

DEPARTMENT OF MATHEMATICS

DEPARTMENTAL PROFILE

1. Faculty profile - adequacy and competency of faculty.

Department of Mathematics has two sanctioned posts for Degree College. Presently working teaching staff of two members in the Degree College is highly competent in their academic activities and the other regular work.

Out of our staff members, the first member Dr. A.N.Mohod, who is the Head of the Department, has been awarded Ph. D. degree and the other member Mr. A.V.Deshmukh, is an Associate Professor, is M.Sc. M.Phil. and has submitted the thesis for Ph.D. in March-2010. Thus quality education is imparted by our teaching staff. All the staff members are continuously working in the research field with the organization of conferences and paper presentations in the different conferences.

2. Student profile – entry level competencies, socioeconomic status, language proficiency etc.,

The students passed in XII-th Standard of Science Stream with Mathematics are eligible for admission to B. Sc. I on the basis of first come first serve.

Socio-economic status of the students of degree courses is middle class and lower middle class of the society. These students being socially backward do not get the right academic atmosphere in their surrounding. Further, being economically weak, they cannot afford to spend more on books & other necessary requirements. In general, these students take education in adverse conditions.

Though these students have studied earlier courses in English medium, they face difficulty of medium of instructions because they have no proper surrounding where they can improve their functional English knowledge.

3. Changes made in the courses or programmes during the past two years and the contribution of the faculty to those changes.

The syllabus of B. Sc. I is revised in the year 2010-11 as the Examination Pattern of B. Sc. Programme has been changed from annual pattern to semester

pattern at the University Level. The faculty members make valuable recommendations to the Draft Syllabi Revision Committee.

4. Trends in the success and drop out rates of students during the past two years.

In B.Sc. I success rate was 71.05% in 2009-10. In the year 2010-11 it was observed to be 59.18%.

In B.Sc.II success rate was 73.68% in 2009-10. In the year 2010-11 it was observed to be 28.57%.

In B.Sc. III success rate was 72.41% in 2009-10. In the year 2010-11 it was observed to be 80%.

The dropout rate varies between 5-6%.

5. Learning resources of the departments - library, computers, laboratories and other resources.

Library: Department has rich library available for staff. The department also provides the books required for students. The departmental library has a linkage with the National Board for Higher Mathematics, Hyderabad.

Computers: Department has a special cabin which is equipped with one computer and one laptop together with internet connection and laser printer.

Projector: Department has a projector which together with laptop provides audio-visual presentations enriching teaching-learning process.

6. Modern teaching methods practiced and use of ICT in teaching – learning.

The Department being well equipped with modern resources, in addition to the lectures delivered in the class-rooms, we use audio-visual aids such as power presentations together with hyperlinks whenever required.

7. Participation of teachers in academic and personal counseling of students.

Personal guidance is provided to the students in their academic and personal requirements. The faculties discuss with the students personally on their difficulties of the subject. The students are made aware about future prospects in the academic career and job opportunities.

8. Details of faculty development programmes and teachers who have been benefited during the past two years.

The faculty members have attended various workshops, seminars, conferences during last two years to enrich their knowledge.

Dr. A. N. Mohod	State Level	1. State Level Seminar on “ Recent Trends in Teaching Basics and Applied Sciences” organized by P. N. Mahavidyalaya Pusad on 3-rd Jan.2009.
	Regional	2. One Day Workshop on “Information Literacy” organized by Department of Library, S.S.S.K.R.Innani Mahavidyalaya Karanja (Lad) on 27-th Nov.2009.
	State Level	3. State Level Seminar on “Expanding Wings of Mathematics in the Field of Science and Social Sciences” organized by the Department of Mathematics, Shri Radhakisan Laxminarayan Toshniwal College of Science, Akola on 4-th of Jan.2010
	Regional	4. Workshop on “Semester Pattern Implementation’ organized by S.S.S.K.R.Innani Mahavidyalaya, Karanja in collaboration with Sant Gadge Baba Amravati University, Amravati on 29-th sept. 2010.
	Regional	5. University Level Workshop for Mathematics Teachers on “Research Guidelines and Performance Based Appraisal System of UGC” organized by the Department of Mathematics, Sant Gadge Baba Amravati University, Amravati on 6-th March 2011.
	Regional	6. One Day Seminar on “Recent Trends in Gravitational Theory and Astrophysics” at Bapurao Deshmukh College of Engineering Sewagram, Wardha(M.S.) on 21-Mar-2011.

Prof. A.V. Deshmukh	Regional	1. U.G.C. sponsored Workshop on "Total Solar Eclipse-2009" organized by the Department of Mathematics, Sant Gadge Baba Amravati University, Amravati in collaboration of S.P.A.C.E. New Delhi on 13-th and 14-th June 2009.
	State Level	2. State Level Seminar on "Expanding Wings of Mathematics in the Field of Science and Social Sciences" organized by the Department of Mathematics, Shri Radhakisan Laxminarayan Toshniwal College of Science, Akola on 4-th of Jan.2010.
	Regional	3. One Day Seminar on "Recent Trends in Gravitational Theory and Astrophysics" at Bapurao Deshmukh College of Engineering Sewagram, Wardha(M.S.) on 21-Mar-2011 where I have presented the paper on "Effect of Monopole Field on (n+2)-dimensional Radiating Dyon Solution" .
	Regional	4. Short Term Training Programme in LaTeX and other open source software from 29-th to 31-st March 2010 at the Department of Mathematics, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur.
	Regional	5. Workshop on "Semester Pattern Implementation" organized by S.S.S.K.R.Innani Mahavidyalaya, Karanja in collaboration with Sant Gadge Baba Amravati University, Amravati on 29-th sept. 2010.
	Regional	6. Presented a talk on "Use of computers in Research" in the University Level workshop for Mathematics Teachers on "Research Guidelines and Performance Based Appraisal System of UGC" organized by the Department of Mathematics, Sant Gadge Baba Amravati University, Amravati on 6-th March 2011.

9. Participation / contribution of teachers to the academic activities including teaching, consultancy and research.

Dr. A. N. Mohod	International	(1) International Conference on "Mathematical Physics" organized by Faculty of Science, Nagpur University, Nagpur during 11-16 Jan. 1999.
	National	(2) National Seminar on "Information Technology- Current Trends" organized by the Department of Computer Science and Engineering, Amravati University, Amravati during 22-nd to 24-th of Jan. 2000.
	National	(3) U.G.C. sponsored National Conference on "Recent Trends in Composites" at P. G. Department of Physics, Shri Shivaji Science College, Amravati during 28 th Feb. to 2-nd March 2001.
	International	(4) International Conference on Relativity-2005 held at Post Graduate Teaching Department of Mathematics, Amravati University, Amravati during January 11-14, 2005.
	National	(5) National Seminar on "Analysis, Topology and Geometry" organized by the Department of Mathematics, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur on 9-th and 10-th Feb.2009.
	National	(6) National Conference on "Recent Trends in Mathematics" organized by the Department of Mathematics, Govt. Vidarbha Institute of Science and Humanities, Amravati on 18-th and 19-th Sept.2009.
	National	(7) National Conference on "Recent Trends in Mathematics and Its Applications" at Mungasaji Maharaj Mahavidyalaya Darwha(M.S.) on 27-th and 28-th Feb-2010 where the

	National	paper has been presented on “Nature of Singularities Arising in Higher Dimensional Radiating Dyon Solution” .
	National	(8) National Conference on “Developing Frontiers of Physics, Astronomy and space Sciences” organized by the Department of Mathematics, Shri Radhakisan Laxminarayan Toshniwal College of Science, Akola on 24-th and 25-th Sept. 2010.
	National	(9) National Conference on “Recent Advances in Environmental Biology and Biodiversity” organized by S.S.S.K.R.Innani Mahavidyalaya, Karanja on 3-rd and 4-th Feb. 2011.
Dr. A. N. Mohod		(1) Encouraged the students to participate in the Intercollegiate Seminar & Camp organized by the Departments of Mathematics, at Achalpur, Badnera, Darwha, Warud and VNIT Nagpur.
Prof. A. V. Deshmukh	International	(1) International Conference on “Mathematical Physics” organized by Faculty of Science, Nagpur University, Nagpur during 11-16 Jan. 1999.
	National	(2) National Seminar on “Information Technology- Current Trends” organized by the Department of Computer Science and Engineering, Amravati University, Amravati during 22-nd to 24-th of Jan. 2000.
	National	(3) U.G.C. sponsored National Conference on “Recent Trends in Composites” at P. G. Department of Physics, Shri Shivaji Science College, Amravati during 28-th Feb. to 2-nd March 2001.
	International	(4) International Conference on Relativity-2005 held at Post Graduate Teaching Department of Mathematics, Amravati University, Amravati during January 11-14, 2005.
	National	(5) National Conference on “Recent Trends in Mathematics” organized by the Department of Mathematics, Govt. Vidarbha Institute of Science and Humanities, Amravati on 18-th and 19-th Sept. 2009.
	National	(6) National Conference on “Recent Trends in Mathematics and Its Applications” at Mungasaji Maharaj Mahavidyalaya Darwha(M.S.) on 27-th and 28-th Feb-2010 where the paper has been presented on “Study of Five Dimensional Monopole-Charged-Vaidya Solution” .
	National	(7) National Seminar on “Fuzzy Mathematics and Applications” organized by the Department of Mathematics, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur on 5-th and 6-th March 2010.
	National	(8) National Conference on “Developing Frontiers of Physics, Astronomy and space Sciences” organized by the Department of Mathematics, Shri Radhakisan Laxminarayan Toshniwal College of Science, Akola on 24-th and 25-th Sept. 2010.
	National	(9) National Conference on “Recent Advances in Environmental Biology and Biodiversity” organized by S.S.S.K.R.Innani Mahavidyalaya, Karanja on 3-rd and 4-th Feb. 2011.
Prof. A. V. Deshmukh	University Level	(1) Intercollegiate student Seminar Competition was held on 03-Jan-2007 on Mechanics in collaboration with the Department of Physics.
	University Level	(2) UGC Sponsored Intercollegiate student Seminar Competition was held on 06-Feb-2009 on Theory of

		Relativity in collaboration with the Department of Physics.
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10. Collaboration with other departments/ institutions, at the State, National and International levels, and their outcome during the past two years.

Our Department has linkage with National Board of Higher Mathematics, Hyderabad.

11. Priority areas for Research and details of the ongoing projects, important and noteworthy publications of the faculty, during past two years.

The research field of our faculty members is the field of General Relativity and Cosmology. They have published many papers in this field in various Research Journals.

Publications of the Faculty Members:

Sr. No.	Name of Faculty	Title of the Paper	Name of Journal in which it is published
1	Dr. A. N. Mohod	1. "Analysis of Space-Time Singularities in Higher Dimensional Monopole-Vaidya Collapse" 2. "Gravitational Collapse of Radiating Dyon Solution and Cosmic Censorship" 3. "Analysis of Radial Null Geodesics in Higher Dimensional Space-Time"	<i>Indian Journal of Physics</i> , 81(4) , 485-493(2007). <i>Chinese Physics Letter</i> , Vol. 25 ,No.3(2008)854. <i>Bulletin of Cal. Math. Soc.</i> , 100 ,(1)73-84(2008).
2	Prof. A. V. Deshmukh	1. "Nature of the Singularities Arising in (n+2)-dimensional Radiating Dyon Solution" 2. "Effect of Monopole-De Sitter Field on the Gravitational Collapse of Radiating Dyon Solution" 3. "Study of Five Dimensional Monopole-Charged-Vaidya Solution" 4. "Studies of Singularities Arising in (n+2)-Dimensional Monopole Space-time"	<i>Bulletin of Pure and Applied Sciences</i> ,Vol. 29E (No.1)2010:P.29-40. <i>Bulletin of Pure and Applied Sciences</i> ,Vol. 29E (No.2)2010:P.297-308. <i>CIT Journal of Research</i> ,Volume 1 ,Issue 3, Nov 2010. <i>International Journal of Pure and Applied Physics</i> ISSN 0973-1776 Volume 7 , Number 1 (2011), pp. 125-138.

1. Placement record of the past students and the contribution of the department to aid student placements.

Most of the students go for higher studies in the field of Mathematics, Management & computer Science. A few have also joined the teaching profession. Some of the students are selected in the campus interview for the job in the Cognizant Technology Solutions India Pvt. Ltd. Pune.

2. Plan of action of the department for the next five years.

- Regular students' seminars on different topics of B. Sc. Syllabus.
- National Conference on recent trends in Mathematics.
- Regular quiz competitions in Mathematics.
- Group Discussions for B. Sc. Students.
- Collaborative Research work with other institutions.
- Lecture series by eminent personalities.