized by our college were based on the theme on environmental awareness and its conservation.
- College has established bio-medical waste disposal system.
- The college has been running Vermiculture training programme for the last six years and vermiculture facility is being used very effectively.

#### **7.5 Whether environmental audit was conducted?**

Yes

No

The college has conducted Energy Audit, Green Audit, and Biodiversity Audit. Collection of Biomedical Waste is done periodically. E-waste management, Biodegradable Urban Waste management are done regularly. Use of renewable energy is promoted.

#### **7.6 Any other relevant information the institution wishes to add. (for example SWOC Analysis)**

- i. SWOC Analysis has been conducted in 2015.
- ii. Vision Document 20/20 is prepared by the institution.
- iii. The college is awarded Best College Award-Sports by SPPU.
- iv. The college has been certified by BSI as ISO 9001:2008 institute.
- v. Green Campus Initiative is undertaken by the college.
- vii. The college is keen about starting new courses almost every year. This year college has decided to start M.A. Political Science, M.Com. e-commerce, B.C.A. (Science Faculty) and B.Sc. (Blended- Bio-Sciences) from the academic year 2016-17.

#### **8. Plans of institution for next year**

- Increasing the number of ICT enabled classrooms.
- Installation of additional department wise CCTV surveillance system.
- Strengthening of e-governance.
- Further improvement in Digital Library Services and Digital Record Room facility.

**Prof. S. R. Chaudhari**  
Coordinator, IQAC

**Dr. R.S. Zunjarrao**  
Principal,

**Part –A****Annexure I: Academic Calendar**

<b>Date</b>	<b>Event</b>
15 June 2015	Commencement of term
First week of August 2015	Principal's Address and Induction Programme for First Year Students
Last week of Sept 2015	Internal Examinations
21 October 2015	First Term End Meeting
19 November 2015	<i>Diwali</i> vacations
9 January 2016	State level workshop on 'Survival and Reliability Analysis
22-23 January 2016	College Annual Social Gathering
25 January 2016	<i>Kanitkar</i> Day (Founders Day)
29-30 January 2016	International Conference on Innovations in Teaching, Learning and Evaluations in Higher Education
5-6 February 2016	National Conference on 'Emotional Intelligence: Role in Human Life'
15-16 February 2016	State level workshop on Role of e-commerce in Modern Business
3 <sup>rd</sup> week of February 2016	Internal Examinations
26 February 2015	State Level Seminar " <i>Majhi Jadanghadan</i> " organised by Marathi Department
28 February 2015	Science day celebration
March 2015	Annual Practical examination of SY and TY
30 April 2015	End of term

## Part –B Annexure I (Criteria I) : Skill Development Courses

Sr. No.	Course Name	Department	Coordinator
1	Pharmaceutical Techniques	Microbiology	Dr. Shilpa Mujumdar
2	Plant Tissue Culture I	Botany	Dr. K.D.Gopale
3	Seed Technology	Botany	Prof. Arti Goggi
4	Computerized financial accounting (Tally)	Commerce	Prof. Mishi Moreshwar
5	German level I (Basic)	German	Prof. Sanjeevani Kuwalekar
6	German Level II (Advanced)	German	Prof. Sanjeevani Kuwalekar
7	Fashion Designing	Arts	Dr. Nayana Kulkarni/Prof. Manasi Thakur
8	Integrated Vermi-technology	Zoology	Prof. Narendra Naidu
9	Ayurvedic medicines and Herbal products preparation	Botany	Prof. R.N. Ingole
10	Animal Tissue Culture	Biotechnology	Dr.S.Puranik
11	Analytical Techniques	Chemistry	Dr. S.Pokharkar
12	Chemical Based Household Products	Chemistry	Dr. Ujlambkar S. K.
13	Biostatistics	Statistics	Dr.M.M.Sane
14	Statistical Analysis System (SAS)	Statistics	Prof. P.G.Dixit
15	PCR Techniques	Biotechnology	Prof. Rama Phadke
16	Course on Nanotechnology-Under DBT Star College Scheme	Biotechnology	Dr. Rebecca Thombre
17	Soft Skills	Commerce	Dr. Vijay Gaikwad
18	Industrial Electronic Components: Familiarization and Testing	Physics	Prof. S.S.Thengadi
19	Flower Arrangement	Botany	Prof. Manisha Mandhare
20	Microscopy: Under DBT Star College Scheme	Zoology	Prof. N.M.Naidu
21	Flower Remedy	Psychology	Prof. Vijaya Jagtap
22	Embedded Systems	Electronics	Prof. D.B.Gaikwad
23	Translation	Marathi	Dr. Snehal Taware
24	DOTNET and PHP	Computer	Prof. Aditi Patil
25	Spoken Marathi (Vani Course)	Marathi	Dr. Snehal Taware
26	Spoken English	English	Prof. Alka Kamble
27	Computer awareness	Computer Science	Prof. S.S.Deshmukh
28	'Modi' Script	History	Dr. Rajesh Kulkarni

## Part –B Annexure II (Criteria I) : Feedback

### Format of various Feedback forms

Progressive Education Society's  
Modern College of Arts, Science and Commerce, Shivajinagar, Pune 411005.

#### Feedback from Employer

##### Feedback about the employee

1. Name of the Firm/Company:

2. Address of the Employer:

3. Contact details:

4. Name and Designation of the  
Respondent :

Tick the number that best describes your level of satisfaction about your  
employee(s) (who are past students of this college) at each point given below:

1- far from satisfied, 2 - not satisfied, 3 - satisfied, 4 - happy, 5 - very happy.

Sr.No.	Attributes	5	4	3	2	1
1	Ability to contribute to the goal of the organization					
2	Planning and organization skills					
3	Communication skills and Soft Skills					
4	Obedience and relationship with Seniors					
5	Leadership, Team spirit and Initiative					
6	Relationship with peers/subordinates					
7	Willingness to learn new techniques, adopt new ideas etc.					
8	Ability to use workplace equipment					
9	Ability to solve workplace problems					
10	Innovativeness, creativity					
11	Involvement in social activities					
12	Simplicity and Sense of belongingness					
13	Respect for values in life					

Suggestions if any:

Place:

Date:

SIGNATURE



### Feedback from Teachers

This form is intended to collect information relating to your satisfaction towards the curriculum, teaching, learning, evaluation and infrastructure. The information provided by you will be kept confidential and will be used as important feedback for quality improvement of the programme of studies and the institution.

For each item please indicate your level of agreement with the following statements by indicating Tick mark (✓) in appropriate column.

(1 - strongly disagree, 2 - disagree, 3 - neither agree nor disagree, 4 - agree, 5 - strongly agree)

Sr. No.	Statement	5	4	3	2	1
1	The courses/syllabi taught by me have a good balance between theory and application.					
2	The objectives of the syllabi are well defined					
3	The books/journals etc. prescribed/listed as reference materials are relevant, updated and cover the entire syllabi					
4	The course/syllabi of the subjects taught by me increased my interest, knowledge and perspective in the subject area.					
5	The college has given me full freedom to adopt new techniques/strategies of teaching such as group discussions, seminar presentations and learners' participations.					
6	I have the freedom to adopt new techniques/strategies of testing and assessment of students.					
7	Tests and examinations are conducted well in time with proper coverage of all units in the syllabus.					
8	The prescribed books are available in the Library in Sufficient numbers					
9	The environment in the College is conducive to teaching and research.					
10	The administration is teacher friendly					
11	The College provides adequate opportunities and support to faculty members for upgrading their skills and qualifications.					
12	ICT facilities in the college are adequate and satisfactory					
13	Separate space in College Canteen is available for Teachers					
14	Toilets/washrooms are clean and properly maintained					
15	The classrooms are clean and well maintained.					

Suggestions if any:

Place:

Date:

SIGNATURE

### Feedback from Students about Teaching

Dear Students,

This form has been designed to seek feedback from you to strengthen the quality of teaching-learning environment and to improve the performance of the teachers. The information provided by you will be kept confidential.

**Directions:**

For each item please indicate your level of agreement with the following statements by indicating Tick mark (✓) in appropriate column.

(1 - Strongly disagree, 2 - disagree, 3 - not sure, 4 - agree, 5 - strongly agree)

Sr.No.	Statement	5	4	3	2	1
1	The entire syllabus is completed in time.					
2	The teachers are punctual and regular in taking lectures and practicals.					
3	The teachers come well prepared for the class					
4	The teachers encourage participation and discussion in class.					
5	The teachers' attitude towards the students is friendly & helpful.					
6	Modern teaching aids, power point presentations, web-resources, etc. are used by most of the teachers while teaching.					
7	The teachers are available and accessible in the Department after lecture timings.					
8	Periodical assessments are conducted as per schedule.					
9	Attendance record of the students is maintained by the teachers					
10	Regular and timely feedback is given on our performance.					
11	The evaluation process is fair and unbiased.					
12	The teachers guide the students for overall personality development of the students.					

Suggestions if any:

Course:

Year:

Place:

Date:

SIGNATURE

### Feedback from Students about College

Dear Students,

This form has been designed to seek feedback from you to strengthen the quality of teaching-learning environment, to provide best possible facilities and modern infrastructure. The information provided by you will be kept confidential.

**Directions:**

For each item please indicate your level of agreement with the following statements by indicating Tick mark (✓) in appropriate column.

(1 - Strongly disagree, 2 - disagree, 3 - not sure, 4 - agree, 5 - strongly agree)

Sr. No.	Statement	5	4	3	2	1
1	The office staff in the college is cooperative and helpful.					
2	The library staff is cooperative and helpful.					
3	Online educational resources are available and accessible in the library.					
4	Internet facility provided in the Library is satisfactory					
5	The prescribed books/reading materials are available in the library.					
6	Equipment in the lab(s) is in good working condition.					
7	Results are displayed by the college.					
8	Separate common rooms for girls and boys are available.					
9	Toilets/washrooms are clean and properly maintained					
10	The classrooms are clean and well maintained.					
11	The campus is green and eco-friendly					
12	Clean drinking water is available in the college campus.					
13	The buildings/classrooms are accessible to disabled persons.					
14	The campus has adequate power supply.					
15	Our grievances are redressed/problems are solved well in time.					
16	The functioning of the placement cell in the college is satisfactory.					

Suggestions if any:

Course:

Year:

Place:

Date:

SIGNATURE

### Feedback from Alumni

Dear Alumnus,

Thank you for considering Progressive Education Society's, Modern College of Arts, Science and Commerce, Shivajinagar, Pune 411005 as a source of your graduate / Post-graduate / doctoral studies. This form has been designed to seek suggestions or comments from you about the college.

#### A. Preliminary Information

1. Name of the Alumnus : \_\_\_\_\_
2. Address of the Alumnus :
3. Contact Number:
4. Email ID:
5. Name of the course completed:
5. Year of completion of course :
6. Present Occupation/ Designation:

Please Tick

Particulars	Excellent	Very Good	Good	Average	Poor
How do you rate the courses that you have learnt in the college in relation to your current job/ occupation?					
Infrastructure & Lab facilities					
Faculty					
Canteen Facilities					
Library					
Office Staff					
Hostel Facilities					
Educational Resources					
Admission Procedure					
Overall Rating of the College					

Mention at least four points which make you feel proud to be associated with Modern College as Alumni

PTO

**Alumni Feedback form continued**

1. In what way have the development activities organised by the College contributed to your overall development?

2. Do you have any grievances with the College?

(a) As a student:      Yes       No

(b) As an alumni:      Yes       No

If the answer is 'Yes', please specify/indicate the grievance

3. Are you a member of Alumni Association of our College?

Yes       No

If the answer is 'No' please state the reasons

4. Any other suggestions/comments:

Place:

Date:

**SIGNATURE**

## Feedback from Parents

Dear Parents,

Progressive Education Society's, Modern College of Arts, Science and Commerce was established in the year 1970. The college aims at the overall development of the students to become entrepreneurs and professionals in the respective disciplines. This form has been designed to seek feedback from parents to strengthen the quality teaching-learning environment in the college, to assess and to improve academic, non-academic, infrastructural facilities. The information provided by you will be kept confidential.

### A. Preliminary Information

Name of the parent:

Contact Number :

Name of the Ward :

Name of the department:

Academic year :

Course of the Ward:

You are requested to tick (✓) the appropriate option for the following points

Particulars	Excellent	Very Good	Good	Average	Poor
Admission procedure					
Infrastructure and lab facility					
Work Culture observed by you and your Ward					
Canteen facility					
Library					
Other facilities provided by the college					
Sports and cultural activities					
Students' counseling and guidance					
Use of Information and communication technology in the college					
Academic Discipline (i.e. timely conduct of lectures, practicals and related activities ) observed by the college					
Improvement in soft skills, knowledge, ethics, morality, observed by you in your ward while studying in college.					
Examination system adopted by the college					
Evaluation and Feedback mechanism					
Placements					

Suggestions (if any)

Place:

Date:

SIGNATURE

### **Analysis of Feedback on 5 point scale**

Feedback from Students about college	3.66
Feedback from Students about teaching	3.61
Feedback from teachers	4.08
Feedback from parents	3.41
Feedback from Alumni	2.93
Feedback from Employers	3.85

## Part B Annexure III (Criteria III): Major Projects

Principal Investigator	Title of the Project	Name of funding agency	Amount sanctioned	Duration of the Project
<b>Ongoing Projects</b>				
Dr. Mrs. A. S. Oak	Emotional Intelligence among adolescents: Tool Development, Enhancing through training and study of correlates	ICSSR	Rs. 17,00,000/-	2015-17
Dr. R.S.Zunjarrao Dr.R.B.Barmukh	Developing a Digital Herbarium of Angiospermic Plants of the Western Ghat Regions of Maharashtra	UGC, New Delhi.	Rs. 9,86,750/-	2013 to 2016
Dr. Neeta Patil	Isolation of the induced mutants in linseeds ( <i>Linum usitatissimum</i> ) under salt stress	UGC, New Delhi.	Rs. 12,80,500/-	2013 to 2016
Dr. P. P. Kanekar ( <b>CSIR emeritus Scientist Awardee</b> )	Exploring halophiles from west coast of India for production of bacteriorhodopsin, a novel protein capable of converting light energy into electrical energy	CSIR	Rs. 22,08,923/-	2013 to 2016 (Extension)
Dr. K. D. Gopale ( <b>DST Young Scientist Awardee</b> )	Fatty acid profiling and molecular characterisation of potential Biodiesel producing microalgae from South India	DST-SERB	Rs. 24,00,000/-	2013 to 2016
Total Amount			Rs. 85,76,173/-	
<b>Completed Projects</b>				
Dr. Rebecca Thombre	Halophilic bacterial diversity of marine ecosystems from West Coast of India	ISRO-UOP	Rs. 16,04,000/-	2013 to 2016
<b>Submitted Projects</b>				
Dr. K. D. Gopale	<i>Ex-Situ</i> Conservation of Some selected threatened, endemic and medicinal plants from <i>western ghatson</i> the land of P.E. Society, at Kule-Dakhane, Paud, Pune	BSI	Rs. 57,27,691/-	-



## Part B Annexure IV (Criteria III) : Minor Projects

No	Principal Investigator	Department	Title of the Project	Name of funding agency	Amount sanctioned	Duration of the Project
<b>Ongoing Projects</b>						
1	Prof. Mrs. R. M. Phadake	Biotechnology	Evaluation of potential of cytotoxicity of curcumin protin from <i>Jatropha curcus</i> L.	UGC	3,35,000/-	2015-17
2	Dr. Mrs. M. M. Satam	Economics	A Study of Minimum Balance Account as a tool for Financial Inclusion and its impact on urban unemployed youth in Pune	BCUD, SPPU	75,000/-	2014-16
3	CA Mrs. R. P. Date	Commerce	Gender Audit of Educational Institutes- A case study of select Deemed Universities in Pune.	BCUD, SPPU	1,10,000/-	2014-16
4	Mrs. M. S. Datre	Library	Designing E-learning courses to improve information literacy skill of College students	BCUD, SPPU	90,000/-	2014-16
5	Dr. Mrs. R. S. Thombre	Microbiology	Studies on bacterioruberin and membrane protein production by haloarchaea isolated from Mumbai salterns	BCUD, SPPU	2,30,000/-	2014-16
6	Dr. Mrs. S. V. Bhagat	Biotechnology	Screening of some indigenous plant species for xanthineoxidase inhibitors: Potential remedies for gout	BCUD, SPPU	1,60,000/-	2014-16
7	Dr. R. S. Zunjarrao	Botany	Optimization of Growth Rate of Potential Biodiesel Producing Microalgae.	BCUD, SPPU	2,40,000/-	2014-16
8	Prof. R. L. Dabhade	Biotechnology	Green synthesis of metal nano particles and their applications	BCUD, SPPU	1,30,000/-	2014-16
9	Dr. Mrs. V. S. Waman	Physics	Development of CZTS based low cost thin film solar cells by electrochemical	BCUD, SPPU	2,20,000/-	2014-16

No	Principal Investigator	Department	Title of the Project	Name of funding agency	Amount sanctioned	Duration of the Project
<b>Ongoing Projects</b>						
			deposition method			
10	Dr. Mrs. G. M. Litake	Biotechnology	Evaluation of Environmental dissemination of Multi-Drug Resistant Staphylococcus species	BCUD, SPPU	1,80,000/-	2014-16
11	Dr. M. M. Satam	Economics	Financial inclusion and women empowerment	UGC	1, 70,000/-	2014-16
12	Dr. S. S. Patil	Physics	Systematic synthesis, characterization & Field emission investigations of Novel Metal Oxide nanostructures/heterostructures	BCUD, SPPU	2,40,000/-	2014-16
13	Dr. Y. S. Shinde	Zoology	Taxonomy and Distribution of Ostracoda (Crustacea) of Phytotelmata from Western Maharashtra.	BCUD, SPPU	2,20,000/-	2014-16
14	Dr. A. B. Shinde	Zoology	A Study of Behavioural Finance Pertaining to Management Institutes Faculty in and around Pune .	BCUD, SPPU	70,000/-	2014-16
Total					21,91,000/-	
<b>Submitted Projects</b>						
1	Dr. Shubhangi Puranik	Zoology	To study anitcarcinogenic activity silver nano-particles synthesized from medicinal plant resources	BCUD	2,10,000/-	2015

## Part B Annexure V (Criteria III) : Research Publications

Sr. No	Type of Journal International/National	ISSN-SBN No.	Title of Papers	If Proceeding/ Journal give details on Separate Page.	1 <sup>st</sup> . Author	Impact factor of Journal
01	International		Synthesis of plant-mediated silver nanoparticles using <i>Tylophora indica</i> merr. (Pittakari) leaf extract and evaluation of its antimicrobial and anticancer activity, <i>Int J Pharm Bio Sci</i> 2015 Jan; 6(1):	(P) 311 – 318.,	Radhika Oke, Rebecca Thombre and A. K. Pande,	Impact Factor: 2.95
02	International		Study of stress proteins induced by temperature stress in extremely halophilic archaea, <i>Haloferax mediterranei</i> . <i>International Journal of Current Microbiology and Applied Sciences</i> . (2015).		Rebecca Thombre, Radhika S. Oke,	Impact Factor- 2.3
03	International		Litake GM, Ghole VS, Niphadkar KB, Joshi SG. (2015) Phenotypic ESBL Detection in <i>Acinetobacter baumannii</i> : A real challenge. <i>Am J Infect Dis</i> 11(3): 48-53.		Litake GM, Ghole VS, Niphadkar KB, Joshi SG	
04	International	0141-8130	Production of copolymer, poly (hydroxybutyrate-co-hydroxyvalerate) by <i>Halomonas campisalis</i> MCM B-1027 using agro-wastes.	International Journal of Biological Macromolecules (2015) 72, 784-789.	S. O. Kulkarni, P. P. Kanekar, J. P. Jog, S. S. Sarnaik, S. S. Nilegaonkar	2.858 (Journal Citation Report) SNIP 1.255
05	International	1365-2672	Exploration of a haloarchaeon, <i>Halostagnicola larsenii</i> , isolated from rock pit sea water, West Coast of Maharashtra, India, for the production of bacteriorhodopsin	Journal of Applied Microbiology (2015), 118, 1345-1356.	P. P. Kanekar, S. O. Kulkarni, S.P. Kanekar, Y.Shouche, K. Jani, A. Sharma	2.479 (Journal Citation Report)
06	International	ISSN 0975-6299	Removal of ammoniacal nitrogen from fish processing waste water using bioaugmentation technique	International Journal of Pharma and Bio Sciences (2015) 6(1) B 1021-1029	S. S.Sarnaik, V. V. Phalke,P. P. Kanekar,	5.121 (Scientific Journal Impact Factor) SNIP 0.77 SJR 0.288
07	National	ISSN 1175-5334 (online edition)	First faunal inventory of large branchiopods (Crustacea: Branchiopoda) of Western Maharashtra, India with taxonomical and distributional comments	Zootaxa	HEMANT GHATE	

Sr. No	Type of Journal International/National	ISSN-SBN No.	Title of Papers	If Proceeding/ Journal give details on Separate Page.	1 <sup>st</sup> . Author	Impact factor of Journal
08	National		DOCUMENTING THE FAUNA OF A SMALL TEMPORARY POND FROM PUNE, MAHARASHTRA, INDIA	India. <i>Journal of Threatened Taxa</i> 7(6):719 6–7210;	Hemant Ghatе	
09		ISSN 1175-5334 (online edition)	A new species of Leptestheria (Crustacea: Branchiopoda: Spinicaudata) from Western Maharashtra, India	Zootaxa	Hemant Ghatе, Sameer Padhye	
10		ISSN 1175-5334 (online edition)	A new cavernicolous assassin bug of the genus <i>Bagauda</i> Bergroth (Heteroptera: Reduviidae: Emesinae) from the Western Ghats, India	Zootaxa 4127 (2): 365–375	Hemant V. Ghatе, Siddharth Kulkarni	
11	International		Fuzzy Logic-Based Formalisms for Gynecology Disease Diagnosis	Journal of intelligence system	Anjali Sardesai, Vilas Kharat, Pradip Sambarey and Ashok Deshpande	
12		ISSN 1175-5334 (online edition)	Illustrated redescription of <i>Haliphus</i> ( <i>Liaphlus</i> ) <i>arrowi</i> Guignot, 1936 (Coleoptera: Haliplidae) from the Western Ghats, India, and notes on the closely related <i>H. angustifrons</i> Régimbart, 1892	Zootaxa 4127 (2).	Sayali D Sheth, Hemant V Ghatе, Bernhard J Van Vondel	
13		Online ISSN: 1938-4394	<i>On Three Species of the Genus Olenecamptus Chevrolat, 1835 (Coleoptera: Cerambycidae: Lamiinae: Dorcaschematini) from Chhattisgarh, India, with a List of the Indian Species</i>	The Coleopterists Bulletin 70(2):	Amitava Majumder, Bulganin Mitra H. V. Ghatе <sup>b</sup> and Kailash Chandra	
14		ISSN: 0373-5893 (Print) 0974-6919 (Online)	Morphological Reassessment of <i>Triops cancriformis</i> Bosc (Crustacea: Branchiopoda: Notostraca) Population from Kashmir, India with Comments on the Distribution of the Species in India	Proceedings of the Zoological Society	Sameer M Padhye, Hemant V Ghatе	
15			Large branchiopod (Crustacea: Branchiopoda) egg morphology of Western Ghats, Maharashtra, India	<i>Biodivers Data J.</i> 2016; (4): e7949.	Sameer Padhye, Brian Timms, Hemant V. Ghatе	

Sr. No	Type of Journal International/National	ISSN-SBN No.	Title of Papers	If Proceeding/ Journal give details on Separate Page.	1 <sup>st</sup> . Author	Impact factor of Journal
16			First record of the thread-legged assassin bug <i>Myiophanes greeni</i> Distant, 1903 ( <i>Heteroptera: Reduviidae: E mesinae</i> ) from India	<i>Biodiversity data journal</i>	Siddharth Kulkarni, Hemant Ghate	
17			A first record of <i>Abryna regispetri</i> Paiva, 1860 ( <i>Cerambycidae: Lamiinae: Pteropliini</i> ) and its redescription from India	<i>Journal of Threatened Taxa</i> 7(14):	HV Ghate, BK Agarwala	
18		ISSN: 2320-4311	First record of two color forms of a shield bug <i>Tetrarthria variegata</i> Dallas, 1851 ( <i>Pentatomoidea: Scutelleridae: Scutellerinae: Scutellerini</i> ), from Phansad, Raigad Dist., Maharashtra	<i>Prommalia</i>	HV Ghate, SS Jadhav	
19		E-ISSN: 1568-5403	Authentic record of a palaemonid prawn, <i>Macrobrachium scabriculum</i> (Heller, 1862) ( <i>Decapoda, Palaemonidae</i> ), from Maharashtra, India	<i>Crustaceana</i>	Sameer M Padhye, Hemant V Ghate	
20			First report of the female of <i>Cheirochela assamensis</i> Hope, 1841 ( <i>Hemiptera: Heteroptera: Naucoridae</i> ) from northeastern India	<i>Journal of Threatened Taxa</i> 7(1)	Shruti V. Paripatyadar, Sophio Riphung & H. V. Ghate	
21			Rediscovery of the shieldbug <i>Menedemus vittatus</i> , with notes on <i>M. hieroglyphicus</i> ( <i>Heteroptera: Pentatomidae: Pentatominae: Sciocorini</i> ), from Pune, Maharashtra, India	ENTOMON 40(4)	Hemant V. Ghate	
22			Biology and survival of extremely halophilic archaeon <i>Haloarcula marismortui</i> RR12 isolated from Mumbai salterns, India	Scientific reports 6	Rebecca S. Thombre, Vinaya D. Shinde, Radhika S. Oke, Sunil	

Sr. No	Type of Journal International/National	ISSN-SBN No.	Title of Papers	If Proceeding/ Journal give details on Separate Page.	1 <sup>st</sup> . Author	Impact factor of Journal
			in response to salinity stress		Kumar Dhar & Yogesh S. Shouche	
23	International	ISSN: 2319-7706	Study of Stress Proteins Induced by Temperature Stress in Extremely Halophilic Archaea, <i>Haloferax mediterranei</i> RT18	Int.J.Curr. Microbiol. App.Sci (2015) Special Issue-2:	Rebecca S Thombre* , Radhika S. Oke	
24	International		Growth of boron doped hydrogenated nanocrystalline cubic silicon carbide (3C-SiC) films by Hot Wire-CVD	Materials Research Bulletin	Amit Pawbake, Vaishali Waman,	
25	International		Low substrate temperature deposition of transparent and conducting ZnO:Al thin films by RF magnetron sputtering	Journal of Semiconductors 37(4)	Ravindra Waykar, Vaishali Waman	
26	International		Effect of Annealing on Optical and Structural Properties of Rutile TiO <sub>2</sub> Nanoarrays	Journal of Nano Research Vol. 34	AH Mayabadi, VS Waman,	
27			Influence of RF power on structural, morphology, electrical, composition and optical properties of Al-doped ZnO films deposited by RF magnetron sputtering	<i>Journal of Materials Science: Materials in Electronics</i>	Ravindra G, Vaishali S. Waman	
28	International		Structural, Morphological and Optical Properties of Sol-Gel Spin Coated Al-doped Zinc Oxide Thin Films	Journal of Nanoscience and Nanoengineering Vol. 1, No. 4, 2015, pp. 259-264	R. V. Vidap , S. S. Bandgar , G. S. Shahane	
29		Print ISSN: 0217-9849 Online ISSN: 1793-6640	Polypyrrole nanostructures and their field emission investigations	Modern Physics Letter B Vol. 29	Patil S. Kishor M. Sonawane Kashmira Harpale, Mahendra A. More, Pankaj M. Koinkar, Sandi	
30			Effect of synthesis	<i>SOLID</i>	Patil Sandip S.	

Sr. No	Type of Journal International/National	ISSN-SBN No.	Title of Papers	If Proceeding/ Journal give details on Separate Page.	1 <sup>st</sup> . Author	Impact factor of Journal
			parameters on morphology of poly Journal of Nano Research . 2016, Vol. 36, p44-50. 7p aniline (PANI) and field emission investigation of PANI nanotubes	<i>STATE PHYSICS: Proceedings of the 59<sup>th</sup> DAE Solid State Physics Symposium 2014</i>	Mahendra A. More Prashant K. Bankar	
31			Electrochemical Synthesis of Conducting Polypyrrole Film on Tin Substrate: Structural, Chemical and Field Emission Investigations.	<i>Journal of Nano Research Vol. 36</i>	Patil Sandip S, Pankaj M Koinkar, Toshihiro Moriga, Mahendra A More	
32	International		Facile synthesis of cadmium sulphide-polyaniline (CdS-PANI) nanocomposite and its field emission investigations	Springer Netherlands 22 (6)	Sandip S Patil, Kashmira V Harpale, Akansha D Shinde, Ruchita T Khare, Pankaj M Koinkar, Mahendra A More	

### Part B Annexure VI (Criteria III) : Text Books written by Staff

No	Author	Department	Title	Publisher	ISBN/ISSN
1	Prof. Anjali Sardesai	Computer Science	Theoretical Computer Science	Vision Publication	9789350163306
2	Prof. Anjali Sardesai	Computer Science	Compiler Construction	Vision Publication	9789350163610
3	Prof. Anjali Sardesai	Computer Science	Operating System Concepts	Vision Publication	9789350163665
4	Prof. Sonali Deshmukh	Computer Science	Compiler Construction	Vision Publication	9789350163610
5	Prof. Sonali Deshmukh	Computer Science	Operating System Concepts	Vision Publication	9789350163665
6	Prof. Jigisha Pawar	Computer Science	Current Trends in IT	Vision Publication	9789350162415
7	Prof. kalyani Salla	Computer Science	Recent Developments and New Directions in Soft Computing	Springer Verlag Book	ISBN: 978-3-319-06323-2
8	Dr. Madhura Koranne	Marathi	Ekpatri Prayog: Swarup ani Kalarup (2 <sup>nd</sup> edition)	Snehavardhan Publication	
9	Dr. S. M. Mujumdar, Dr. R. S. Thombre, Prof. Shraddha Bashetty, Prof. Sheetal Pardeshi	Microbiology	Book chapter in book L:Industrial Biotechnology sustainable production and Bioresearch Utilization	Tyler and Fransis , Apple Press, New Jersey USA	PrintISBN :9781771882699 Online ISBN : 9781771882620



## Part B Annexure VII-a (Criteria III) : Collaboration Details

	Name of the Institute/ University/ Department/ Agency /Industry	Level	Department	Purpose
1.	PASCH, Goethe Institute, Germany	International	German	Students' Exchange and Faculty Empowerment
2.	Deenanath Mangeshkar Hospital ,Pune-07	National	Biotechnology	for molecular biology analysis of miscarriage foetus samples
3.	Malkolak Knowledge Centre Hyderabad	National	Biotechnology	for molecular biology analysis of miscarriage fetus samples
4.	Microsat Biolabs (Mumbai based Biotechnology Industry)	National	Biotechnology	For Academic and research collaboration
5.	NCCS, Pune	National	MCC (Dr. Yogesh Shouche, Director)	ISRO Project of Dr. Rebecca Thombre -related collaboration for 16 s Sequencing of Bacteria
6.	Agharkar Research Institute, Pune	National	Microbiology Div. (Dr. P.K.Dhakephalkar, Scientist F)	ISRO and BCUD Project of Dr. Rebecca Thombre -related collaboration for 16 s Sequencing of Archaea
7.	DELNET: Developing Library Network	National	Library	Resource Sharing : online database- 3000000 e-books
8.	Door-Step NGO	State	Psychology	Consultancy
9.	Pragati Foundation	State	Psychology	Consultancy
10.	Equip-Kids, Thane	National	Psychology	Research and Training
11.	Modern College of Pharmacy, Nigdi, Pune	State Level	Pharmaceutics	PG Research Project
12.	Satara College of Pharmacy, Satara	State Level	Pharmaceutics	PG Research Project
13.	Quick Heal Technologies (QH Connect Program)	Intercollegiate	Computer Science	Main purpose of the Quick Heal Connectprogram is to guide students in C and C++ and also Prepare them for campus recruitment program. Quick Heal conducts training sessions for the students and after training, they again conduct test and interview the students. Depending on their performance they recruit the students in Quick Heal Technologies
14.	TOEFL/GRE Quiz (Satan Paradise)	Intercollegiate	Computer Science	This event was arranged for Graduate and Post Graduate students in order to generate awareness of future career prospects abroad and highlight the significance of
15.	WordPress Community (Word Camp, 2013,2015)	International/ National	Computer Science	Technical Talk on customized websites and blogs development using 'WORDPRESS' – A Content Management System
16.	Evolve Excellence (Academic Career Excellence)	Collegiate	Computer Science	Benefits everyone who needs to communicate effectively. Most widely used global language. Opens the door to multidimensional careers. Students and professionals are better equipped to deal with international challenges
17.	TOEFL/GRE Quiz (Satan Paradise)	Intercollegiate	Computer Science	This event was arranged for Graduate and Post Graduate students in order to generate awareness of future career prospects abroad and highlight the significance of GRE/TOEFL
18.	WordPress Community (WordCamp,2013,2015)	International/ National	ComputerScience	Technical Talk on customized websites and blogs development using 'WORDPRESS' – A Content

	<b>Name of the Institute/ University/ Department/ Agency /Industry</b>	<b>Level</b>	<b>Department</b>	<b>Purpose</b>
				Management System
19.	Mahatma Gandhi Institute, Mauritius	International	Marathi	Interdisciplinary Research/Conference
20.	Manipal University, Dubai	International	Marathi	Interdisciplinary Research/Conference
21.	Arya Samaj, Thailand	International	Marathi	Interdisciplinary Research/Conference
22.	Shejwalakar Education Institute, Pune	State	Marathi	Interdisciplinary Research/Conference

## Part B Annexure VII-b (Criteria III) : Linkages Created Details

Departments	Name of the Institute /University /Department /Agency /Industry	Nature of Linkage/ Collaboration
Biotechnology	Modern College of Pharmacy Nigdi	M.Sc. Research Projects
	Tilak Maharashtra University , Pune	Research
	Department of Chemistry and physics SPPU, Pune	M.Sc. Research Projects
	BharatiVidyapeeth Pune	Academic Programme, Skill development course
	NCCS, Pune	M.Sc. Research Projects
	Serum Institute, Pune	Summer training and placement
	NCL, Pune	M.Sc. Research Projects, Research Fellows
	Agharkar Research Institute, Pune	M.Sc. Research Project, Research Fellows
	IISER, Pune	M.Sc. Research Project, Research Fellows
	MUHS-regional centre	M.Sc. Research Project
	Evolvus system	Student placement
	Optra systems	Student placement
	Persistant Systems	Bioinformatics lecture, Student placement
	N-CORD	Student placement
	PremiereBiosoft	Student placement
	Thyrocare	Student placement
	MicrosatBiolabs (Mumbai based Biotechnology Industry)	For Academic and research
	Agharkar Research Institute,Pune	Research
	SVRTMUniversity, Nanded	ISRO-related collaboration for Microgravity related experiments
SVRTM University, Nanded and HV Desai College,Pune	Collaborative BCUD proposal sent in 2015	
Rangoonwala Dental College,Pune.	Worked as a Co-Guide for MD project of Dr. SimrataAijrawat (MD student)	
Deccan College,Pune	Collaborative Proposal related to study of Haloarchaea from ancient rocks of India	
Botany	Agharkar Research Institute, Pune	Research Project
	Botanical Survey of India , Western Circle, Pune	Research work
	Central Marine Fisheries Research Institute, Cochin, Kerala	Student Training and Research Work.
	Department of Botany, Agriculture College of Pune	Student Training and Skill development course
	Central Research Facility, of SPPU, Pune	Research Work
	Department of Botany, of SPPU.	Research Work
Chemistry	Centre for Materials for Electronic Technology, Panchawati, Pashan, Pune-411008	M. Sc. Research projects
	Department of Chemistry, SP Pune University, Pune.	M. Sc. Research projects
	Physical and Material Chemistry Division, CSIR-National Chemical Laboratory, Pune 411008.	M. Sc. Research projects
	Chief Scientist, Physical and Material Chemistry Division, CSIR-National Chemical Laboratory, Pune 411008.	M. Sc. Research projects
	CEPD Division, CSIR-National Chemical Laboratory, Pune 411008.	M. Sc. Research projects
	Catalysis and Inorganic Chemistry Division, CSIR-National Chemical Laboratory, Pune 411008.	M. Sc. Research Project
Economics	Gokhale Institute, SSPU, Indian Economics association, MP Economics association, Marathi Artha ShastraParishad, Indian Association of Social Science and Health, Family Planning Association, Vidya Sahakari Bank	Conferences, Training, library and project work
Electronics	IIT Mumbai, Centre for Materials for Electronics Technology (C-MET) Scientific Society, Department of Information Technology Panchawati, Pashan Road Pune - 411 008 , IGATE, DOES SPPU, VSI Pune, PCSmile Industries, Dynolog systems, MEDA Pune, BINIX Electronics Pune. Prowiz enterprises Pune.	M. Sc. Student Project and Research Project
English	BCL, Centre for post-colonial study Nottingham Trent University UK, BITS private Limited Pune, Technoknit Pune,	Library, Organising Workshops, International Resource Person, Pilot Course-Blended English, Research work, Placements
German	Max Mueller Bhawan, Delhi, IGS Garbsen, Germany Department of Foreign Languages, SPPU	Students' and Teachers' Training, Student's Exchange, Youth Camps in Germany and India, collaborative work ., international resource persons
History	Students informally visit to Kelkar museum, Mahatma Phule museum, Bhandarkar Research Institute	Academic

Departments	Name of the Institute /University /Department /Agency /Industry	Nature of Linkage/ Collaboration
Library	British Library, F. C. Road, Pune	Online Resources – 85000 e-books/14000 e-journals And We can borrow total 14 items from Books, CD's, Periodical's, DVD's, Films, Children's Section and access to 4000+ Newspapers on Smart Card Provided by BL
Marathi	Jaykar Library, SPPU, Pune	Book borrowing and reference reading facility
Mathematics	Gokhale Institute of Politics and Economics, Pune	Book borrowing and reference reading facility
Microbiology	INFLIBNET-NLIST, Gujarat	online database-6000+ e-journals and 97000+ e-books
Physics	Deccan College, Pune	book borrowing facility
Psychology	Kaivalyadham Yoga institute, Lonavala., Manashakti Kendra, Lonavala, Regional Mental Hospital, Ratnagiri, Walawalkar Trust's hospital, Derwan, Christian Counselling centre, Vellore, Tamil Nadu, Rotary club, Schizophrenia Awareness Association, Mukangan De-addiction centre, Prasanna Autism Centre, Kripa Foundation de-addiction centre, Samparca Balagram orphanage	Field based activities, Teacher Training programme, PG Research Project, Visiting faculty, Social work, PG Research Project, Social work
Zoology	IISER, Pune, Garware College, Pune, Chief Eng. (Rtd.), Pune, ELA Foundation, Pune, PugmarksPune, Garware College, Pune, Dept. of Environmental Science, SPPU, Pune,	Field based activities, Teacher Training programme, PG Research Project, Visiting faculty, Social work, PG Research Project, Social work
IQAC	German Indian Business Centre, GIBC Hannover, Bussardweg, 31-30880, Loatzen Germany.	Indo-German Exchange and Collaborative Initiative

**Part B Annexure VIII-a (Criteria III) : List of Ph.D. guides in college**

No.	Name	Subjects	Period of recognition
1.	Dr. R. S. Zunjarrao	Botany	29/08/2005 to 28/08/2013
2.	Dr. Mrs. N. M. Patil	Botany	08/05/2012 to 07/05/2020
3.	Dr. Mrs. S. S. Puranik	Zoology	21/02/2013 to 20/02/2021
4.	Dr. H. V. Ghate	Zoology	19/06/2009 to 18/06/2017
5.	Dr. Y. R. Waghmare	Commerce	14/03/2012 to 13/03/2020
6.	Dr. A. V. Kamble	Commerce	24/11/2012 to 23/11/2020
7.	Dr. Mrs. M. M. Satam	Economics	23/04/2010 to 22/4/2018
8	Dr. Abhay Shende	Economics	19/01/2010 to 18/01/2015
9.	Dr. Mrs. S. L. Taware	Marathi	20/03/2012 to 19/03/2020
10.	Dr. Mrs. Sanjivani Rahane	Commerce	17/08/2012 to 16/08/2020
11	Dr. R. B .Barmukh	Botany	20/02/2015 to 19/02/2023
12	Dr. Mrs. S. S. Mujumdar	Microbiology	08/05/2015 to 07/05/2020

**Part B Annexure VIII-b (Criteria III) :**  
**List of Ph.D. and M.Phil. Students in college**

No	Name of the Student	Subjects	Topic of Research	Name of the Guide	Date of Registration
1	Mr. Prashant D. Mohite	Commerce	A study of interrelationship between stress level and productivity among Pune Mahanagar Parivahan Mandal Ltd. (PMPML) Bus driver and conductor	Dr. S. D. Pawar	Ph. D. Awarded on 31 <sup>st</sup> May 2014
2	Mr. Suneel A. Kelkar	Commerce	Strength of candlestick graph as tool for predicting prices of shares included Nifty index.	Dr. Ravi M. Chitnis	Ph. D. Awarded on June 2014
3	Mr. Dhondibhau S. Borkar	Commerce	Impact of IT of efficiency of banking Industry.	Dr. V. S. Mangnale	Ph. D. Awarded on 31 <sup>st</sup> May 2014
4	Mr. Virendra Vasant Tatak	Commerce	A Study of Performance of Selected Index Mutual Funds and Investors' response to Index Mutual Funds 'Investments'	Dr. Y. R. Waghmare	DOR. 28-08-2010 Letter Ref. No. PGS/9721 Dated 9/12/2012
5	Mr. Anil Vinayakrao Jagtap	Commerce	A Study of Disclosure of Accounting Policies in Financial Reports of Selected Companies in India	Dr. Y. R. Waghmare	DOR- 14/01/2011 Letter Ref. No. PGS/8 dated 2/01/2012
6	Mr. Yuvraj Rajaram Thorat	Commerce	Financial Analysis of Regulated Agriculture Produce Market Committees in Maharashtra with Special Reference to Pune District.	Dr. Y. R. Waghmare	DOR – 28-08-2010 Letter No. 10099 / dated 30/12/2011
7	Mr. Parag Sumatilal Shah	Commerce	Designing of user satisfaction index for hotel Industry in Pune city.	Dr. Subhas Devlu Pawar	DOR. 07/07/2011 Letter Ref No. PGS/ 9907 Dated 22/12/2011

No	Name of the Student	Subjects	Topic of Research	Name of the Guide	Date of Registration
8	Mr. Prasant Dadaso Mohite	Commerce	A Study of Interrelationship Between Stress Level and Productivity among Pune Mahanagar Parivahan Mahamandal Ltd.  ( PMPML) Bus Drivers and Conductors.	Dr. Subhas Devlu Pawar	DOR 24/02/2011 letter Ref No. PGS/ 9838 dated 16/12/2011
9	Mrs. Savita Shatrughan Thorat	Commerce	A Critical Study of State Government's role in promotion of sericulture in Western Maharashtra	Dr. Shoba G. Dadlani	DOR 24/01/2011 Letter Ref. No. PGS / 9900 dated 22/12/2011
10	MR. Dhondibhau Sitaram Borkar	Commerce	Impact of IT on Efficiency of Banking Industry	Dr. Virbhadra Santukrao Mangnale	DOR. 23/12/2010 Ref Letter PGS/9837 dated - 16/12/2011
11	Mr. Pimple Nirbhay Sudhir	Zoology	A Study of Reproductive Biology of Genus <i>Osteobrama vigorsil</i> and <i>Rohtee ogilbilii</i> from Nira River.	Dr. Sanjay S. Kharat	20/09/2012
12	Mr. Raut Rupesh Nivruti	Zoology	Osteological and Morphological relationship among family cyprinidae fishes	Dr. Sanjay S. Kharat	10/01/2013
13	Mr. Naidu Narendra Madhukar	Zoology	Taxonomy and Biodeversity of Cerambyoid beetles (Insecta:Coeptra) of Maharashtra	Dr. Hemant V. Gahte	14/01/2013
14	Mrs. Sontakke Sangita Sandip	Zoology	Cheak Embryo as Model for Understanding Biochemical and Molecular Mechanisms of Glucose induce organ damage	Dr. Savita P. Datar	05/04/2013
15	Mrs. Patil Bharati Vishwasrao	Zoology	Hydrobiological study of Tungarli and Valvan Dams of Lonavla with Special reference to aquatic insects	Dr. S. B. Patil	05/04/2013
16	Nafieshsadat Omidiani	Botany	Studies on medical efficacies of <i>Achyranthes aspera</i> L.	Dr. R B Barmukh	18/04/2016

## Part B Annexure IX (Criteria VII): Best Practices

### 1. Title of Practice: Use of Electronic and Computer Technology in academics and administration

- **Goal**
  - To develop / enhance competencies in teaching, learning and research.
  - To improve academics by using web based information
  - Improvement in teaching and learning using web based infrastructure such as Google Apps for Education.
  - To increase the efficiency of team work by increasing effective communication
- **The Context**

Students come from various socio-economic backgrounds with little or no access to Information Communication technology (ICT) for learning. The use of ICT by the college has positive impact on learning experience. The importance of ICT lies in focusing individual student, teacher and thus improving overall teaching learning experience. It helps to develop aptitude from descriptive to analytical, from academic to practical and to decide the future career goals.
- **The Practice**
  - Every department of the college has received laptops and projector for conducting lecture, practical sessions and seminars.
  - Internet facility is provided to all departments of the college.
  - College website is developed for presenting activities of college related to academics, administration, research and student support services
  - Use of Google Apps for Education for online quiz, filling up forms, making spreadsheets and power point presentations etc. Online examination software Quiz Fire is used by Department of Electronic Science to conduct internal examination.
  - Library makes use of advance technologies to access online reference databases
    - Teachers and students have direct access to INFLIBNET facility of UGC
    - Web OPAC - Adequate provision of computers has been done to refer OPAC with proper instructions. Students extensively use this OPAC to locate the required book and they do not require any manual help. It saves their time.
  - The college has digital library through which the staff and students get easy access to e-material.
  - Digital record room enables the administrative staff to maintain the records and helps easy and quick access of records.
  - **Virtual classroom:** virtual classroom facility is made available with online audio-video recording system, enabling interactive sessions with eminent professors and scientists.
  - **Digital classrooms:** In digital classroom '*Mi board*' is installed which enables to teach interactive sessions including audio-video, drawing objects, recording lectures. The college has installed five digital classrooms.
  - Wi-Fi connectivity on college campus
  - Mobile jammer in Library Reading hall
  - ICT in sports : Live matches are recorded and those are replayed in Gymkhana department for the players to learn the tactics, to understand and avoid the mistakes during play and to improve their performance.
  - ICT in Languages: Independent Language laboratory with necessary software
  - ICT In Social Sciences: Collection of educational videos
  - ICT in Geography : GIS mapping
  - ICT in Commerce : SPSS , Tally
  - ICT in Sciences
    - Most of the advanced instruments in laboratories are aided with Computer and internet facility
    - Dedicated Bioinformatics laboratory for bioinformatics study
    - Mathematics and Statistics laboratories are equipped with advanced software such as Metlab, 'R' Software, Algorithm software, Problem solving software, Modeling and simulation software
    - Animation laboratories have software such as Maya, Flash, Adobe Acrobat, photoshop.



- **Evidence of Success**
  - Lectures
    - Teachers are using ICT facility for preparation and presentation of lectures.
    - ICT facility is provided for guest lectures
    - Lecture notes, references, information is exchanged between teachers and students using ICT
  - Practical sessions
    - The ICT facility is used for demonstration of practical sessions and their standardization.
  - Google Apps for Education
    - The students and teachers use official email IDs to exchange the information.
    - The online software helps to organize various tasks in teaching and learning.
  - ICT in sports: increase in medals and championship in gymkhana department.
  - ICT in languages -
    - Significant increase in the interest of the students in learning foreign languages is observed because of the specialization implemented in the subject.
    - The quality of home assignment and projects has increased because of access to digital library and electronic resources.
    - The employability of the students has increased.
  - The students design, Program and evaluate elementary tasks in regular Lectures, practicals and Projects using computers.
  - The number of publications in national and international journals, poster presentations in State, National / International conferences has increased because of ICT facility.
  - The students access various educational websites and online examinations for preparation of various competitive examinations
- **Problems Encountered and Resources Required**
  - Technical Problems related to presentation
    - Antivirus upgradation,
    - High speed internet.
  - Computers to Students ratio: The college has 404 desktops. The computer-student ratio is 1:11.
  - Orientation of staff and students for using advanced technology.
  - Encouragement for more applications of ICT
  - The number of virtual classroom should be increased.
  - Advanced software and hardware should be purchased for subjects such as Bioinformatics / Animations / Graphics / Modeling and Simulations
  - Robotics and feedback devices
  - Need of ICT for Drama and Music

## 2. Title of Practice: Green Campus Initiative

- **Goal**
  - To increase environmental awareness among students, staff of the college and among population in the vicinity of the college.
  - To minimize the environmental pollution in and around college campus.
  - To minimize the use of PMC water resources by installing wastewater recycling plant and rain harvesting plant.
  - To use renewable energy resource particularly solar and wind energy .
  - To establish Bio-gas plant for the disposal of wet garbage this can be used as fuel source to the college canteen.
  - To study and maintain biodiversity of campus.
  - To quantify carbon foot print and find out solutions to minimize it.
  - To support and implement ‘Swachh Bharat Aabhiyan’.
- **The Context**

Clean environment is the basic necessity for human being for health and efficiency. Mostly limited availability of public transport compelled increased use of personal vehicles which is one of the reasons to increase pollution in and around campus. Chemical experimentation in the

college laboratories emits green house gases (GHG). It adds to the environmental pollution. Water is scarce natural resource hence needs to be used rationally. Solar energy can be the potential replacement for conventional electricity.

- **The Practice**

The Green Campus Initiative practices are as follows:

- **Green Audit :**

College consulted Dr. Sunil D. Kulkarni for quantifying the green house gas (GHG) emitted on the campus for the academic year 2014-2015. The green audit report is prepared by adhering to the standards provided by ISO/DIS 14067, 2012 and report was submitted in July 2015. The GHG quantification is done in terms of carbon foot prints (CFP). The carbon foot prints are expressed as Carbon dioxide equivalents (CO<sub>2</sub>e). Twenty nine departments of the college were audited for the emission of GHG directly or indirectly.

- **Biodiversity audit :**

The Biodiversity audit was conducted for our college during the period from May 2015 to June 2015. The report of “**Biodiversity Assessment of Modern Educational Campus, Shivajinagar**” was submitted to College authorities.

The study was conducted as a rapid biodiversity survey and systematic photo-documentation as per the directives given by the Principal, Modern College of Arts, Science and Commerce Pune-05. Hence present study can be considered as a snap-shot of biodiversity of the Modern Educational Campus area. Systematic documentation coupled with measures for enhancement and protection will prove to be a prudent step towards ‘environment protection and green initiative.

The site visits and the collected database showed following key findings for the Biodiversity Assessment of Modern College Pune.

Biodiversity study mainly refers to the assessment of biodiversity of Modern college campus.

This has also been referred to as survey of Modern Educational campus

Key findings :

- i) A total of 107 species of flora were observed during the biodiversity survey of the Modern Educational Campus.
- ii) 13 species of birds were observed during the survey.
- iii) 10 species of butterflies were seen.
- iv) 2 species of mammals, 1 amphibian specie and 1 mollusc species was recorded.
- v) 3 IUCN listed species of conservation significance were recorded in the survey.

Results :

The results of the biodiversity survey are as following:

- i) The campus demonstrated the presence of more than 15 species of flora which have been listed under the IUCN Red list.
- ii) Out of these 15 species of plants, 3 species, namely *Pterocarpus marsupium* (Bibala), *Santalum album* (Chandan) and *Jacaranda mimosifolia* (Neelmohar) are listed under the Vulnerable Category of IUCN Red list.
- iii) On similar lines, 11 bird species, 2 mammal species and 1 amphibian species have been listed under the IUCN Red list.

- **Nameplates on trees.**

Trees are an integral part of human life. To create awareness among people about botanical name, common name, plant family and significance of these trees we have undertaken a program to label the road side trees near college campus.

In Nov-2008, nearly 800 tress along the road sides of J.M. Road, F.C. Road, Modern college Road were identified and nameplates were displayed on tree trunks. During 2013-14 and 2014-

15 nearly 350 road side trees along Ghole road and Apte Road were identified and name plates were displayed on tree trunks.

■ **Biomedical Waste Disposal :**

Biomedical waste generated by life science departments of our college is collected periodically by the **PASCO** Environmental Solution Pvt. Ltd. for its proper disposal. Our college has signed MoU with the firm. This company is registered with Pune Municipal Corporation to treat biomedical waste by various treatments. The company has issued a certificate to that effect for the period 3/12/2014 to 2/12/2015.

■ **e-waste Management**

From 2012 Department of Electronic Science has set in motion the issue of e-waste management. Due to advancement in technology, number of electronic gadgets are manufactured and marketed. These products become outdated after few months. Due to less utility these products are discarded and updated versions are adopted. Since these products contain some kinds of hazardous materials such as lead, zinc, lithium batteries, tin etc. Improper disposal of these products is dangerous for living beings. Therefore management of e-waste is very important issue. e-waste management can be done by number of ways such as reduce, reuse and recycle. Our college has therefore taken lead and had organized a national conference 'Hazardous e-Waste Management' on the same topic. Thus contributing to creating awareness in the society and minimizing the hazardous effects of e-waste.

Furthermore, our college also conducted a campaign in rural area and Pune city area. A survey is carried by NSS volunteers in the village Phulgaon. A rally was organised in this village and volunteers visited the families to explain concept of e-waste management and collected the data. Students from T.Y.B.Sc. carried out survey for e-waste management through college research scheme of 'Yuva Sanshodhak'. In December 2013 National Conference on 'Hazardous e-Waste Management' was organized by our college. It is proposed to establish e-waste collection and systematic disposal process through Post Graduate research centre in Electronic Science.

■ **Biodegradable Urban Waste management**

Since January 2010, Department of Zoology is conducting the **Integrated Vermitechnology Training Course (IVTC)** in collaboration with a renowned organization 'INORA' (Institute of Natural Organic Agriculture), Pune. Two batches are conducted per year. Students and general citizens enthusiastically participate in this training course.

■ **Use of Renewable Energy**

Two solar panels with 1 KW capacity have been installed at roof top. Using these solar panels we are lighting 25 lamps which are installed in staircase of East wing and 12 lamps in principal's office. The backup of this system is about 6 hours per day.

Solar Distillation Plant having distillation capacity 25 lit. per day is also installed. Department of Physics has taken initiative in starting renewable energy course as one of the specialized course at T. Y. B. Sc. and also planning to start Renewable Energy as a specialization course for M. Sc.

■ **Microscale experiments in Chemistry**

The Department of Chemistry is practicing microscale technique in Analytical Chemistry Practicals. For this purpose special glassware are procured such as Pasteur pipette, Hickman Head, Hirsch funnel and Special microscale methods such as double burette titration are adopted. This method reduces the volume of solutions required to about one fourth of that in the traditional method.

■ **Energy audit:**

Energy Audit of consumption of electricity in the College was entrusted to 'Enrich Consultants' Pune. The objectives of the audit includes study the energy consumption pattern of the facilities, identify the areas where potential for energy/cost saving exists and prepare proposals for energy/cost saving along with investment and payback periods.

We have implemented no cost and low cost recommendations according to the guidelines given in Save Energy Program of MEDA.

Energy Audit also gives focused attention to energy cost and cost involved in achieving higher performance with technical and financial analysis. The best alternative is selected on financial analysis basis.

Following Energy Efficiency Improvement measures were implemented by the college.

- Automatic Power Factor Correction systems were installed for main building, east wing and administrative building.
- Energy Saver Circuits were installed for old air conditioners
- Replacing Conventional Ballasts for Fluorescent Tube Lights (FTL) with Electronic Ballasts
- Replacing Tube Lights (FTL) with LED Tube Lights
- Providing Solar PV system for part load operations during day time
- Total savings during the energy audit is estimated at 10.10 Lakhs which is 23 % of the total energy cost with an overall payback period of 3 Years.
- Rain water harvesting
- Sewage treatment
- Biogas plant near canteen
- Digital herbarium
- Animal dissection simulation
- Zero garbage campus
- e-Governance
- Digital library
- **Evidence of Success**
  - Electricity failure will not affect the availability of light during the period of power cut by MSEB due to solar system installation. Especially eastern building gets the benefit.
  - Electricity bills are reduced and we have achieved 91 power factor for the 7% discount in the electricity bill.
  - The college is running vermitechnology training programme since last five years.
  - Continuous water supply is available even during the period of water scarcity.
  - Problem of disposal of garbage is solved by Bio-gas plant.
- **Problems Encountered and Resources Required**
  - These activities have been initiated based on the available funds and those could be further enhanced upon receiving funding for the same.