

# Evaluative Report of the Department

1. NAME of the Department  
Department of Mathematics
2. Year of Establishment  
1960
3. Is the Department part of a School/Faculty of the university?  
Yes, Department of Mathematics is a part of PG School of Physical Sciences and Faculty of Science
4. Names of programmes offered (UG, PG, M. Phil., Ph.D., Integrated Masters; Integrated Ph.D., D. Sc., D. Litt., etc.)  
Department offers UG (Pass and Hons.) courses in Mathematics at three constituent colleges of this university, while PG, Ph. D. and D.Sc. programmes are offered in the Department of Mathematics itself.  
UG – B.Sc. (Pass Course)  
          B.Sc. (Honours Course)  
PG □-M.A./M. Sc. in Mathematics  
Ph. D.    Yes  
D. Sc.    Yes
5. Interdisciplinary programmes and departments involved  
The quality research in various branches of Mathematics serves as a basis/tool to the knowledge cutting across different realms. Faculty members of Department of Mathematics are involved in several interdisciplinary programmes run by other centers including B. Tech / M. Tech (Integrated) programme run by CCT and MCA & M.Sc. IT programmes run by UCCS & IT.
6. Courses in collaboration with other universities, industries, foreign institutions, etc.  
Currently, no such collaboration exists.
7. Details of programmes discontinued, if any, with reasons  
PGDCA Course has been discontinued by the Department due to lack of students admissions. It was running on Self Finance Scheme basis.
8. Examination System: Annual/Semester/Trimester/Choice Based Credit System Semester system with grading  
University has adopted annual scheme for UG exams in Mathematics and semester system with Choice Based Credit System for PG exams in Mathematics. Department is also running one semester Pre-Ph.D. course work and two semester system for M. Phil. in Mathematics.

9. Participation of the department in the courses offered by other departments

Faculty members of Department of Mathematics are involved in several interdisciplinary programmes run by other centers including in B. Tech / M. Tech (Integrated) programme run by CCT and MCA & M.Sc. IT programmes run by UCCS & IT. Faculty members also served as resource persons to the Research Methodology in Social Sciences.

10. Number of teaching posts sanctioned, filled and actual (Professors / Associate Professors / Asst. Professors / others)

Following are the details of faculty in this department:

	Sanctioned	Filled	Actual (including CAS & MPS)filled
Professor	3	Nil	2
Associate Professors	5	Nil	4
Asst. Professors	23	13	13
Others	-	-	-

11. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance

Following are the details of faculty members in this department:

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D. / M. Phil. Students guided for the last 4 years
Prof. R.N. Jat	M.Sc., Ph.D.	Professor	Fluid Dynamics Numerical Methods Computer Programming	30	05
Prof. P.R. Sharma	M.Sc., M. Phil., Ph.D.	Professor	Fluid Dynamics Bio-Fluid Dynamics Operations Research	37	10
Dr. S.C. Sharma	M.Sc., M. Phil., Ph.D.	Assoc. Prof.	Special Functions Integral Transforms Operations Research	34	05
Dr. Anil Sharma	M.Sc., Ph.D.	Assoc. Prof.	Fluid Dynamics	27	01
Dr. Paresh Vyas	M.Sc., Ph.D.	Assoc. Prof.	Fluid Dynamics	18	02
Dr. Mamta Goyal	M.Sc., Ph.D.	Assoc. Prof.	Fluid Dynamics	18	-
Dr. Pravin Garg	M.Sc., Ph.D.	Asstt. Prof.	Graph Theory	01	-
Dr. Rashmi Agarwal	M.Sc., Ph. D	Asstt. Prof.	Fluid Dynamics	01	-
Shri Sharad Sinha	M.Sc.	Asstt. Prof.	Fluid Dynamics	01	-

Shri Ravi Ratn Gaur	M.Sc.	Asstt. Prof.	-	01	-
(Ms)Nidhi Khandelwal	M.Sc.	Asstt. Prof.	-	01	-
(Ms)Shushila Choudhary	M.Sc.	Asstt. Prof.	Fluid Dynamics	01	-
Sh.Rajendra Singh Yadav	M.Sc.	Asstt. Prof.	Fluid Dynamics	01	-
(Ms)Amala Olkha	M.Sc.	Asstt. Prof.	Fluid Dynamics	01	-
Shri Ganesh Kumar	M.Sc.	Asstt. Prof.	Special Functions	01	-
Shri Rajendra Kumar Bairwa	M.Sc.	Asstt. Prof.	Special Functions	01	-
Shri Bharat Kumar Yadav	M.Sc.	Asstt. Prof.	-	01	-
Shri Vijendra Kumar Jarwal	M.Sc.	Asstt. Prof.	-	01	-
Shri Meena Sanjay Babulal	M.Sc.	Asstt. Prof.	-	01	-

12. List of senior Visiting Fellows, adjunct faculty, emeritus professors

Following senior Visiting Fellows, Adjunct Faculty, Emeritus Professors were involved in various programmes for the past five years:

*Emeritus Scientists:*

- i) Dr. S. P. Goyal
- ii) Dr. R. C. Chaudhary
- iii) Dr. Raj Bali

13. Percentage of classes taken by temporary faculty – programme-wise information

All the UG and PG classes were engaged by regular faculty members. No guest/temporary faculty was employed.

14. Programme-wise Student Teacher Ratio

Following are the approximate Programme-wise Student Teacher Ratios in different courses run by department:

U.G.: Total no. of students/ Total no. of faculty e.g.: 1100 – 17 ~ 64:1

P.G.: Total no. of students/ Total no. of faculty e.g.: 191 – 19 ~ 10:1

15. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual

Following is the position of ministerial, technical staff and lab bearers:

	Sanctioned	Filled	Actual
Technical	-	-	-
Administrative-Ministerial: SR )PA/UDC Class IV	02 03	02 03	02 03

Others (e.g. on annual contract basis: office staff/computer operator/ Peon/ Gardner/Sweeper / Guards etc.)	02	02	02
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16. Research thrust areas as recognized by major funding agencies

Following thrust areas are recognized by major funding agencies:

Fluid Dynamics, Integral Transforms, Special Functions, Operations Research, Numerical Methods, Computer Programming, Relativity, cosmology and Alternative theory of Gravitation.

17. Number of faculty with ongoing projects from

a) National funding agencies

02

International funding agencies and

NIL

Total grants received.

Give total funds received: Rs. 41.80 Lacs

Following are the details of projects received by faculty members of the department:

Name of Faculty	Funding Agency	Title of the project Sanctioned	Amount Rs.(in Lacs)	Duration
Prof. S.P. Goyal	CSIR	Study of Fractional Differential Equations and Geometric function Theory with applications	18.00	2010-14
Prof. Raj Bali	CSIR	Study of String and inflationary Cosmology	18.00	2012-16
Prof. R.C. Chaudhary	UGC	On the flow of a viscous incompressible fluid past a planer surface and channels with or without heat and mass transfer	2,90,000 pa	2013-15

18. Inter-institutional collaborative projects and associated grants received

Following are the details of Inter-institutional collaborative projects and associated grants received by the department:

(a) National collaboration

NIL

(b) International collaboration

NIL

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received.

Following are the details of departmental projects and associated grants received by the department:

Department	Research Funding Agency
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	UGC –SAP /DSA /		DST- FIST	
	Level & Duration	Amount (in lakhs)	Level & Duration	Amount (in lakhs)
Mathematics	2010-2011 (5 years)	67.00 lakhs	2005-2006 (5 years)	17.5 lakhs

20. Research facility / centre with

- State recognition

NIL

- National recognition

NIL

- International recognition

NIL

21. Special research laboratories sponsored by/created by industry or corporate bodies

NIL

22. Publications:

- \* Number of papers published in peer reviewed journals (national/ international)

National 105

International 140

- \* Monographs

NIL

- \* Chapters in Books

NIL

- \* Edited Books

- \* Books with ISBN with details of publishers

NIL

- \* Number listed in International Database (for e.g. Web of Science, Scopus, Humanities International Complete, Dare Database- International Social Science Directory, EBXCO host, etc.

Data could not be available

- \* Citation Index – range / average

0 – 60

- \* SNIP

NIL

- \* SJR

NIL

- \* Impact factor

0.8 – 3.8

- \* h-index

23. Details of patents and income generated

No patent has been generated during 2009-14.

24. Areas of consultancy and income generated

N. A.

25. Faculty selected nationally / internationally to visit other laboratories / institutions/ industries in India and abroad give details

Most of the Faculty members are invited to National and International Research Institutes in connection with collaborative research programs. During past five years Prof. Raj Bali, visited INSA, Pune.

26. Faculty serving in

a) National committees

NIL

b) International committees

NIL

c) Editorial Boards

- Prof. D.S. Chauhan, Prof. P.R. Sharma, Prof. R.N. Jat, Prof. S.P. Goyal, Prof. Raj Bali and Prof. Mridula Garg are the members of editorial board of Rajasthan Ganit Parishad
- Prof. P.R.Sharma is Editorial Secretary of J. IAPS.
- Dr.Paresh Vyas is Managing Editor of J. of Rajasthan Academy of Physical Sciences.

d) any other

NIL

27. Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).

No

28. Student projects

- percentage of students who have done in-house projects including interdepartmental projects  
Around 9% of Ph.D. / M. Phil. Course work projects were completed in-house as per the requirement of the Curriculum.
- percentage of students doing projects in collaboration with other universities/ industry / institute  
NA

29. Awards / recognitions received at the national and international level

Following are the details of Awards / recognitions received at the national and international level

- **Faculty :**

- Prof. P.R. Sharma has been honoured Fellow IAPS by International Academy of Physical Sciences, India in 2015 on his outstanding contribution in Mathematics.
- Prof. P.R. Sharma has been appointed Dean, Faculty of Science.
- Prof. P.R. Sharma has been nominated Member Syndicate by the Vice-Chancellor, University of Rajasthan, Jaipur.
- Prof. Raj Bali was honored by University of Rajasthan for his research contribution, 2009. Prof. Raj Bali was awarded INSA Research Award to visit IUCAA, Pune research work with Prof. J.V. Narlikar -2009-10.
- **Doctoral / post doctoral fellows**  
NIL
- **Student**  
NIL

30. Seminars/ Conferences/Workshops organized and the source of funding (national/ international) with details of outstanding participants, if any.

Six conferences / seminars / workshops were organized by the department during past five years. These are:

1. National Seminar on “Recent Development in Fluid Dynamics and 14<sup>th</sup> Prof. P.D. Verma Memorial Lecture” in the department during August 7-8, 2010.
2. 12<sup>th</sup> International Conference of International Academy of Physical Sciences (CONIAPS XII) on Emerging Interfaces of Physical Science During December 22-24, 2010.
3. National Seminar on “Recent Trends in Fluid Dynamics & Optimization Techniques” and 15<sup>th</sup> Prof. P.D. Verma Memorial Lecture (NSORTED) & OT and PDVML-2011) 6<sup>th</sup> August, 2011.
4. UGC Sponsor-National Workshop on “Challenges before Applied Mathematician: Fluid Dynamics and Optimization Techniques during March 11-13, 2011
5. A one day National Seminar on “Recent Advances in Applied Mathematics and 16<sup>th</sup> Professor P.D. Verma Memorial Lecture 2012” (NSRAAM and PDVML-2012) was organized in the Academic Staff College, University of Rajasthan Jaipur on 29.7.2012.
6. A one day National Seminar on “Recent Developments in Applied Mathematics and 17<sup>th</sup> Professor P.D. Verma Memorial Lecture 2013” (NSRAAM and PDVML-2013) was organized in the Department of Mathematics, University of Rajasthan Jaipur on September 14, 2013.
7. A two days National Seminar on “Recent Developments in Applied Mathematics and 17<sup>th</sup> Professor P.D. Verma Memorial Lecture 2013” (NSRAAM and PDVML-2013) was organized in the Department of Mathematics, University of Rajasthan Jaipur on September 14, 2014.
8. 17<sup>th</sup> International Conference of International Academy of Physical Sciences (CONIAPS XVII) on Emerging Trends of Physical Science & Technology will be organized by the University of Rajasthan, Jaipur-302004 during January 16-18, 2015

31. Code of ethics for research followed by the departments

Code of ethics for research is followed as per UGC and University of Rajasthan norms.

32. Student profile programme-wise

Following is the programme wise student profile:

Name of the Programme	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
M.Sc. 2009-10	457	59	40	62.00	64.57
M.Sc. 2010-11	561	54	46	64.12	66.78
M.Sc. 2011-12	466	58	50	66.34	69.32
M.Sc. 2012-13	578*	56	52	68.23	71.56
M.Sc. 2013-14	587*	64	50	69.00	74.89
M.Sc.2014-15	721*	45	54	68.23	74.21

\*Applications received at URATPG (Central Admission Committee).

33. Diversity of students

Following is the diversity of students:

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
M.Sc. 2009-10	75%	20%	5%	NIL
M.Sc. 2010-11	80%	15%	5%	NIL
M.Sc. 2011-12	80%	20%	NIL	NIL
M.Sc. 2012-13	80%	18%	2%	NIL
M.Sc. 2013-14	75%	20%	5%	NIL
M.Sc.2014-15	80%	20%	6%	NIL

34. How many students have cleared Civil Services and Defense Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

In past five years; 35-40 Students qualified in NET JRF/NET Lectureship / SLET. Every year 10-20% students clear Govt. and public sector competitive exams. 30-40% students got selected for Lectureship in different Degree as well as in Engineering Colleges.

35. Student progression

Following is the student's progression:

Student progression	Percentage against enrolled
UG to PG	35%
PG to M.Phil.	15%
PG to Ph.D.	10%
Ph.D. to Post-Doctoral	-
Employed	



• Campus selection	NIL
• Other than campus recruitment	90%
Entrepreneurs	10%

36. Diversity of staff

Following is the diversity of staff:

Percentage of faculty who are graduates	
of the same university	80%
from other universities within the State	20%
from universities from other States	10%
from universities outside the country	NIL

37. Number of faculty who were awarded M. Phil., Ph.D., D.Sc. and D.Litt. during the assessment period (2009- till date)

Two faculty members were awarded M.Phil/Ph.D. degree and two members awarded M. Phil degree during the assessment period.

38. Present details of departmental infrastructural facilities with regard to

a) Library

The Department has its own Library which houses about 9500 reference books. E-Journals are also available on line through University Network.

b) Internet facilities for staff and students

Yes, Wi-Fi and LAN facility is provided to all faculty members, research scholars and PG students through University Info net Centre.

c) Total number of class rooms

Department has 4 class rooms.

d) Class rooms with ICT facility All

Department has 01 class room with ICT facility.

e) Students' laboratories

Department has 01 computer lab for Faculty Members/Research Scholars.

f) Research laboratories

Department has 01 computer research laboratory with 20 Computers with Maths. Softwares- Matlab. Facilities of Smart Class room are also available in the Lab.

39. List of doctoral, post-doctoral students and Research Associates

a) From the host institution/university since 2009-2015:

S.No	Name of Candidate	Name of Supervisor
1.	Mr. Dinesh Singh Ruhela	Prof. R. N. Jat
2.	Mr. Abhishek Neemawat	Prof. R. N. Jat
3.	Mr. Vishal Saxena	Prof. R. N. Jat
4.	Mr. Amala Olkha	Prof. D. S. Chauhan
5.	Mr. Santosh Chaudhary	Prof. R. N. Jat
6.	Mr. Gurminder Singh	Prof. P. R. Sharma

7.	Ms. Archana Sharma	Prof. P.R. Sharma
8.	Ms. Kalpana Sharma	Prof. P.R. Sharma
9.	Ms. Kumkum Jain	Dr. Mridula Garg
10.	Mr. Ashok Singh Shekhawat	Dr.VBL Chaurasia
11.	Mr. Umesh Gupta	Prof. R.C. Chaudhary
12.	Ms Aruna Sharma	Dr.Anil Kr. Sharma
13.	Ms.Ratna Banerjee	Prof. Raj Bali
14.	Amber Srivastava	Dr.VBL Chaurasia
15.	Ms.Ruchika Mehta	Prof.P.R.Sharma
16.	Ms.Tripti Gupta	Prof.Mridula Garg
17.	Ms. Jaya Agrawal	Prof.Mridula Garg
18.	Ms.Monika Jain	Dr.VBL Chaurasia
19.	Ms.Meghna Kumawat	Prof.Raj Bali
20.	Ms.Pooja Sharma	Prof.P.R.Sharma
21.	Sazid Ali	Prof.P.R.Sharma
22.	Hari Singh Parihar	Dr.VBL Chaurasia
23.	Jagdish Prasad Dhanka	Prof.Raj Bali
24.	Kailash Yadav	Prof.R.C.Chaudhary
25.	Ravi Kant Sharma	Anil Kr. Sharma
26.	Ms.Pinky Lata	Dr.VBL Chaurasia
27.	Patanjali Sharma	Dr.V.G.Gupta
28.	Pranay Goswami	Prof.S.P.Goyal
29.	Sandeep Gupta	Dr.Navin Kumar
30.	Ms.Sangeeta Choudhary	Prof.Mridula Garg
31.	Giriraj Methi	Prof. P.R.Sharma
32.	Jagdish Prasad Pareek	Dr.S.C.Sharma
33.	Ms.Pramila Vijaywargiya	Prof.S.P.Goyal
34.	Yaghvendra Kumawat	Dr.VBL Chaurasia
35.	Ms.Bharti Sharma	Prof.N.C.Jain
36.	Subhash Singh Yadav	Dr.Anil Kr. Sharma
37.	Ms.Jyoti Arora	Dr.S.C.Sharma
38.	Lokesh Kumar Gupta	Prof Raj Bali
39.	Ms.Rachna Katta	Prof.P.R.Sharma
40.	Sharad Chandra Pandey	Dr.VBL Chaurasia
41.	Ms.Pratibha Singh	Prof.Raj Bali
42.	Devendra Kumar	Dr.VBL Chaurasia
43.	Jagdev Singh	Dr.VBL Chaurasia
44.	Vishal Saxena	Dr.VBL Chaurasia
45.	Mukesh Agnihotri	Dr.VBL Chaurasia
46.	Ms.Abha Bansal	Dr.S.C.Sharma

47.	Ms.Seema Saraf	Prof.Raj Bali
48.	Hemant Poonia	Prof.R.C.Chaudhary
49.	Ms.Rachna Bhargava	Dr.S.C.Sharma
50.	Ms.Madhu Goyal	Dr.Anil Kr. Sharma
51.	Ms.Depti Vasdev	Dr.Anil Kr. Sharma
52.	Vikas Kumar	Prof.D.S.Chauhan
53.	Ms.Laxmi Poonia	Prof.Raj Bali
54.	(Ms) Swati	Prof.Raj Bali
55.	Devendra Singh Hada	Dr.S.C.Sharma
56.	Dinesh Kumar Vijay	Prof.N.C.Jain
57.	Rajendra Vadhvani	Prof.Raj Bali
58.	Indra Kumar Dadheech	Prof.P.R.Sharma
59.	Ms.Poonam Gosian	Dr.A.K.Goyal
60.	Ms.Pratibha Manohar	Prof.Mridula Garg
61.	Ms.Rashmi Agrawal	Prof.D.S.Chauhan
62.	Ms. Archana Deodia	Dr.D.C.Sharma
63.	Ms.Shalu Devi	Dr.Anju Rani
64.	Ms.Lata Chanchlani	Prof.Mridula Garg
65.	Rakesh Kumar	Prof.S.P.Goyal
66.	Ms.Bhavana Sharma	Dr.V.G.Gupta
67.	Ms.Tanu Jain	Dr.Navin Kumar
68.	Mr.Shailendra Shukla	Prof.P.R.Sharma
69.	Prakash Chand	Dr.K.C.Sharma
70.	Nitin Kumar Soni	Dr.VBL Chaurasia
71.	Ms.Archana Rai	Dr.Paresh Vyas
72.	Ms.Disha Choudhary	Prof.N.C.Jain
73.	Vishal Saxena	Prof. R.N. Jat
74.	Ms. Komal Choudhary	Dr. Anil Sharma
75.	Manoj Kumar Sharma	Dr.Anil Kumar Sharma
76.	Ajay Sharma	Prof. Mridula Garg
77.	Gulshan Chand	Dr.V.B.L. Chaurasia
78.	Pawan Kumar	Dr.S.C.Sharma
79.	(Ms) Amala Olkha	Prof. D.S.Chauhan
80.	Abhishek Neemawat	Prof.R.N.Jat
81.	(Ms) Nupur Srivastava	Dr.Paresh Vyas
82.	Ravi Shanker Dubey	Dr.V.B.L.Chaurasia
83.	Ram Chander Meghwal	Dr.V.B.L.Chaurasia
84.	(Ms) Preeti	Dr.Anil Kumar Sharma
85.	Dinesh Singh Ruhela	Prof.R.N.Jat
86.	Hoshiyar Singh	Prof. N.C.Jain

b) From other institutions/universities since 2009  
NIL

40. Number of post graduate students getting financial assistance from the university.  
12 M.Sc. and 08 Ph.D. / M. Phil. students are getting Scholarships.

41. Was any need assessment exercise undertaken before the development of new programme(s)?  
If so, highlight the methodology.

Yes, through Board of Studies (BoS) in Mathematics.

Academic programmes are taken up at the BoS/ CoC and Academic Council meetings after due consultation at the departmental level in staff council.

i) Workshop on Modification of UG and PG and M. Phil. Syllabus

ii) Revised Ph.D. and M. Phil. Course work

42. Does the department obtain feedback from

a. Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

Yes, department obtains informal feedback from its faculty members and discusses it in regular faculty meeting. Staff Council recommends the suggestions for improvement of curriculum etc. for implementation.

b. Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

Yes Departmental Committee and Staff Council discuss informal students' feedback on teachers and courses in its meetings. The continuous internal assessment, group discussion, tutorials, seminar, students counseling and mentoring contribute to a healthy feedback from the students. The department during its faculty meetings examines such feedback and takes action to address problems.

c. Alumni and employers on the programmes offered and how does the department utilize the feedback?

Informal feedback from alumni employees is continuously sought about the Program / courses offered by the department. Their inputs are discussed amongst the faculty members and whenever feasible the suggestions are incorporated.

43. List the distinguished alumni of the department

Following are few distinguished alumni of the department

Sh. S.P.Gupta, IAS

Mr. Kishore Kumar, RAS

Sh. R.P. Sharma, RAcs

Sh. Sharad Mehra, RAcs

Prof. P.D.Verma

Prof. N.C. Sacheti, Oman

Prof. B.S.Bhatt, West Indies

Prof. Maithali Sharan

Prof. R.C.Chaudhary  
Prof. D.S. Chauhan

44. Give details of student enrichment programmes

Department organized regular interaction sessions with external expert scientists and academicians. Several extension lectures on recent developments have been organized during past five years (List Enclosed). Department also organized regular counseling sessions for Career Opportunities for the students.

45. List the teaching methods adopted by the faculty for different programmes.

Faculty members normally adopt through power point presentation is also used, if necessary. blackboard teaching method in class room teaching. Allotment of home assignments to students is also a regular practice. Department also organizes tutorials, Student Seminars and Group Discussions is a regular feature.

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

The department ensures that programme objectives are constantly met through frequent discussions with experts and students. It also ensures through regular teaching & training counseling, engagement in research projects, demonstration and training programme, continued internal tests, project works, mentoring programmes. Continuous assessment, class tests, assignments, class seminars and end semester exams are the other methods for ensuring this fact.

47. Highlight the participation of students and faculty in extension activities.

Students both at UG and PG levels regularly participate in the NSS / NCC, Sports activities, Cultural Programmes at the Department and University level as well as in competitions organized by other institutions.

48. Give details of “beyond syllabus scholarly activities” of the department.

Students organize at least two cultural functions in the Department. On 22th December staff and students celebrate Ramanujan Birth Day by organizing Quiz Competition, Oral Presentation, debate and Essay Writing Competition etc. Students actively participate in special day programmes like teachers day. Faculty members deliver lectures of general interest focusing on values of national interests such as communal harmony, social engagements etc. on regular basis. The students are also encouraged to voice their thoughts.

49. State whether the programme/ department is accredited/ graded by other agencies? If yes, give details.

NO

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

The Department excelled in creating a formidable niche in research publications having applications in different realms of industry and technology. These include pertinent models for future large scale explorations with innovative solution strategies. Furthermore, a good number

of publications in Pure and Applied Mathematics have also been produced. These publications have appeared in reputed International Journals with high impact factors and wider indexing in international databases. A good number of students have qualified the prestigious competitive examinations like JRF, NET etc. and have been awarded research fellowships by UGC and CSIR. The faculty has successfully supervised more than 225 Ph. D. Theses and around 226 M. Phil. Dissertations. More than 950 research papers of the faculty members of the Department have been published in various National and International Journals of repute. The teachers of the Department have also authored more than 40 P.G. level books and more than 60 U.G. level books.

51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Following are major Strengths, Weaknesses, Opportunities and Challenges of the department:

### **Strengths**

- Large numbers of students are interested in getting admission in this department. For 90 + 25% increased seats, about 900 hundred admission forms were received by the department for admission in M.Sc. I Semester in this session. It shows the interest and scope of the subject and reputation of the Department.
- DRS-SAP, FIST , Research output: 220 Ph.D. supervised by the faculty members and more than 740 research papers have been published in various National and International Journals of repute, 92 research students are actively doing research presently.
- (iii) Regular teaching: Teachers take classes regularly and one can observe full strength in class rooms attending their lectures.
- (iv) Departmental Library (9300 books) for the use of teachers, research scholars and students.
- (v) Computer Lab. with Internet facility, and other facilities such as a DLP, Smart class having Line Interactive UPS, Interactive Panel Globus G Panel, Portable Interactive Pad, Visual pre sentor portable type Globus, carrying case for various presenter Globus (Lightbox for visual presenter etc.).

### **Weaknesses**

- (i) Induction of teaching is required
- (ii) Infrastructure: Sudden collapse of a part of Vigyan Bhawan building; resulted complete damage of some cubical, toilets and staircases with Almirahs, furniture and Computers etc. on 5.7.2012. Some rooms and hall have been delinked from the main part of the Department and therefore department is currently in shortage of class rooms and other facilities for teachers and students.
- Lack of Office Staff: Department does not have Library staff.
- (iv) Department needs a well equipped Seminar Hall for various academic activities.
- (v) Unavailability of funds for maintaining research equipments and other infrastructural facilities.

### **Opportunities and Challenges of the Department**

- (i) Selection of Assistant Professors (13)
- (ii) Selection of Associate Professors (05) and Professors (03) is still awaited.
- (iii) Construction of the collapsed part of Vigyan Bhawan 2<sup>nd</sup> Floor.
- (iv) Creation of interest in faculty and students for application oriented research program.
- (v) Creation of courses for allied branches of mathematics.

52. Future plans of the department:

Research Scholars of the Department of Mathematics are pursuing research in various fields such as Fluid Dynamics (Newtonian & non-Newtonian, Bio-Fluid Dynamics, MHD, Porous medium flow, heat transfer, Boundary Layer Theory), Operations Research, Special Functions and Integral Transforms, Fractional Calculus and Relativity under the supervision of existing faculty and Eminent Scientists in the Department. Department proposed to enrich a Computer Lab. with latest Softwares such as Fluent CFD, MATLAB, MAPLE, MATHEMATICA, IBA SPSS PASW PREDICTIVEANALYSIS for the research scholars and teachers in Mathematics working in these various fields and their applications.