

DEPARTMENT OF PHYSICS

1. Name of the Department : PHYSICS
2. Year of Establishment : 1971
3. Courses/ Programmes offered (U.G., P.G., M.Phil., Ph.D. etc.) : B.Sc.(6 semesters),
M.Sc.(4 semesters),
M.Phil. and Ph.D.
4. Interdisciplinary courses and departments involved: NA
5. Annual semester/ choice based credit system:
UG: Semester and credit system (60+40 and (80+20) CGPA Pattern
PG: Semester and credit system (60+40 CGPA Pattern)
6. Participation of the department in the courses offered by other departments: NA
7. Courses in collaboration with other Universities, Industries, foreign institutions etc.: NA
8. Details of courses/programmes discontinued (if any) with reasons: NA
9. No. of teaching posts sanctioned and filled:

Post	Sanctioned	Filled
Professor	01	01
Associate Professor	-	-
Assistant Professor	04	03
Others(CHB)	01	01

10. Faculty profile with name, qualification, designation, experience and research under guidance:

Name of Faculty	Qualification	Designation	Specialization	Experience (years)	Ph. D. students guided
Prof. Dr. R. S. Patil	M.Sc., M.Phil Ph.D	Professor & Principal	Material Science	UG: 32 PG: 18	Completed-05 Working-05
Dr. I. J. Patil	M.Sc., Ph.D	Assistant Professor and Head	Material Science	UG: 10 PG: 04	Working-02
Dr. P. P. Jagtap	M.Sc., M.Phil Ph.D	Assistant Professor	Electron ics	UG: 08 PG: 04	--
Dr. J. B. Chaudhari	M.Sc., Ph.D	Assistant Professor	Electron ics	UG: 06 PG: 04	--

11. Visiting Faculty:

Name	Qualification	Designation	Specialization	Experience
Dr. S. R. Gosavi	M.Sc., Ph.D	Assistant Professor	Material Science	20
Dr. P. B. Ahirrao	M.Sc., Ph.D	Associate Professor	Material Science	29

12. Percentage of lectures delivered and practical classes handled (programme wise) by temporary faculty

UG: B. Sc. - 10 %
PG: M. Sc. - 20 %

13. Student -Teacher Ratio (programme wise):

UG: - 55:1

PG: - 5:1

14. Number of academic support staff (technical) and administrative staff

Post	Sanctioned	Filled
Lab Assistant	01	00
Lab Attendant	01	01
Peon	01	01

15. Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D/ MPhil / PG.: No. of faculty members with Ph.D.= **04****16. Number of faculty with ongoing/completed Research projects from a) National, b) International funding agencies and grants received:**

Sr. No	Name of the project	Name of the Principal Investigator	Funding Agency	Amount of fund (in Rs.)	Durati on with years
1	Characterization of Nanocrystalline CuI and Cu ₂ O thin films deposited by Modified Chemical Method	Prof. Dr. R. S. Patil	UGC - WRO Pune	1,10,000/-	2009-2012
2	Growth from solution & charac of Glycine Pot. Sulphate	Dr. I. J. Patil	UGC - WRO Pune	1,10,000/-	2009-2012
3	Characterization of CdS/ PbS heterojunction deposited by chemical route	Dr. J. B. Chaudhari	UGC - WRO Pune	1,00,000/-	2013-2015
4	Growth, Electrical & Optical Prop of n-CdSe/p-Cu ₂ S heterojunction thin film deposited by chemical route for photovoltaic applications”.	Dr. J. B. Chaudhari	VCRMS, NMU, Jalgaon.	70,000/-	2013-2015

17. Departmental projects funded by DST - FIST; UGC, DBT, ICSSR, etc. and total grants received: Nil

18. Research Centre /facility recognized by the University: Yes, Department is recognised as research centre for Ph. D and M. Phil. study by affiliated University. Recognition by NMU, Jalgaon – Letter No. NMU/11/Lab. Recog./1125/2014 dated 30/06/2014 (for the period 2014-17). 05 students have completed Ph. D. and presently 07 students are working for their Ph. D. work in our laboratory.

19. Publications:

Number of papers published in peer reviewed journals:

- International and National: **59**
- Editing Books :**Nil**
- Books with ISBN :**14**
- Citation/ index : **78**
- Impact factor : **0.1 – 2.0**
- h- index : **5**

20. Areas of consultancy and income generated: Nil

21. Faculty in academic bodies of University:

- **Prof. Dr. R. S. Patil:**
 - Member of Senate, North Maharashtra University, Jalgaon (Nov. 2010 to Oct. 2015)
 - Chairman, Board of studies in Physics, North Maharashtra University, Jalgaon (2012-15)
 - Member, Grievances Redressal cell, North Maharashtra University, Jalgaon (2011-12 and 2014-15).
 - Member, Admission committee (Centralized Admission Process), North Maharashtra University Jalgaon (2013-14 and 2014-15).

22. Student projects:

- Percentage of students who have done in-house projects including inter departmental/programme: **100% for B.Sc. and M.Sc. students.**
- Percentage of students placed for projects in organizations outside the institution i.e.in Research laboratories/Industry/ other agencies: **Nil**

23. Awards/honours received by individual teachers/ students:

- **Dr. I. J. Patil:**
 - Secured State level Road safety and safe drive award (2014-15).
 - Best NSS Programme Officer award (2014-15)
- **Deshmukh Masud :** Bagged Gold Medal in B.Sc. (Physics) in 2016.

24. List of eminent academicians and scientist/visitors to the department:

Sr. No.	Name of the eminent academicians and scientist/visitors	Institute or Place	Duration
1	Prof. B. V. Pawar	Dean, Faculty of Science, NMU, Jalgaon	2011
2	Prof. S. T. Bendre	Director, School of Physical Sciences, NMU, Jalgaon	2012
3	Prof. R. M. Jadhav	Dr. BAMU, Aurangabad	2013
4	Prof. S. D. Dhole	Savitribai Phule Pune University, Pune	2015

25. Seminars/ conferences/ workshops organized and the source of funding with details of outstanding participants, if any: Nil

26. Student profile programme/course wise:

Year	Name of the Course/ programme	Applications received	Selected		Pass percentage
			Male	Female	
	F.Y.B.Sc.	83	27	56	72.28

2011-12	S.Y.B.Sc.	84	24	60	71.42
	T.Y.B.Sc.	21	09	12	80.95
	M.Sc. Part I	Nil	Nil	Nil	Nil
	M.Sc. Part II	Nil	Nil	Nil	Nil
2012-13	F.Y.B.Sc.	95	29	66	83.61
	S.Y.B.Sc.	71	22	49	83.09
	T.Y.B.Sc.	15	09	06	80
	M.Sc. Part I	08	02	06	37.5
	M.Sc. Part II	Nil	Nil	Nil	Nil
2013-14	F.Y.B.Sc.	67	23	44	91
	S.Y.B.Sc.	84	27	57	82
	T.Y.B.Sc.	19	10	09	78.94
	M.Sc. Part I	09	04	05	22.22
	M.Sc. Part II	08	02	06	37.5
2014-15	F.Y.B.Sc.	122	36	86	89.91
	S.Y.B.Sc.	74	17	57	94.59
	T.Y.B.Sc.	29	03	26	82.14
	M.Sc. Part I	15	07	08	21.42
	M.Sc. Part II	08	04	04	25
2015-16	F.Y.B.Sc.	119	31	88	71.30
	S.Y.B.Sc.	92	25	67	84.78
	T.Y.B.Sc.	30	14	16	76.66
	M.Sc. Part I	22	04	16	15.78
	M.Sc. Part II	14	07	07	14.28

27. Diversity of students:

Year	Total no. of F.Y.B.Sc. students	% of students from home college	Others		
			% of students from Maharashtra	% of students from other states of India	% of students from other country
2011-12	83	28	54	18	Nil
2012-13	95	32.60	49.50	17.90	Nil
2013-14	67	32.35	51.55	16.10	Nil
2014-15	122	31.15	50	18.85	Nil
2015-16	119	26.90	58.80	14.30	Nil

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, civil services, defence services etc. (Last 5 years):

Sr. No.	Year	Name of student	Exam qualified
1	2011	Patil Rupesh S	SET
2	2011	Suryawanshi Jitendra Sahebrao	NET
3	2013	Ansari Shakeel Ahmed	UPSC
4	2016	Dusane Chetana Sharad	MPSC

29. Student progression:

Student progression	Against % enrolled
UG to PG	78
PG to M.Phil.	Nil
PG to Ph.D.	10
Ph.D. to Post-Doctoral	Nil
Employed • Campus selection • Other than campus recruitment	95

30. Present details about infrastructural facilities:

- **Library:** more than **108** books in departmental library.
- **Internet facility for staff and students:** Department is equipped with 10 Mbps internet connection, **09** (08 PC and 01 Laptop) units are available for staff and students.
- **Student laboratories:** Three labs for B.Sc. and one for M.Sc.
- **Research laboratories:** One
- **Class rooms with ICT facility:** One

31. Number of students receiving financial assistance from college, university, government or other agencies:

85% students are getting financial assistance from SC, ST, DT/NT, SBC, OBC development forum. Some students are also getting financial assistance from “Earn and Learn Scheme” from the university.

32. Details on student enrichment programmes (special lectures/ workshops /seminar) with external experts:

- Seminar, Group discussion, Home assignments etc. are regularly conducted for UG and PG students.
- Department provides practical sheets to the students, which includes circuit diagram, ray diagram, procedure for each experiment. In addition to this observation table, formulae, graph etc are also given in these sheets for each experiment. This makes things easier for the students at the time of examination.

33. Teaching methods adopted by the faculty to improve student learning:

- Chalk and board.
- Power point presentation.
- Group discussion method.
- Models.

34. Participation in Institutional Social Responsibility (ISR) and Extension activities:

- One faculty member was NSS Programme officer for 3 years. He has organized most of the community based activities in the college.
- Two NSS students from our department have participated in Republic Day parade at New Delhi.
- To promote environmental awareness, our department participated in “One Student-One Tree” campaign in 2015-16.
- Students and faculty members have actively participated in various social activities like Blood Donation camps, Road safety and safe drive rally.

35. Strengths, weaknesses, opportunities and challenges (SWOC) analysis and future plans of the department:

Strength:

- Well qualified and experienced staff.
- Post graduate department with research centre.
- The department has dedicated and committed faculty always interacting through discussions and laboratory sessions to set up a student friendly academic environment. The non-teaching faculty members of the department are very co-operative in all respect.

Weakness:

- Time constraint due to semester pattern.
- Lack of non teaching staff.

Opportunities:

- With four faculty members having a doctorate, there is ample scope for extending research projects for teachers as well as students.
- Teaching and learning methods can be improved further with more and more availability of e-learning resources.

Challenges:

- To attract students by projecting opportunities in physics.
- To set up well equipped research laboratory.

Future plans of the department:

To train students to master the basics of the subject and to improve their soft skills through several interactive sessions both in theory and practicals.

- To organize National level seminar sponsored by UGC.
- To established well equipped research laboratory.
- To strengthen the departmental library and to establish a separate computer laboratory with internet connection.