

Shri Shivaji College of Arts, Commerce and Science, Akola

Departmental Profile

Physics department was established in the year 1967.

Post graduation in Physics was added in 1993 on permanent no grant basis and affiliated to SGB Amravati University, Amravati. The students of this department are well placed in the private as well as govt. sector. Currently 3 Minor Research Projects are going on. Very soon PG lab will be recognised for research work. The department has modern equipment for experiments and a good core library consisting of about 250 titles. The computers of the department are connected to Broad Band Internet. The department is presently headed by Prof. R. V. Salodkar who is coordinator for PG Physics. The proposal for organising National level conference is submitted to UGC.

1. Name of the Department : PHYSICS
2. Year of establishment : UG July 1967
PG 1993

3. Details of the staff members:

a) Senior College

Sr. No.	Name of the faculty members	Educational Qualification	Designation	Experience		Specialization
				Teaching	Research	
1	Mr. R. V. Salodkar	M.Sc.	Lecturer Selection Grade	20 years	03 years	Solid State Physics & Acoustics
2	Mr. S. M. Palhade	M.Sc., NET, SET	Lecturer	05 years		Digital Electronics & SSP
3	Mr. M. R. Belkhedkar	M.Sc., SET	Lecturer	04 years		Digital Electronics & SSP
4	Dr. S. B. Sawarkar	M.Sc., B. Ed, M. Phil, Ph.D	Lecturer Senior Scale	05 years		Digital Electronics & SSP

b) Junior College

Sr. No.	Name of the faculty members	Educational Qualification	Designation	Teaching Experience	Date of Appointment	Specialization
1	Mr. A. G. Ingle	M.Sc. B.Ed	Lecturer	30 years	7/11/1979	Solid State Physics
2	Mr. M. S. Kshirsagr	M.Sc. B.Ed	Lecturer	27 Years	1982	Digital Electronics & SSP
3	Mr. R. S. Pagrut	M.Sc. B.Ed	Lecturer	24years	1/11/1985	Digital Electronics &

						SSP
4	Prof.B.S.Bondre	M.Sc. B.Ed	Lecturer	21 years	1/9/1988	Digital Electronics & SSP
5	Prof.V.P.Ingle	M.Sc. B.Ed	Lecturer		1/9/2009	Digital Electronics

4. Details of administrative/ technical staff: (if applicable)

Sr. No.	Name	Designation
1	B. L. Saoji	Lab.Assit
2	D. B. Ingle	Lab.Assit
3	S. G. Gawali	Lab Attd.
4	M. M. Kadu	Lab Attd.

5. Student profile to programmes:

Course	Men	Women	Total
B. Sc.	113	51	164
M. Sc.	11	12	23

6. Success rate of each programme, its comparison with University results, Merit list

Programme		U.G. %			P.G %	
		I	II	III	I	II
2004-05	College Result	51.29	62.96	90.38	64.2	90.00
	University Result	38.12	47.72	51.13	58.99	65.87
2005-06	College Result	77	75.38	82	66.66	85.7
	University Result	37.03	41.97	53.39	60.69	68.56
2006-07	College Result	58.00	52.11	65.38	33.33	63.63
	University Result	35.22	43.04	48.69	61.78	71.01
2007-08	College Result	53.19	66.02	61.66	20.00	62.50
	University Result	35.05	44.87	48.75	60.31	66.92
2008-09	College Result	31.57	66.66	80.00	14.2	71.4
	University Result	31.70	43.38	51.03	61.57	71.55
Average	College Result	54.21	64.62	75.88	39.66	74.64
	University Result	35.42	44.19	50.59	60.65	66.47

7. Number of NET/ SET etc.: **NET-01, SET-01**

8. Number of faculty members on University Bodies/ and other academic bodies and Social organizations. Their role in curriculum designing and college development

Sr. No.	Name	Bodies
1	Asoc. Prof. R. V. Salodkar	i)University PG subject examination ii)PG Syllabus committee iii) College Convener of Students Seminar Competition ,Science Exhibition, Parent Interaction Committee

		iv)PG Physics Coordinator
2	Asst.Prof S. M. Palhade	College Placement and Guidance Cell
3	Asst.Prof Dr. S. B. Sawarkar	Convenor Teacher Guardian Scheme
4	Asst.Prof M. R. Belkhedkar	College Placement and Guidance Cell

9. Learning resources of Department (Laboratories, Computers/ Internet/ Departmental library etc.)

- The department has a departmental library with nearly 250 titles. Department has six PCs for the students with internet facility. There are separate well equipped laboratories for UG, PG and Research.

10. Enhancement of the resources during last five years.

- New books have been purchased for the departmental library and new issues of the journals are received. A well furnished staff room is made available for the staff members. Department has also procured LCD projector. Few new instruments are also purchased. Several experts from other universities and national institutes have been invited to deliver special lectures for the students and staff.

11. Modern teaching methods

- The faculty members have the modern teaching methods other than lecture method. Department has OHP and a LCD projector. Most of the faculty members are using these modern teaching aids for effective teaching. Some staff members prepare their lectures on power point presentation by downloading pictures and illustrations from internet.
- Seminars, assignment, project presentation, Group discussion etc are the general methods of student involved learning methods

12. Faculty members participated in National and International Conferences/ workshops, seminars etc.

Sr. No.	Name of the faculty member	Title of Paper	Journal / Conference
1	Assoc. Prof. R. V. Salodkar	<p>ii] Research paper published: -</p> <p>1)Enhancement of ionic conductivity of Lithum borophosphate glass; a mixed glass former effect. R.V.Salodkar, V.K.Deshpande and K.Singh.</p> <p>2)Enhancement of ionic conductivity by dispersion of glassy phase into Na₂So₄ K.Singh and R.V.Salodkar.</p> <p>3)An Investigation of lithium conducting borate glasses in the light of preparative mode. P.R.Gandhi, R.V.Salodkar and K.Singh</p> <p>4)Conductivity and density measurement of mixed alkali borate glasses. K.Singh and R.V.Salodkar</p>	<p>1)Journal of power sources 25[1989] 257-263</p> <p>2) Bull of electron 5(10) Oct 1989 pp. 778-780</p> <p>3)Ferroelectrics Journal Of America 1990-102,45-51.</p> <p>4) 5th National conf. On Solid-State Ionic's</p>

			Feb.02pp(115-117).
2	Mr. S. M. Palhade	<p>1. “Fortran in physics laboratory”</p> <p>2. “Inexpensive laser wavelength determination kit”).</p> <p>3. “Improving laboratory instructions”).</p> <p>4. “Nanotechnology and Indian agriculture</p> <p>5. “Biometric supported ATM banking”</p>	<p>State Level Seminar on Recent Trends in Teaching Basic and Applied Sciences, 03 January, 2009, Phulsing Naik Mahavidyalaya Pusad (Yavatmal).</p> <p>- do-</p> <p>-do-</p> <p>National Seminar on Photonic Materials and Nanotechnology, 23 January-24 January, 2009, Department of Physics, Electronics and Photonics, Rajarshi Shahu Mahavidyalaya, Latur.</p> <p>National Seminar on Information Technology Enabled Services-2009,11 April,2009, Shri Shivaji College Akola</p>
2	Dr. S. B. Sawarkar	<p>1. “Fortran in physics laboratory”</p> <p>2.“Inexpensive laser wavelength determination kit”).</p> <p>3. “Improving laboratory instructions”).</p> <p>4. “Nanotechnology and Indian agriculture</p>	<p>State Level Seminar on Recent Trends in Teaching Basic and Applied Sciences, 03 January, 2009, Phulsing Naik Mahavidyalaya Pusad (Yavatmal).</p> <p>- do-</p> <p>-do-</p> <p>National Seminar on Photonic Materials and Nanotechnology, 23 January-24 January, 2009, Department of Physics, Electronics and Photonics, Rajarshi Shahu Mahavidyalaya, Latur.</p>

		5. "Biometric supported ATM banking"	National Seminar on Information Technology Enabled Services-2009,11 April,2009, Shri Shivaji College Akola
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13. Department organised the conferences/ workshops and seminars etc.

- Department plans to organize one day National level seminar on Current trends in Physical Sciences and Electronics Research. Sanction to proposal submitted to UGC and is awaited.

14. Evaluation process.

- Through regular unit tests, practical tests, seminar, and College conduct terminal examination every year for assessment of students.

15. Participation of teachers in academic activities other than teaching and research.

- The teachers participate in co-curricular and extra curricular activities of the college and worked in the organization committees of several activities like conferences, youth festivals and sport meets etc.
- Academic audit is an important activity of the college. Senior staff members help in it.
- All Staff members are the members of different committees of SGB Amravati University, like, Paper setting, Paper moderation, paper valuation, Practical examinations.
- All staff members are working as external examiners for practicals and paper setters at different universities.

16. Research activities:

M.Sc./M.Phil Dissertations:

Sr. No.	Name	M. Sc. Dissertations Guided
1	Assoc. Prof. R. V. Salodkar	32
2	Asst.Prof S. M. Palhade	07
3	Asst.Prof Dr. S. B. Sawarkar	02
4	Asst.Prof M. R. Belkhedkar	07

Research papers published:

Sr. No.	Name	Research Papers published
1	Assoc. Prof. R. V. Salodkar	04
2	Asst.Prof S. M. Palhade	--
3	Asst.Prof Dr. S. B. Sawarkar	05
4	Asst.Prof M. R. Belkhedkar	--

Papers presented in conferences:

Sr. No.	Name	Research Papers published
1	Assoc. Prof. R. V. Salodkar	02
2	Asst.Prof S. M. Palhade	05
3	Asst.Prof Dr. S. B. Sawarkar	05
4	Asst.Prof M. R. Belkhedkar	--

Details of minor/major research projects

A. On going research projects with the infrastructure developed out of it:

Sr. No.	Title of the project	Name of the principal Investigator/ Co-ordinator	Funding agency	Amount In Rs. (In lakh)	Period
1	FDTD Modelling and Simulation of a Microstrip Patch Antenna	Mr.S.M.Palhade	UGC Minor Research Project	0.86	Two Years 2007-2009
2	Structuarl Dielectric and Electrical properties of Nano size MagnesiumAluminate.	Mr.M.R.Belkhedkar	UGC Minor Research Project	0.65	Two Years 2008-2010
3	Conductivity and thermally stimulated discharge current studies in semi conducting glasses	Dr.S.B.Sawarkar	UGC Minor Research Project	1.10	Two Years

B. Research projects completed:

Sr. No.	Title of the project	Name of the principal Investigator/ Co-ordinator	Funding agency	Amount In Rs. (In lakh)	Period
1	Development of mixed conducting glasses for electrochemical devices.	Mr.R.V.Salodkar	UGC Minor Research Project	0.73.	2005-2007

18. Participation of the department in extension activities

Apart from the regular teaching Department of Physics organized

- National Science Day -28th Feb every year to respect and salute the work and the effort done by scientist through out the India.
- Hiroshima& Nagasaki Day 6th August is being observed to pay the homage and tribute to the victims of Hiroshima & Nagasaki who lost their lives due to Atomic Bomb explosion during world war II
- The Department of Physics organizes regularly Guest Lectures of eminent Physicist from different organization such as BARC,DRDO, NCL-Pune Cambridge University (UK) etc. every year for the benefit of students.
- The Seminar competition for U.G. college students has been organized first time in the history of college under the convener ship of Mr. R. V. Salodkar. This Seminar Competition was held during Aug-2006 to Dec-2006.and also consecutive years.
- The Science Exhibition for college students has been organized jointly first time in the history of college under the convener ship of Mr.. R. V. Salodkar. This Science Exhibition was held between Dec 25 to Dec-27, during Bhau Saheb Jayanti Mahostav since 2006.

20. Achievements of the students during last five years

- Zamir Quazi and Waseem Shaikh of B.Sc. III physics students participated in Five Day Work Shop in “Physics Communication” held at Homi Bhabha Center for Science Education Mumbai, organized by Jidnyasa Trust Thane during 9 th to 13 th Oct 2006.
- Mr.G.L.Deshmukh B.Sc[Physics]- stood Fourth Merit in SGBAmravati , University 2005-06
- Mr. M. G. Ramteke, B.Sc. Part I Physics Student participated in “Intercollegiate” Seminar Competition held on 3 rd Jan 2007 at SSKR Innani Mahavidyalaya, Karanja, Dist. Washim
- Miss. Beena S. Chandak ,M.Sc. I Physics student has been selected for best student of S.G.B. Amravati University. Governor of Maharashtra Hon’ble Mr. S. M. Krishna felicitated Miss. Beena Chandak on the eve of National Youth Day, 8 th Jan 2007.
- S.S.Sul B.Sc-III Physics stood 6th merit in 2007-08 from S.G.B.Amravati University ,Amravati.
- Ku. Beena Chandak M.Sc.II[2007-08] Stood 3rd merit from S.G.B.Amravati University
- R.M. Ugale B.Sc-II. Participate in University level Intercollegiate Physics Seminar Competition on Theory of Relativity 6th Feb 2009 held at SSSK R Innani college Karanja [Dist-Washim]

The students of this department have joined research institutes of repute in India such as BARC, Mumbai, I.I.T. Bombay and NEERI Nagpur etc. Some of the students have joined Software and Computer Peripherals Industries like, COGNIZANT, SINTEL, LABLINE, and government services. Most of the students are lectures at Senior Colleges, Junior Colleges and High Schools. A few students are entrepreneur.

21. Achievements of the staff members during last five years

- Prof. R. V. Salodkar completed minor research project entitled “Development of mixed conducting glasses for electrochemical devices.” UGC had sanctioned Rs. 73000/- for this project
- Prof. S. M. Palhade got minor research project entitled “FDTD modelling and simulation of a microstrip patch antenna” sanctioned from UGC for Rs. 86000/-
- Prof. M. R. Belkhedkar got minor research project entitled “Structural Dielectric and Electrical properties of Nano size MagnesiumAluminate” sanctioned from UGC for Rs.65000/-
- Prof. Dr.S.B.Sawarkar got minor research project entitled “ Conductivity and thermally stimulated discharge current studies in semi conducting glasses” sanctioned from UGC for Rs.110000/-
- Prof. M. R. Belkhedkar got registerd for Ph. D. under the guidance of Dr. D. S. Kelkar of Institue of Science, Nagpur
- Prof. S. M. Palhade got registerd for Ph. D. under the guidance of Dr. S. P. Yawale of Govt. Vidarbha Institute of Science & Humanities, Amravati.

22. Plan of action during next five years

- Introduction of new courses like Career Oriented Programme in the field of Applied Physics, to fetch significant job avenues for the students and also involvement of the industries in the departmental research activities.

- Intercollegiate seminar competitions for Science students.
- Department plans to organize one day National level seminar on Current trends in Physical Sciences and Electronics Research.
- Increase the rate of PG and research students at various competitive examinations like CSIR NET, UGC SET, JEST, TIFR, DAE, GATE, DRDO etc.
- Plan to get Lab recognition for the research.
- Strengthen the existing research activities for the development of the region in collaboration with research organizations and industries
- Faculty members have plan to publish books on the courses they teach for UG and PG.

23. Important alumni of the department.

PROFILE OF SOME OLD STUDENTS [P.G./U.G]

S.N.	Name of Students	Year& Division	Present Status
1	Mr.R.W.Hande	1995/I	Sr. Class I officer,Akola
2	Mr.Farooqui	1995/II	Jr.Lecturer, Akola
3	Mr.Khalilul Haque	1995/II	Jr.Lecturer,Akola
4	Mr.H.M.Deshmukh	1995/II	Jr.Lecturer,Washim
5	Ku.J.R.Suley	1996/II	Sr.Lecturer,Pune
6	Mr.S.S.Kawar	1996/I	Lecturer in Engg.College Amravati.
7	Mr.S.S.Deshpande	1996/II	Medical Physicist, Radiation Oncology, Hinduja National Hospital & Medical Research Center, Mumbai
8	Mr. R.B.Lanjewar	1996/II	Jr.Lecturer,Bhandra
9	Mr.G.P.Mohad	1997/II	Jr.Lecturer
10	Mr.V.S.Wankhede	1997/II	Jr.Lecturer
11	Mr.V.R.Shastrakar	1997/I	Pvt.Coachingclass Owner
12	Ku.N.P.Deshmukh	1998/I	Sr.Lecturer.BBY.
13	Ku.V.B.Lande	1998/I	Teacher
14	Mr.Sheikh Mubben	1998/II	Jr.Lecturer Patur,
15	Mr.A.S.Gaikwad	1999/II	Jr.Lecturer
16	Mr.P.T.Maliye	1999/II	Jr.Lect.
17	Mr.A.A.Nishat	1999/II	Jr.Lect.
18	Mr. Sayad Azhar	2000/II	Jr.lect.Patur.
19	Ku. P. A. Chitale	2001/I	C.H.B,Akola. (2 nd Merit) [Pune]
20	Ku. R. P. Tiwari	2001/I	U.S.A
21	Mr. R. S. Manohar	2001/I	Sr.Lect. BBy
22	Mr. M. V. Kite	2001/II	Soft company ,Pune
23	Mr. S. U. Shukla	2001/I	Scientific officer,Nuclear powerstation, Patur[Akola]
24	Mr.V.R. Wankhede	2001/II	S.VG.I, College of Agriculture Jalgaon Jomod.[Lect]
25	Mr.Mohd. Rizhwan	2002II	Jr.Lecturer,Balapur.

26	Mr. Sinu Chacko	2002/I	Jr.Lecturer,Gorkhpur.[U.P]
27	Mohd Khalid	2002/II	Jr.Lect.Nandurbar.
28	Ku. N. R. Harkut	2003/I	[5-th Merit] [Lect at Chikhali] Now at Delhi
29	Mr. A. A. Khan	2003/I	Teacher Anjuman High School,Shegaon.
30	Ku. D. V. Jadhav	2003/II	Pune
31	Ku.D.M.Dubey	2004/I	[3 rd Merit] CHB
32	R.H.Mal [Ex]	2004/II	D.M.Burungale ,Jr.Lect.College,Shegaon.
33	Ashokkumar Parekh	2004/I	Jr. Lect. Jaipur[Raj]
34	Ku.N.S.Ingle	2004/I	Lecturer Shivaji College.
35	Ku.P.T.Bodkhe	2004/I	Head Mistress, Sonala Akot.
36	KU.B.S.CHANDAK	2008/P	SET & NET PASS 3 rd Merit-09 -Lect-RLT,Akola

PROFILE OF SOME OLD STUDENTS [U.G.]

Name of Students	Year& Division	Present Status
Mr.Jitesh Palan	1996	P.O. S.B.I,Nagpur.
Mr.Sharad Lande	1997	M.Sc,PhD. [UDCT Scientist] Canada
Mr.Nishat shete	2000	ProgrammAsst. NEERI,Nagpur
Mr.Mangesh Rathi	2000	ICICI,Call centre.Pune
Mr.Sadandand Panzade	2000	Soft.Comp.SINTEL Pune.
Mr.Sahzad Anjum	2000	M.Sc(Comp)Soft Engg.Pune
Mr.Hadi	2002	I.B. [Sec Officer] Delhi
Mr.Manish Lanjudkar-	2002	DBA-Sinhagad Std.Chartered Bk.Jaipur-2003-2005 ICICI-Bk-Mumbai
Mr.Rohi-,	2002	M.Sc-[Ele] Ngp Soft Engg.Mumbai
Mr. Y. P. Gadge	02-03	Area Manager, Laxmi Irrigation System Pvt. Ltd. Pune

24. Any other highlights

- Conferences/ Seminars/ Workshops conducted: Department plans to organize one day National level seminar on Current trends in Physical Sciences and Electronics Research. Sanction to proposal submitted to UGC and is awaited.
- One of the faculty member has joined DRDO as scientist B.
- One student Ku. Beena Chandak M.Sc.II[2007-08] Physics has cleared both CSIR NET and SET examinations.
- Total 09 research papers published in peer reviewed National and International journals.
- Department has organized Science Exhibition.