



## Profile of Department of Physics

The department of physics is an active in research being carried out in a variety of frontier areas. The research programs of the Department cover a number of areas like Materials Science, Thin solid Films, solar energy conversion materials and dilute magnetic semiconductors. Being the constituent unit of Demmed University, department has flexibility in framing courses and conducting tests and examinations. It has been recognized that teaching in this department is among the best in the country. The faculty is also very active in extension programmes and in reaching out to students. The usable Buildup area of the department is 339 sq m. The Department of Physics started its activity in July 1978 and from the inception of the college department conducts UG programmes in Physics and first batch was passing out in the 1981 with honors degree in physics. Department also runs Ph.D. Programme.

- **Annual/ semester/choice based credit system:** Choice based credit system is introduced from the academic year 2016-2017 for F.Y.B.Sc. Course and same will be followed to for S.Y.B.Sc. Course and T.Y.B.Sc. from academic year 2017-2018 and 2018-19 respectively.
- **Details of courses/programmes discontinued with reasons:** A course entitled as Electronics and Communication was replaced by Elements of materials science and fundamentals of Nanoscience at T.Y. B.Sc. for the semester V and VI from the academic year 2016-17. These two courses are introduced to aware the student about the new development in advanced and applied science at UG level. This is also beneficial to the student for the further study at PG level and research work.

• **Faculty profile with name, qualification, designation, specialization,**

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D. Students guided for the last 4
Dr.B.N.Pawar	M.Sc., Ph.D.	Principal and Asso. Professor	Physics	30	05
H.P.Deshmukh	M.Sc., M.Phil, Ph.D.	Visiting Faculty	Physics	35	04

- **Student -Teacher Ratio:**

Class	Student -Teacher Ratio
F.Y.B.Sc.	28:01
S.Y.B.Sc.	16:01
T.Y.B.Sc.	02:01

- **Number of faculty with ongoing projects from a) National b) International funding agencies and grants received**

- 1) Dr.B.N.Pawar, has completed minor research project entitled as ‘Synthesis of metal (Zn,Sn,In) oxide thin films by chemical spray and their sensing properties’ funded by UGC, (WRO, Pune) New Delhi (15<sup>th</sup> Oct., 2010- 14<sup>th</sup> Oct., 2012). Total grant received and utilized Rs.1,30,000/-
- 2) Dr. H. P. Deshmukh has completed one major research project entitled, “ Dual Sensitization of Hydrothermally grown TiO<sub>2</sub> for Efficient Solar Cells” during the period 01-07-2012 to 30-06-2015, sanctioned and funded by University Grant Commission, New Delhi. Total grant received is project Rs: 8,75,800/-

- **Research Centre /facility recognized by the University: Yes**

Department is recognized research centre of Bharati Vidyapeeth Deemed University in Physics. Dr. B.N.Pawar, and Dr.H.P.Deshmukh are the recognized guides. Dr. B.N.Pawar is also PG teacher and recognized guide in physics of Savitribai Phule Pune University, Pune.

- **Publications: (2011-12 to 2016)**

**a) Publication per faculty- Number of papers published in peer reviewed journals by faculty and student**

Faculty Name	National/International	No. of Publication
Dr.B.N.Pawar	International	12
	National	00
Dr.H.P.Deshmukh	International	11
	National	2
<b>Total</b>		

- **Number of publications listed in International Database**

Name of the Faculty	No. of paper in database
Dr.B.N.Pawar	10
Dr.H.P.Deshmukh	11
Total	21

- **Areas of consultancy and income generated -**

One the faculty Dr.B.N.Pawar, have rendered consultancy to the faculty and the students from C-MET, Pune, NM University, Jalgaon, and H.V. Desai College, Pune, in the

development and designed of Chemical spray and Ultrasonic spray. Research student rendered service about Uv-Vis technique characterization of the deposited thin films. These services are provided without coast since no aim to generate fund from the same community.

- **Faculty as members in National committees b) International Committees c) Editorial Boards....**

- 1. Dr. B.N.Pawar**

- Life Member: Indian Science congress
- Life Member: Indian Physics Association
- Life Member: Indian Association of Physics Teacher
- Executive member: Indian Physics Association (Pune Chapter)
- Organizing Committee Member- International Conference ‘NANO-Technology Materials & Composites for Frontier Applications’ 14-15<sup>th</sup> October, 2010, 18<sup>th</sup>-19<sup>th</sup> Oct.2012, 14<sup>th</sup>-15<sup>th</sup> Oct.2014
- Editor- Proceeding on National Seminar on Developments in thin Films Processing and Characterization Technology, 8<sup>th</sup> -9<sup>th</sup> Oct. 2012

- 2. Dr.H.P.Deshmukh**

- Life Member: Indian Physics Association (I.P.A.)
- Life Member: Indian Association of Physics Teacher (I.A.P.T.)

- **Awards / Recognitions received by faculty and students**

**Dr. B. N. Pawar**

- 1) Pune Municipal Corporation Pune has felicitated with a ‘ Shikshak Gaurav Puraskar ’ on 5<sup>th</sup> September, 2012.

**Dr.H.P.Deshmukh**

- 1) Bharati Vidyapeeth, Pune has felicitated with a ‘ Seva Gaurav Puraskar ’ on 10<sup>th</sup> may, 2011.
- 2) Bharati Vidyapeeth University, Pune has felicitated with a ‘Outstanding Researcher, 2011-12’ on 26<sup>th</sup> April, 2012 due to the Excellent Research Work Published in Reputed International Journal.
- 3) Pune Municipal Corporation Pune has felicitated with a ‘ Shikshak Gaurav Puraskar ’ on 5<sup>th</sup> September, 2012.

- **List of eminent academicians and scientists / visitors to the department**

	<b>Name of eminent</b>	<b>Designation</b>	<b>Academic</b>
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Sr.No.	academicians/Scientists /Visitors		Year
1	Dr. K.C.Mohite	Dean, Faculty of Science, Savitribai Phule Pune University, Pune	2011-2012
2	Prof. Sandesh R. Jadkar	School of Energy Studies , Savitribai Phule Pune University, Pune	2011-2012
3	Prof. Shankar I Patil	Deaprtment of Physics Savitribai Phule Pune University, Pune	2011-2012
4	Prof. R.S.Mane	Swami Ramanand Tirth Marathwada University, Nanded	2011-2012
5	Prof. Ranibal M	Dharwad University, Dharwad, Karnatak	
6	Prof. Ramphal Sharma	Professor,BAM university, Aurangabad	2012-2013
7	Dr. G.V.Gade	Scientis F, DRDO, Pashan Pune	2012-2013
8	Prof. R.S.Mane	Swami Ramanand Tirth Marathwada University, Nanded	2012-2013
9	Dr. Habib Pathan	Deaprtment of Physics Savitribai Phule Pune University, Pune	2013-2014
10	Dr. Sartale	Deaprtment of Physics Savitribai Phule Pune University, Pune	2013-2014
11	Prof. Shankar I. Patil	Deaprtment of Physics Savitribai Phule Pune University, Pune	2013-2014
12	Prof. R.S.Mane	Swami Ramanand Tirth Marathwada University, Nanded	2014-2015
13	Dr. Habib Pathan	Deaprtment of Physics Savitribai Phule Pune University, Pune	2014-2015
14	Dr. K.C.Mohite	Dean, Faculty of Science, Savitribai Phule Pune University, Pune	2014-2015
15	Prof. Sandesh R. Jadkar	School of Energy Studies , Savitribai Phule Pune University, Pune	2014-2015
16	Prof. R.S.Mane	Swami Ramanand Tirth Marathwada University, Nanded	2015-2016
17	Prof. Pramod Vasubmekar	Dept of Electronis, Shivaji University, Kolhapur	2015-2016
18	Prof. P.S.Patil	Deapt.Of Physics, Shivaji University, Kolhapur	2015-2016

- **Seminars/ Conferences/Workshops organized & the source of funding**

1. UGC sponsored two day National Seminar on “Developments in thin Films Processing and Characterization Technology”, **8<sup>th</sup> -9<sup>th</sup> Oct. 2012**
2. Workshop on revised syllabus in Physics was organized under the aegis of BOS BVDU

- **Student profile programme/course wise:**

Year	Name of the Course / programme (refer question no. 4)	Applications received	Selected	Enrolled		Pass percentage
				*M	*F	

2011-12	S.Y.B.Sc.( Physics)	28	25	15	10	95.12
	T.Y.B.Sc.( Physics)	03	04	03	00	100
2012-13	S.Y.B.Sc.( Physics)	30	28	26	2	80.11
	T.Y.B.Sc.( Physics)	06	06	04	02	100
2013-2014	S.Y.B.Sc.( Physics)	35	32	23	09	84.82
	T.Y.B.Sc.( Physics)	20	17	11	06	100
2014-15	S.Y.B.Sc.( Physics)	45	40	29	11	82.37
	T.Y.B.Sc.( Physics)	06	06	05	01	100
2015-16	S.Y.B.Sc.( Physics)	45	42	33	09	73.73
	T.Y.B.Sc.( Physics)	04	04	04	00	100

• **Diversity of Students**

Year	Name of the Course	% of students from the same	% of students from other	% of students from abroad
2011-2012	S.Y.B.Sc	100	00	00
	T.Y.B.Sc	40	10	50
2012-2013	S.Y.B.Sc	94.74	00	5.26
	T.Y.B.Sc.	68.59	17.31	14.10
2013-2014	S.Y.B.Sc	94.44	05.56	00
	T.Y.B.Sc.	84.00	08.00	08.00
2014-2015	S.Y.B.Sc	95.83	04.17	00
	T.Y.B.Sc.	97.44	00	02.56
2015-2016	S.Y.B.Sc	100	00	00
	T.Y.B.Sc.	90.00	07.50	02.50

• **Student progression**

Student progression	Against % enrolled
UG to PG	60
PG to M.Phil.	Data Not available
PG to Ph.D.	15
Ph.D. to Post-Doctoral	Data Not available
Employed	75
• Campus selection	
• Other than campus recruitment	
Entrepreneurship/Self-employment	Data Not available

• **Details of Infrastructural facilities**

a. Library: 2160 Books (+ 200 books in lab) Offline journal= 04, Online Journal= 20

b. Internet facilities for Staff & Students: Available

c. Class rooms with ICT facility: Available

d. Laboratories: well furnished four

• **Details on student enrichment programmes with external experts**

1. The students of department are actively participated in the national seminar/conference organized by the department. Also organize lectures of well known academicians for the students.
2. Students are participated and interacted with Nobel laureates in 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> science conclave held at I<sup>2</sup>IT, Allahabad (UP)
3. Study circle and Wall paper involves students in group activities
4. Department provides books, reference book to the students

➤ **Teaching methods adopted to improve student learning**

- Class Room Learning • Group Discussion • Activity Based Learning • Presentations • Assignments • Industry Visits • Guest Lectures , Use of Models, PowerPoint Presentations, films on various topics of physics, and students seminars are some of the methods adopted to improve the student ability to grasp the principles of physics

➤ **Participation in Institutional Social Responsibility and Extension Activities**

College is always ahead in organizing various need base activities for all round personality development of students and betterment of society. Faculty members is a member of various committees. They organize most of the community based activities in the college.

• **Strength of the Department:**

- Being the constituent unit of BVDU, department have flexibility to prepare the curricula of physics.
- Department is recognised research centre of the university. Research space is made available with UV photo spectrometer, ultrasonic spray system for research scholars and teachers.
- The non-teaching faculty members of the department are very co-operative in all respect. Non-teaching staff ready to do the modifications required in the laboratory equipment, maintaining the laboratory equipment in good working condition.
- The laboratories are well equipped and well maintained. Homemade circuit's board are used for the practical.
- Department has committed faculty always interacting with students to set up a friendly academic environment.

**Future plans of the Department**

- Focus on thrust area of Materials Science and solar Thin Film Technologies to produce Device Grade Materials
- To enhance the research and development activities
- Achieving at least 3 research papers per faculty member in reputed journals having more than 3 impact factor
- To improve soft skills student through interactive lectures
- Re-activation of Alumni Association.