

Self Study Report of School of Mathematics

1. Name of the Department : School of Mathematics, Faculty : Science
2. Year of establishment : 1971

A.1 Academic programmes offered by the department at present, under the following categories and Sanctions Pertaining to each of the Courses.

Programmes	Number	Course/Subjects
UG		
PG	01	M.A./M.Sc. (Mathematics)
Integrated Masters		
M.Phil.	01	Mathematics
Ph.D.	01	Mathematics
Integrated Ph.D.		
Certificate		
Diploma		
PG Diploma		
Any other (please specify)		
Total	03	

A.1.1 Details approval/recognition and recommendations issued by the statutory body (for example, (UGC, AICTE, NCTE, PCI, MCI, DCI) governing the programme in case of Professional Programmes letters for the first time and Last Academic Year recognitions : NA

If the department offers Distance Education Programmes (DEP) then Number of programmes offered.Name of Each Programme. Letters for approvals by the Distance Education Council.

These programmes are not being offered.

A.2 Copy of Ordinances related to the courses in the department

Ordinance 13 for PG, Ordinance 21 for M.Phil & Ordinance 18 for Ph.D.

A.3 Number of working days during the last academic year.

293

Number of teaching days during the past four(2008 to 2012) academic years.

180

181

180

184

(“Teaching days” means days on which classes were engaged. Examination days are not to be included)

A.4 Number of positions in the Department, their appointment letters, joining reports and sanctions of each

Positions	Teaching faculty			Non-teaching staff	Technical staff
	Professor	Associate Professor	Assistant Professor		
Sanctioned by the UGC / University / State Government	01	03	03	08	04
<i>Recruited</i>	0	01	02	06	03
<i>Yet to recruit</i>	01	02	01	02	01
Number of persons working on Part Time/ Full Time on Contractual basis	0	0	0	0	0

A.4.1 Qualifications of the teaching staff

Highest qualification	Professor		Associate Professor		Assistant Professor		Total
	Male	Female	Male	Female	Male	Female	
Permanent teachers							
D.Sc./D.Litt.	0	0	0	0	0	0	0
Ph.D.	0	01	02	0	0	0	03
M.Phil.	0	0	0	0	0	0	0
PG	0	0	0	0	0	0	0
Temporary teachers							
Ph.D.	0	0	0	0	0	0	0
M.Phil.	0	0	0	0	0	0	0
PG	0	0	0	0	0	0	0
Part-time teachers (Courses Visiting Faculty)							
Ph.D.	02	0	01	0	0	0	03
M.Phil.	0	0	0	0	0	0	0
PG	0	0	0	0	0	0	0

Emeritus, Adjunct and Visiting Professors and their sanctions.

	Emeritus	Adjunct	Visiting
Number	0	0	01*

* Prof. P.K.Sharma, Visiting Professor, sponsored by the National Board for Higher Mathematics, between July 2009 and July 2011.

Semester-wise Record of Courses Visiting Faculty and their Sanctions

S.No.	Academic Session	Semester	Course	Name	Qualification	Teaching/ Research/ Industry Experience	Number of Hours in the Semester {*}
	2009-10	Sem I Sem II	M.A./M.Sc.	Dr. M.K. Mishra	Ph.D	18	94
		Sem II	M.A./M.Sc.	Dr. K. Santaram	Ph.D	28	@4 hours/week
	2010-11	Semester I & II		1. Dr. M.K. Mishra	Ph.D	18	50
				2. Dr. K. Santaram	Ph.D	28	261
	2011-12	Semester I & II		Dr. P.P. Kale	Ph.D	27	78
				Dr. M.K. Mishra	Ph.D	18	116
				Dr. K. Santaram	Ph.D	28	213
	2012-13	Sem I		Dr. P.P. Kale	Ph.D	27	41
				Dr. M.K. Mishra	Ph.D	18	58
				Dr. K. Santaram	Ph.D	28	119
		Semester II & IV		Dr. P.P. Kale	Ph.D	27	38
				Dr. M.K. Mishra	Ph.D	18	58
				Dr. K. Santaram	Ph.D	28	106

* @4 hours/week.

Note : Visiting faculty is not involved in Semester III teaching.

A.5 Copies of Latest Biodata of Faculty in positions in the Department Available in the department.

A.6.1 Copies of Yearly Performa Based Assessment Records of Faculty in positions in the Department

These are filed to Establishment section of the University by each faculty member at the end of academic year.

A.6.2 Number of teaching posts sanctioned and filled (Professors/Associate Professors/Asst. Professors)

	Sanctioned	Filled
Professor	01	00
Reader	03	01
Lecturer	03	02

3. Faculty profile with name, qualification, designation and specialization (D.Sc./D.Litt./ Ph.D./M.Phil., etc.)

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D. students guided and completed for the last 4 years(2009-2013)	No. of Ph.D. New Intake*/ Registered
Dr. K.N. Rajeswari	Ph.D	Professor	Representation Theory of Linear Algebraic Groups.	24	01	03 (undergoing Ph. D. coursework)
Dr. M.N. Dumaldar	Ph.D	Reader	Linear Programming	13	0	0
Dr. D.K. Panchal	Ph.D	Reader	Distribution Theory, Transform Analysis.	16	0	01 (registered in 2010)

* 12 students are taking Ph. D. coursework in the Department. Students other than the four mentioned in the above table are either registered or likely to be registered under guides recognized by the University.

4. List of senior Visiting Fellows, faculty, adjunct faculty, emeritus professors: Trying to get an Adjunct Professor under UGC Scheme.

5. Percentage of classes taken by temporary faculty – programme-wise information each semester wise information

Percentage of classes taken by visiting faculty – programme-wise each semester

wise information : *On average 30%*

6. Programme-wise Student Teacher Ratio : 13:1 for M.A./M.Sc., 3:1 for M.Phil

7. Number of academic support staff (technical) and administrative staff: sanctioned and filled

Technical staff	
Sanctioned	04
Filled	03

A.7 Students enrolled in the department during the current academic year(2012-2013), with the following details:

Students	UG	PG	Integrat ed Masters	M.Phil.	Ph.D.	D.Litt. / D.Sc.
	*M *F	*M *F	*M *F	*M *F	*M *F	*M *F
From the state where the university is located		M=24 F=50		M=01 F=08	M=07 F=05	
From other states of India		M=01		M=01		
NRI students						
Foreign students						
Total		75		10	12	

*M-Male *F-Female

Externally registered students?

Yes **No**

If yes, how many students avail of this provision annually?

A.8 Calculation of 'Unit cost' of education

(Unit cost = total annual recurring expenditure (actual) divided by total number of students enrolled)

(a) including the salary component = Rs. 36,439

(b) excluding the salary component = Rs. 12,946

A.9 A. Faculty recharging strategies

- Organizing guest lectures by experts and national seminars/workshops.
- Faculty are encouraged to attend national/International conferences, seminars and workshops.
- Lectures of Shanti Swarup Bhatnagar Awardees were organized in 2007 and 2009
- Seminar on “Fostering Excellence in Research” at University Auditorium on 15.01.2013

- Teaching Learning Process Quality Workshop on 10.05.2013.

B. Number and list of faculty with course details of faculty development programmes, academic staff college programs or other faculty recharge programs

Dr. K. N. Rajeswari	2	<ul style="list-style-type: none">• International congress of Mathematicians & International congress of women Mathematicians at Hyderabad in 2010.• Indian women & Mathematics at IISER Pune in July 2013.
Dr. Mahesh Dumaldar	1	<ul style="list-style-type: none">• International Conference on Numerical Linear Algebra at IIT Guwahati in January 2013

A.10 Student projects

- percentage of students who have done in-house projects including inter-departmental projects : 100%

- percentage of students doing projects in collaboration with other universities / industry / institute : Nil

A.11 Awards / recognitions received at the national and international level by

- Faculty : Nil
- Doctoral / post doctoral fellows : Nil
- Students : Nil

A.12 Record of each of Seminar/ Conference/Workshop organized and the source of funding (national / international) with details of outstanding participants, if any.

- Mathematical Training & Talent Search Programme funded by National Board for Higher Mathematics(24-05-2009 to 21-06-2009)
 - S. Kumaresan, Mumbai University, Mumbai. (presently at central university of Hyderabad)
 - Ajit Kumar, Institute of Chemical Technology, Mumbai.
 - K. Santaram, D.A.V.V., Indore
 - K.N. Rajeswari, D.A.V.V., Indore
 - M.N. Dumaldar, D.A.V.V., Indore.
- National workshop on “Linear Algebra & its applications” funded by National Board for Higher Mathematics(26-27th Nov. 2012)

List of speakers:

 - Rajendra Bhatia, Indian Statistical Institute (ISI), New Delhi. (Recipient of Bhatnagar Award)
 - Ravindra Bapat, Indian Statistical Institute (ISI), New Delhi. (Recipient of J.C. Bose Fellowship)
 - P. Bhimasankaram, Indian School of Bussiness (ISB),Hyderabad
 - Sk. Safiq Ahmad, Indian Institute of Technology (IIT), Indore.
- On the occasion of 125th birth anniversary of Srinivasa Ramanujan (Mathematics Day), one day seminar on Analytical Number Theory on 22nd Dec. 2012 funded by Madhya Pradesh Council of Science & Technology.

Speaker:

N. Saradha, Tata Institute of Fundamental Research, Mumbai.

- Shanti Swarup Bhatnagar Awardees first and second conferences held in 2007 and 2009, respectively.

Year and Date	Renowned Mathematicians and Shanti Swarup Bhatnagar Awardee		Topic
	Name	Organization	
2007, 8 th March	Dr. Sujatha Ramdaroi	T.I.F.R., Mumbai	Problems in Number Theory: Simple yet sophisticated
2007, 10 th March	Dr. Kalyanmoy Deb	IIT, Kanpur	Multiobjective Evolutionary Optimization for Scientific and Engineering Problem Solving.

A.13 Write up of Code of ethics for research followed by the departments

Not compromising on the quality and giving due credit to all those who contribute. Follow principles of ethical and social responsibility.

A.14 Student profile course-wise:

Name of the Course (refer to question no. 4)	Applications received	Selected		Pass percentage*	
		Male	Female	Male	Female
M.A./M.Sc.	Not known as admission was through CET.	16	31	NA	NA
M.Phil	33	02	08	6%	24%
Ph.D.	98	07	05	7%	5%

* Pass percentage in entrance test.

A.15 Diversity of students

Name of the Course	% 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.A./M.Sc.	86	12	2	0
M.Phil	90	0	10	0
Ph. D.	58	25	17	0

A.16 Record of how many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

Following data pertains to the period 2007 to 2012.

S.No	Name of the students	Qualified In	Category	Year of passing
1.	Deepti Dubey	NET & NBHM Ph.D. Exam.	Gen	2007
2.	Ramkrishna Tripathi	NET	Gen	2007
3.	Seema Gupta	NET	Gen	2008
4.	Sweta Tiwari	NET	Gen	2010
5.	Pallavi Mahale	GATE	Gen	2007
6.	Arun Bhalke	GATE	ST	2012
7.	Paramjeet Singh Mandar	NET	Gen	2009

Competitive Examinations

S.No	Name of the students	Qualified In	Category	Year of passing
1.	Janki Varandani Nagrani	Bank PO	Gen	2010
2.	Veer Singh Maida	MPPSC		2003

A.17 Record of Student progression

Student progression	Percentage against enrolled
UG to PG	NA
PG to M.Phil.	15%
PG to Ph.D.	10%
Ph.D. to Post-Doctoral	Nil
Employed	
• Campus selection	Nil
• Other than campus recruitment	62%
Entrepreneurs	

A.18 Record of Diversity of staff

Percentage of faculty who are graduates	
of the same university	33%
from other universities within the State	0
from universities from other States	66%
from universities outside the country	0

A.19 Number of faculty who were awarded Ph.D., D.Sc. and D.Litt. during the last four years :

All are Ph.D holders at the time of joining.

A.20 Present details of infrastructural facilities in the department with regard to

a) Library :

The department has a library housing all the books prescribed in the curriculum. It has several books, in addition, covering advanced topics which have been received from the National Board for Higher Mathematics(NBHM) as complimentary copies. The journals subscribed to using the NBHM library grant are also kept in the departmental library. The central library also provides accesses to e-resources through INFLIBNET.

No. of Books : about 1200

No. of Complimentary Copies (from NBHM): 177

No. of Journals :0 3

No. of M. Phil. Dissertations : 64

No. of Ph. D. Theses : 02

UGC grant for department library in XI plan : Rs. 2,00,000.

Central Library is also very close to School. Students have sufficient books and Journals after combining facilities in the Department as well as in the Central Library.

b) Internet facilities for staff and students : *Available for all*

c) Total number of class rooms : *Two*

d) Class rooms with ICT facility: *Two*

e) Students' laboratories : *One*

f) Research laboratories : *One computer lab.*

A.21 List of doctoral, post-doctoral students and Research Associates:

Miss. Rafia Aziz was doctoral student from 2008 to 2012.

Following is the list of Ph.D. course work students for the session 2012-13.

1. Neelam George
2. Parag Mittal
3. Umesh Gupta
4. Chandrashekhar Chauhan
5. Richa Jain
6. Rajneesh Jain
7. Naresh Berwal
8. Abhilasha Sharma
9. Ashish kumar Soni
10. Madhavi Acharya
11. Manoj Joshi
12. Neha Yadav

A.22 Records of financial assistance and Number of post graduate students getting financial assistance from the university, UGC, State, AICTE.

Madhya Pradesh state government Scholarship for students belonging to reserved category.

A.23 Methodology of need assessment exercise undertaken before the development of new programme(s) :

Discussions are regularly held on possibility of introducing new programmes. No new programme could be undertaken in view of resource crunch and shortage of permanent faculty.

A.24 Records of feedback from

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

Feedback is obtained in faculty meetings and necessary actions are taken.

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

Student feedback on curriculum and teaching-learning-evaluation are analyzed. Matters where feedback calls for improvement are addressed to in the following semester.

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

Feedback from alumni is being filed.

A.25 List the distinguished alumni of the department (maximum 10)

Name	Present Status
1. Gaurav Singh	Senior Research Scientist: CSIRO, Australia
2. Dipti Dubey	Research Scholar, IIT Delhi
3. Pallavi Mahale	Ph.D. IIT Madras
4. Devendra Rajput	CSP, Madhya Pradesh Police, Bhopal
5. Sree Dulla	Software Engineer, USA.
6. Janki Varandani Nagrani	Officer at Bank of India
7. Rohit Pathak	Faculty at IET, DAVV, Indore.
8. Sufia Aziz	Faculty at IET, DAVV, Indore.
9. Gajendra Ujjainkar	Faculty at Govt. PG college Dhar.
10. Seema Gupta	Faculty at Amity University, Noida

A.26 Details of student enrichment programmes (special lectures / workshops / seminar) involving external experts.

1. Prof. M.S. Narasimhan, FRS addressed the students of the department on 22-3-2011.
2. Prof. S. Kumaresan held interactive session with the students of the department on basics of Topology on 6-4-2011.
3. Prof. D.N. Verma, ex-member of TIFR has delivered a lecture on "Some Important Problems in Theoretical Computer Science-elementary Mathematical Solutions" in the department on 22-4-2011.

4. Prof. T. Parthasarathy, ISI Chennai & CMI, (Bhatnagar Award Winner), delivered a lecture on “On Univalent Results”
5. Retired Prof. Y.S. Pawar, Kolhapur University, delivered a lecture on “Introduction to Fuzzy Mathematics”
6. Prof. Ivans Slapnicar, University of Split, Croatia delivered a lecture on “Fiedler Vectors” on 22nd January 2013.

A.27 Record and List of the teaching methods adopted by the faculty for different programmes.

- *Mainly Black board teaching*
- *Tutorials*
- *Student Seminars*
- *Group Discussions*
- *PowerPoint Presentations as and when required*

A.28 Record of Monitoring by the department ensure that programme objectives are constantly met and learning outcomes are monitored

(1) *Monitoring the progress of students (through tests / examination and classroom discussions) and counseling them accordingly.*

(2) *Learning outcomes: Placements, taking higher studies, passing national level competitive examinations.*

All learning outcomes are monitored by the faculty. Remedial steps are taken accordingly.

A.29 Details and Highlight of the participation of students and faculty in extension activities in the department:

- *Students and faculty actively participate in academic events like workshops, guest lectures conducted by the department.*
- *Participation in Green Calendar activities of the university.*
Celebration of “The World Meteorological Day” on 23rd March 2013 Speaker: Sanjay Sharma, Department of Meteorology, Agriculture College, Indore.

A.30 Details of “beyond syllabus scholarly activities” of the department.

- *Student Projects,*
- *Participation in advanced training programmes in Mathematics.*

- Exposure to lectures by eminent mathematicians.
- Attending Language laboratory programmes/special coaching classes.

A.31 Information about programme/ department accreditation/grading by other agencies? If yes, give details. : No

A.32 Write up of highlight the contributions of the department in generating new knowledge, basic or applied. :

Alumni of the department have been serving the Nation in various capacities. For instance, in various teaching institutes(private as well as govt.), in Government Organizations, Research Institutions, Industries and Planning Organizations.

Departmental faculty have been publishing research articles in national/international journals in the areas of Algebra, Linear Algebra and their applications to systems and control theory and also Graph Theory and its application to chemistry.

Department has introduced new courses(like Linear/Non linear programming, Programming in C++, Computational Linear Algebra) which are more problem oriented and this helps student acquire practical knowledge.

A.33 Write up of Future plans of the department.

1. *The Mathematical background of students taking admission in M.A./M.Sc. (Mathematics) is generally poor. Department plans to organize rigorous training programmes for under graduate students atleast once a year. One such programme will be held in September 2013.*

2. *Organizing National Seminars on recent advances in the subject.*

3. *Subject to availability of the faculty, department plans to introduce electives which are computational in nature.*

4. *Improve infrastructural facilities.*

5. *Undertaking programmes to popularize mathematics.*

A.34 Record of any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strengths : (1) *Academically highly experienced, well trained and devoted Faculty.*

(2) *Library catering to the requirements of the students in association with NBHM.*

Weaknesses: (1) *Inadequate permanent Faculty members and the dependence on Visiting Faculty.*

(2) *Inadequate resources like number of classrooms, space for office, budgetary allocation by the university.*

Challenges: (1) *Due to lesser interest of students in comparison to engineering, computer science, information technology and management, attracting brilliant students.*

(2) *Attracting highly experienced permanent Faculty at senior level.*

(3) *Enhancing research activities*

(4) *Solving industry related problems of applied mathematics.*

A.35 **Write up of efforts for Quality Sustenance and Assurance in the department**

- Department has an Internal Quality Assurance Committee to monitor proper functioning of the department. Besides, the expert suggestions are taken and incorporated for enhancement of academic and administrative activities.
- *Students' feedback is taken regularly and concerned faculty is asked to take necessary action.*
- *Inviting Retired Professors of the Department as visiting faculty to maintain Academic Standards.*
- *Quality issues were discussed at University Workshops on Sept. 26, 2012, May 10, 2013 and May 15, 2013.*

CRITERION I: Curriculum Design and Development

1.1.1 Academic Year of Revision, Curriculum of Each Course, Objective and Course plans of each paper taught in the course .

Objective: The main objective of the courses offered in the department is to train students to handle research problems independently and to present mathematical material in systematic way with full rigour so that they become good researchers and good teachers.

Whether uploaded on website

Yes

No

*Revised in 2011 (minor computer orientated projects were introduced)
Next revision planned in 2013-14.*

1.1.1.A Eligibility for admission to each course

SNo.	Course Name	Subject	Intake per year	Qualification	Admission process
1	M.A./M.Sc. (Mathematics)	Mathematics	45	B.A./B.Sc. with Mathematics as a principal subject (wherever applicable) with at least 50% marks in aggregate as well as in Mathematics.	Admission test followed by an interview.
2	M.Phil (Mathematics)	Mathematics	10	As per University ordinance	As per M.Phil. Ordinance-21 of DAVV
3	Ph.D. (Mathematics)	Mathematics		As per University ordinance	As per PhD Ordinance-18 of DAVV

1.1.1.B Whether reflects Vision and mission reflection

Yes

No

Vision: *Enhance career opportunities of students of School of Mathematics and bring them at par with professional courses.*

Mission: *Making curriculum skill oriented and prepare students to meet challenges in the field of Mathematics.*

1.1.1C Write on reflection of vision and mission

The curriculum provides thorough training in skills of basic Mathematics. It also provides introduction to certain advanced topics which are useful in their career. This helps students compete well in national level competitive examinations.

1.1.2 Details of process followed in last revision of Curriculum

A. Need Assessment:

Based on students feedback, current National and Global trends and opinions of experts. Syllabi of National level competitive examinations are also kept in view.

B. Faculty involved in curriculum design (List of members):

1. Dr. K.N. Rajeswari
2. Dr. M.N. Dumaldar
3. Dr. D.K. Panchal

C. Records of Departmental Committees/Board approvals of the designed curriculum: *Available in the department* (File No. 1.1.2 C)

D. Records of External Experts Opinion of the designed curriculum: *Available in the department (Reports of academic audit & opinion of experts participating in comprehensive viva)* (File No. 1.1.2 D)

E. Records of External Experts Feedback of the designed curriculum: (File No. 1.1.2 D)

F. Records of Student Feedback opinion on the existing curriculum : *Available in the department. Analysis communicated to University IQAC from time to time and hosted on website regularly.*

G. Records of Syllabi of National tests, Eligibility Tests and Examinations for example, GATE, NET, Service Commissions, National Councils, for the each

curriculum, if any, :

NET/GATE is available on the departmental website link :

<http://www.math.dauniv.ac.in/syllabus.php>

- 1.1.3 Detailed write up out each course in reference to
- * *Employability* : Majority of students passing out from the department are employed in Schools/Colleges.
 - * *Innovation: Introduction of Computers and use of ICT*
 - * *Research* : Few students take up research and select good students have joined IIT's.
- 1.1.4 Records of UGC/AICTE/National Council, Regulating bodies Guidelines for the development and restructuring the curriculum, if any, : NA
Department Faculty members, if any, involved in leading any curricular reform which has created a national impact? : None
- 1.1.5 A. Record of Interactions, Opinions and Feedbacks for the designed curriculum with External Research Bodies : File No. 1.1.2 D
B. Records of Interactions, Opinions and Feedbacks for the designed curriculum with Industrial Experts, particularly in case of Professional Courses: NA
C. Records of Interactions, Opinions and Feedbacks for the designed curriculum with Stake Holders, such as eminent personalities, Visitors to the departments, parents: File No. 1.1.2 D

D. Records of Alumni opinion on the existing curriculum (may be taken in an Alumni Register) : File No. A.24 c
- 1.1.6 List of Department Courses which are also introduced in University affiliated colleges also. List of colleges who introduced those courses :
M.Sc. (Mathematics) has been introduced in the following college :
- *PMB Gujrati Science college, Indore*
 - *Christian Eminent College, Indore*
 - *Islamia Karimia Degree College. Indore*
 - *IPS Academy, Indore.*
 - *M B Khalasa college, Indore.*
 - *Holkar college, Indore*
- 1.1.7 Details of additional skill-oriented programmes designed for the colleges, Employees, Faculty relevant to regional needs : NA

1.2 Academic Flexibility

1.2.1 List of Courses taught in Department on campus:

Name of the Course
M.A./M.Sc.
M.Phil
Ph.D.

- Overseas programmes offered on campus : NA
- Programmes available for colleges to choose from : NA

1.2.2 Records on the following provisions with reference to academic flexibility

a. List of Core/ Elective options

*There is provision for electives in the syllabus (available on the link:
<http://www.math.dauniv.ac.in/syllabus.php>).*

b. List of Enrichment courses : *Planned for 2013-14.*

c. List of Courses offered in modular form : NA

d. List of courses/papers with Credit accumulation and transfer facility: *Planned for 2013-14.*

e. Details of Lateral and vertical mobility within and across programmes, courses and disciplines : NA

1.2.3 Records of International students : NA

1.2.4 Records of Courses developed targeting international students, if any :NA

1.2.5 Record of dual degree and twinning programmes :NA

1.2.6 A. List of students, Admission Process, Fee structure of each programme

List of students : Available in the department.

Admission process:

Applications are invited in prescribed format and eligible candidates are called for written test. Short listed candidates are called for interview/ counseling.

Fee Structure is available on website

File No. 1.2.6

B. Record of Teacher qualification and salary parity and differences (if any) at par with the aided programmes:

All permanent Faculty fulfill UGC prescribed Qualification and Eligibility. Salary is as per UGC Scale and Norms. Allowances are as per state Govt. norms.

1.2.7 Operational details of distance Education Course in the department (if applicable): NA

1.2.8 Details of Choice Based Credit System (CBCS) :

Planned for 2013-14

1.2.9 Records of Departmental Academic Calendars of each semester

Department follows university academic calendar with few modifications like induction programme for freshers, remedial classes for weak students and advanced topic classes for advanced learners. The details are available on departmental website.

File. No. 1.2.9

1.2.10 Records of Inter-disciplinary programmes, Name of interdisciplinary program and details of students undertaken those programmes.

1.3 Curriculum Enrichment

1.3.1 A. Record of academic years in which each of the courses was revised

Semester IV syllabus was revised in 2011 (Computer oriented minor projects were introduced).

B. Records of review, up-gradation, : NA

C. Records of social relevancy, : NA

D. Records of job orientation : *Available in alumni record.*

E. Records of knowledge intensive nature of each course :

The curriculum provides thorough training in skills of basic Mathematics. It also provides introduction to certain advanced topics which are useful in their career. This helps students compete well in national level competitive examinations.

F. Records of meeting the emerging need of students :

Computer oriented minor project has been introduced in 2011.

G. Records of meeting the emerging need of stakeholders:

The curriculum caters to the needs of the students for preparing for National level competitive examinations and Ph.D. admission tests to elite institutes like IITs.

1.3.2 Details of the last four years during which how many new programmes at UG and PG levels were introduced: NIL

* Inter-disciplinary

* programmes in emerging areas

1.3.3 A. Details of strategies adopted for the revision of the existing programmes

Introducing material pertaining to the syllabus from new books and journals.

B. Percentage of courses underwent a syllabus revision in last four years

100% (Next revision planned for 2013-14)

1.3.4 A. Details of Value-added courses offered : NA

B. Details of these courses access to students :NA

1.3.5 Details of higher order skill development programmes in consonance with the national requirements (for example, innovative M. Tech. /M.E. courses, CCNA, CCSP,) : NA

1.4 Feedback System

1.4.1 A. Copy of Feedback form to obtain feedback from students/student class representatives regarding the curriculum

File No. 1.4.1

B. Details of action and use of on feedback from students

Student feedback on curriculum and teaching-learning -evaluation are analyzed.

Matters where feedback calls for improvement are addressed to in the following semester.

1.4.2 A. Method used for eliciting feedback on the curriculum from national and

international faculty

B. Conducting webinars: *Planned in 2013-14*

C. Curriculum development Workshops: *Planned in 2013-14*

D. Curriculum development online discussions: *Planned in 2013-14*

E. Impact of Workshop and discussions

Will be known by Dec 2013.

1.4.3 Specify the mechanism through which affiliated institutions give feedback on curriculum enrichment and the extent to which it is made use of.

Board of Studies in Mathematics has members from Affiliated Institutions also. Feedback from these members is taken in Board of Studies meetings and also through e mails and personal contacts.

1.4.4 What are the quality sustenance and quality enhancement measures undertaken by the Department in ensuring the effective development of the curricula?

(1) Department has an Internal Quality Assurance Committee to monitor proper functioning of the department. Besides, the expert suggestions are taken and incorporated for enhancement of academic and administrative activities.

(2) Students' feedback on curricula is taken regularly. Departmental Committee takes necessary action.

(3) Taking opinion of retired professors of the department.

(4) Taking opinion of NBHM and National Institutions regularly.

1.4.5 Any other information regarding Curricular Aspects which the UTD would like to include.

Academic autonomy is provided to the Schools in Ordinance 31. This enables updation and introducing new chapters in each paper as per requirement.

CRITERION II: TEACHING-LEARNING AND EVALUATION

2.1 Student Enrolment and Profile

2.1.1 Copy of Advertisements and website info for ensuring publicity and transparency in the admission process

Common advertisement for all the courses given by the university. Information relevant to the department was made available on the departmental website.

2.1.2 A. Write up details of the process of admission put in place by the department

Entrance test followed by interview with 40% weightage to merit.

B. List of the criteria for admission: (e.g.: (i) merit, (ii) merit with entrance test, (iii) merit, entrance test and interview, (iv) common entrance test conducted by state agencies and national agencies (v) other criteria followed

merit, entrance test and interview/counseling

2.1.3 Details of admission process in the affiliated colleges if department is monitoring the same. : NA

2.1.4 Student profile analysis :

Name of the Course (refer to question no. 4)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
M.A./M.Sc.	Not known as admission was through CET.	16	31	NA	NA
M.Phil	33	02	08	6%	24%
Ph.D.	98	07	05	7%	5%

2.1.5 Strategies adopted to increase/improve access for students belonging to the following categories:

- * SC/ST
- * OBC
- * Women
- * Persons with varied disabilities
- * Economically weaker sections
- * Outstanding achievers in sports and other extracurricular activities

(1) Following reservation policy of the M.P. State Govt.

(2) Scholarships and Free ships are provided by MP State Govt. to students belonging to SC/ST/OBC.

(3) Financial help is available from Students' Welfare Department of the University to physically handicapped students and to students to meet medical expenditure in case of accidents.

2.1.5 Number of students admitted in department in the last four academic years:

M.Sc.

Categories	2009		2010		2011		2012	
	Male	Female	Male	Female	Male	Female	Male	Female
SC	0	01	02	0	03	04	02	04
ST	0	0	03	0	06	03	00	00
OBC	01	03	04	06	04	11	10	14
General	03	15	03	16	03	06	03	13
Others	0	0	0	0	0	0	0	0
Total	04	19	12	22	16	24	15	31
Grand Total	23		34		40		46	

M.Phil

Categories	2009		2010		2011		2012	
	Male	Female	Male	Female	Male	Female	Male	Female
SC		01						02
ST			01					

OBC		01			01		01	03
General	02	03	01	05	01	04		03
Others								01
Total	02	05	02	05	02	04	01	09
Grand Total	07		07		06		10	

2.1.7 A. Record of demand ratio for the various programmes of the university departments

B. If yes then highlight the significant trends explaining the reasons for increase/decrease.

Programmes	Number of applications	Number of students admitted	Demand Ratio
UG			
PG	On average 100	46	2:1
Integrated Masters			
M.Phil.	30	10	3:1
Ph.D.	98	6	16:1
Integrated Ph.D.			
Certificate			
Diploma			
PG Diploma			
Any other (please specify)			

2.1.8 A. Record of any programme discontinued/staggered in the last four years? :

No

B. If yes, write-up of the reasons.

Not applicable

2.1.9 Record of Admissions

2012-13

Programmes	Total	Number of	Number of
------------	-------	-----------	-----------

	Number of admissions	1st division pass students in qualifying	2nd division pass students in qualifying
UG			
PG	46		
Integrated Masters			
M.Phil.	10		
Ph.D.	06		
Integrated Ph.D.			
Certificate			
Diploma			
PG Diploma			
Any other (please specify)			

2.2 Catering to Diverse Needs of Students

2.2.1 A. Record of organization of orientation/ induction programme for freshers:

University organized orientation programme in July 2012.

B. Details such as the duration, issues covered, experts involved and mechanism for using the feedback in subsequent years.

2.2.2 A. Record of analysis of the “differential requirements of the student population” after admission and before the commencement of classes

B. Record of key issues identified and addressed

Students do not get proper training at UG level concerning mathematical reasoning. After admission, few weeks are devoted to strengthen basics and logical reasoning of the students.

2.2.3 A. Record of bridge/remedial/ add-on courses:

Planned remedial classes for students who fail in the first test in 2013-14.

B. Time table and details of the courses offered in the department-wise for all courses

Time tables and course details: File No.2.2.3 B

(also available on <http://www.math.dauniv.ac.in/>)

2.2.4 A. Record of the academic growth of students from disadvantaged sections of society, economically disadvantaged, physically handicapped, slow learners, etc :

Class	Year	Total of Students	Category								
			SC			ST			OBC		
			Admitted	Passed	%	Admitted	Passed	%	Admitted	Passed	%
M.A./M.Sc.	2010-11	16	1	0	0	0	0	-	4	2	50
M.A./M.Sc.	2011-12	19	2	1	50	3	0	0	10	6	60
M.A./M.Sc.	2012-13	28	7	4	57	9	2	22	14	13	93

Class	Year	Total of Students	Category								
			SC			ST			OBC		
			I with Dist.	I	II	I with Dist.	I	II	I with Dist.	I	II
M.A./M.Sc.	2010-11	16	0	0	0	-	-	-	0	1	1
M.A./M.Sc.	2011-12	19	0	0	1	0	0	0	0	6	0
M.A./M.Sc.	2012-13	28	0	3	1	0	1	1	2	10	1

B. Main findings? :

It is evident from the tables that the performance of students belonging to disadvantaged sections of the society has been steadily improving.

2.2.5 Record of identification and responses to the learning needs of advanced learners:

Advanced learners are encouraged to participate in Mathematical Training & Talent Search Programme conducted by National Board for Higher Mathematics. They also participate in summer training programmes. Following students have attended these programmes recently.

1. *Shweta Tiwari*
2. *Dipti Dubey*
3. *Kamlesh Santani*
4. *Garvita Agrawal*
5. *Shalini Jha*

2.3 Teaching-Learning Process

2.3.1 Records of Plan and organisation of the teaching, learning and evaluation schedules (teaching plan, evaluation schedules and methods, etc.)

Syllabus, Time Tables & Test / Examination schedules are available in

File No. 2.3.1

- 2.3.2 A. Record and website info of providing course outlines and course schedules prior to the commencement of the academic session

Syllabus is available on the website on the link:

<http://www.math.dauniv.ac.in/syllabus.php>

- B. Methods used for effective implementation

Monitored by the Statutory Departmental Committee.

- 2.3.3 A. Record of difficulties in completing the curriculum within the stipulated time frame and calendar :

Sometimes, difficult topics need more classes. Then extra classes are taken by the faculty to complete the syllabus within the time frame.

- B. Write up of the challenges encountered and the departmental measures to overcome these. : *None*

- 2.3.4 A. Record of student-centric learning activities

Students are encouraged to

(1) prepare assignments on various topics on subjects of their choice.

(2) give seminars which carry credits.

(3) stay back after regular teaching hours to discuss among themselves and also with teachers.

(4) actively participate in class room teaching.

- B. List of participatory learning activities which are adopted by the faculty that contributes to holistic development and improved student learning, besides facilitating life-long learning and knowledge management.

As soon as a result regarding some mathematical problem is proved, the students are made to workout problems based on the result so that the result is well understood.

- 2.3.5 List, record with photographs of activities such as invited experts/people of eminence to deliver lectures and/or organize seminars for students

1. Prof. M.S. Narasimhan, FRS addressed the students of the department on 22-3-2011.
2. Prof. S. Kumaresan held interactive session with the students of the department on basics of Topology on 6-4-2011.

3. Prof. D.N. Verma, ex-member of TIFR has delivered a lecture on “Some Important Problems in Theoretical Computer Science-elementary Mathematical Solutions” in the department on 22-4-2011.
4. Prof. T. Parthasarathy, ISI Chennai & CMI, (Bhatnagar Award Winner), delivered a lecture on “On Univalent Results”
5. Retired Prof. Y.S. Pawar, Kolhapur University, delivered a lecture on “Introduction to Fuzzy Mathematics”
6. Prof. Ivans Slapnicar, University of Split, Croatia delivered a lecture on “Fiedler Vectors” on 22nd January 2013.
7. Dr. Sujatha Ramdaroi, T.I.F.R., Mumbai, Problems in Number Theory: Simple yet sophisticated, 8th March 2007.
8. Dr. Kalyanmoy Deb, IIT, Kanpur, Multiobjective Evolutionary Optimization for Scientific and Engineering Problem Solving, 10th March 2007

File No. 2.3.5

- 2.3.6 Record of Encouragement to blended learning by using e-learning resources:
Use, of web resources, tutorials of top universities on web, is encouraged. These are suggested in course plans.
- 2.3.7 Record of facilities such as virtual laboratories, e-learning, open educational resources and mobile education used by the faculty for effective teaching
Students are guided regarding e-learning resources.
- 2.3.8 Record of activities of designated group among the faculty to monitor the trends and issues regarding developments in Open Source Community and integrate its benefits in the university’s educational processes:
- 2.3.9 Record of steps taken to convert traditional classrooms into 24x7 learning places:
Computers and internet(wired or wifi) convert a classroom into 24 x 7 learning place.
- 2.3.10 A. Record of actions taken to avail the services of counsellors/mentors/advisors for each class or group of students for academic, personal and psycho-social guidance :
Mentoring and counseling(social and academic) is provided by faculty whenever needed. Psychometric tests are planned in 2013-14.

- B. Details of the process and the number of students who have benefited.
- 2.3.11 A. Record of innovative teaching approaches/methods/practices adopted/put to use by the faculty during the last four years?
As soon as a mathematical result is proved, the students are made to workout problems based on the result so that the result is well understood.
- B. Write up of improvement in learning by innovative methods: --
The practice mentioned "A" had good impact on learning concepts.
- C. Record of recognition to the faculty due recognition for innovation in teaching :
Appreciation is recorded in Departmental committee meeting.
- 2.3.12 Record of actions for creating e a culture of instilling and nurturing creativity and scientific temper among the learners :
Student seminars, projects and solving exercises instill and nurture creativity and scientific temper.
- 2.3.13 A. Record of student projects (if mandatory in each of the learning programme) :
Available in the department. (File no. 2.3.13)
- B. Number of projects executed within the university :
In the year 2012-13: 28
- C. Names of external institutions associated with the University for Student Project Work : None.
- D. Role of faculty in facilitating such projects :
Faculty guides the projects and give references and source of information.
- 2.3.14 A. Record of shortfall in qualified faculty to meet the requirements of the curriculum
Permanent Faculty shortfall exists.
- B. Record of actions for shortfall supplementation
*Three visiting Faculty are invited. (sanctions available in the department).
 The school has planned to appoint contractual fulltime Faculty in July 2013.
 Permanent Faculty positions are expected to be filled by Sept. 2013*
- 2.3.15 Number of percentage of faculty enabled to prepare computer-aided teaching/ learning materials : 100%
- 2.3.16 A. Record of Student feedback for evaluation of teachers by the students
Available in the department and also uploaded on the website of the university

IQAC.

B. Record of Alumni feedback for evaluation of teachers by the students

File No. 1.1.5 D

C. Methods used and Impact of the evaluation feedback used to improve the quality of the teaching-learning process

Students and alumni feedback on teachers is passed to the teachers for necessary actions and improvements.

2.4 Teacher Quality

2.4.1 Record of how the plan and management of human resources was done to meet the changing requirements of the curriculum

Allotment of course based on specialization of the faculty.

2.4.3 Diversity in its faculty recruitment

Department / School	% of faculty from the same university	% of faculty from other universities within the State	% of faculty from universities outside the State	% of faculty from other countries
School of Mathematics	33%	0	66%	0

2.4.4 A. List of qualified faculty appointed for new programmes/emerging areas of study (Bio-technology, Bio-informatics, Material Science, Nanotechnology, Comparative Media Studies, Information Technology, Diaspora Studies, Forensic Computing, Educational Leadership, etc.)? : *NA*

B. Number of faculty members appointed to teach new programmes during the last four years : *none*

2.4.5 List of academic recharge and rejuvenation of teachers

A. List of faculty availed and provided research grants by the University *None*

B. List of faculty availed and on study leave : *None*

C. List of faculty nominated to national/international conferences/seminars, in-service training, organizing national/international conferences etc.

Dr. Mahesh N. Dumaldar to attend International conference on Numerical Linear Algebra at IIT Guwahati held in Jan 2013.

2.4.7 List of faculty received awards / recognitions for excellence in teaching at the state, national and international level during the last four years : *Nil*

2.4.8 List of faculty underwent staff development programmes during the last four years (add any other programme if necessary)?

Academic Staff Development Programmes	Number of faculty
Refresher courses	0
HRD programmes	0
Orientation programmes	0
Staff training conducted by the university	3
Staff training conducted by other institutions	0
Summer / Winter schools, workshops, etc.	0

2.4.9 Percentage of the faculty have

- * been invited as resource persons in Workshops / Seminars / Conferences organized by external professional agencies = 33%
- * participated in external Workshops / Seminars / Conferences recognized by national/ international professional bodies = 66%
- * presented papers in Workshops / Seminars / Conferences conducted or recognized by professional agencies = 0 %
- * teaching experience in other universities / national institutions and other institutions = 0 %
- * industrial engagement = 0%
- * international experience in teaching = 33%

2.4.10 List and details of organization of academic development programmes (e.g.: curriculum development, teaching-learning methods, examination reforms, content / knowledge management, etc.) for its faculty aimed at enriching the teaching-learning process :

Workshop on Teaching Learning Process held on 10.05.2013.

2.4.11 A. List of faculty encouraged

- * Mobility of faculty between universities for teaching: *Nil.*
- * Faculty exchange programmes with national and international bodies: *Nil.*

B. Record of schemes helping in enriching the quality of the faculty by such mobility and faculty exchanges

: *None*

2.5 Evaluation Process and Reforms

2.5.3 A. Record of time taken by the department for declaration of examination

results each semester

Results are declared within ten days after each test and end semester comprehensive viva voce .

B. Record of means adopted for the mode / media adopted for the publication of examination results (Website, SMS, email, etc.).

Displayed on the departmental notice board and hosted on website.

2.5.4 A. Record of ensuring transparency in the evaluation process

Evaluated answer sheets are shown to the students after each class test and end semester examination.

B. Measures taken to ensure confidentiality

Each faculty member types question papers himself/herself. The envelope is opened ten minutes before the commencement of the examination by the paper setter whose is also present there.

C. Record of the Pre-examination processes – Examination Time table generation, student list generation, Invigilators, Attendance sheet,

Available in the department.

(File no, 2.5. 4 C)

D. Results of students course wise and its analysis

Class	Year	No. of Students	Division		
			I With Distinction	I	II
M.A./M.Sc.	2010-11	16	03	09	04
M.A./M.Sc.	2011-12	19	03	14	02
M.A./M.Sc.	2012-13	28	04	19	05

(File no. 2.5.4D)

2.6. Student Performance and Learning Outcomes

2.6.1 A. Write up of articulation of its Graduate Attributes of the department

Mathematical training students get in the department is useful to perform well in competitive examinations and to perform quality research. Reasonable number of students clear national level examinations like NET/GATE.

B. Record of facilitation of monitor the implementation and outcome
Monitored by the Faculty.

2.6.2 A. Record of learning outcomes for its academic programmes
Alumni of the Department is occupying key positions in national and international organizations. Following table illustrates few such instances.

Name	Present Status
11. Gaurav Singh	Senior Research Scientist: CSIRO, Australia
12. Diptui Dubey	Research Scholar, IIT Delhi
13. Pallavi Mahale	Ph.D. IIT Madras
14. Devendra Rajput	CSP, Madhya Pradesh Police, Bhopal
15. Sree Dulla	Software Engineer, USA.
16. Janki Varandani Nagrani	Officer at Bank of India
17. Rohit Pathak	Faculty at IET, DAVV, Indore.
18. Sufia Aziz	Faculty at IET, DAVV, Indore.
19. Gajendra Ujjainkar	Faculty at Govt. PG college Dhar.
20. Seema Gupta	Faculty at Amity University, Noida

B. Record of making students and staff are made aware of these
(File 2.6.2B)

2.6.3 Write up of department teaching, learning and assessment strategies structured to facilitate the achievement of the intended learning outcomes

Department courses are designed to handle aspects like, strengthening basic concepts, introducing students to advanced mathematics. These aspects are handled through regular and rigorous teaching which is augmented by student centric activities like group discussions, seminars on topics related to curriculum but not part of the curriculum. To make students familiar with mathematical software, computer oriented projects are assigned in the last semester.

Assessment is in accordance with Ordinance 31 i.e., Class tests, assignments and End-Semester Examination followed by Comprehensive Viva-voce.

2.6.4 Record of collection and analysis of data on student learning outcomes and use it to overcome the barriers to learning
(File no. 2.6.4)

2.6.5 Write up of new technologies deployed by the department in enhancing student learning and evaluation and how does it seek to meet fresh/ future

challenges

Students are advised to refer online study materials to be acquainted with recent developments in the topics covered in the curriculum.

2.6.6 Any other information regarding Teaching, Learning and Evaluation which the department would like to include.

Students after completing PG in Mathematics are well versed in core subjects like Analysis, Algebra, Linear Algebra, Topology and are able to pursue higher studies in elite institutes.

CRITERION III: RESEARCH, CONSULTANCY AND EXTENSION

III.1 Year-wises Publications in the department:

Dr. K.N. Rajeswari

S. No.	Title of the published research paper Name of the Authors	Editors Name, Title, Volume, and Page number	Publishing Company	ISSN/ISBN
1	An upper bound on separable index of certain $SL(3)$ - modules	Editor : Steve Kirkland Linear & Multilinear Algebra vol.57(6),2008,633-640.	Taylor& Francis	ISSN:0308-1087, Impact factor: 0.73
2	(with Rafia Aziz) Relative strong cleanness of upper triangular matrices,	Editor: S.Nenov International Journalof Pure and Applied Mathematics Vol. 46, No. 5, 2008,691-695	Academic Publications	ISSN:1311-8080 Impact factor:0.25 H-index: 17
3	On Determinants of 3×3 matrices with non-negative integer entries and fixed column sums,	Editor:S.S.Chandel Varahamihir Journal of Mathematical Sciences Vol.8,No.2, 2008.	Sandipani Academy	ISSN:0972-7329
4	(with Rafia Aziz) A note on clean-matrices in $M_2(Z)$,	Editor: Emil Minchev International Journal of Algebra Vol.3, No.5, 241-248,2009	Hikari Ltd	ISSN:1312-8868 Impact factor:.23
5	with Rafia Aziz)Certain Units in $M_2(Z)$ which are uniquely clean	Editor : D.K.Kachhara Research Journal in Pure Algebra, Vol.1(3),58-70,2011	Online	ISSN:2248-9037
6	(with Rafia Aziz) Strongly Clean Matrices in $M_2(Z)$, An Intrinsic Characterization,	Editor:D.K.Kachhara International Journal of Mathematical Archive, vol. 2(7),1159-1166,2011.	Online	ISSN:2229-5046
7	(with Rafia Aziz)Uniquely Clean Idempotent 2×2 matrices over Integral domains	Editor:D.K.Kachhara International Journal of Mathematical Archive,vol.3(7),2012,	Online	ISSN:2229-5046

Dr. D.K. Panchal

S. No.	Title of the published research paper Name of the Authors	Editors Name, Title, Volume, and Page number	Publishing Company	ISSN/ISBN
1	(with Naresh Berwal & C.L.Parihar) Some aspects of wavelet's and it's applications.	Journal of Social Developments.Vol. 11, No. 2 ,Page 737-749	Serial Publication	ISSN:0972-3692
2	Naresh Berwal, C.L. Parihar, D.K. Panchal ; Solution of L-C-R equation based on Haar Wavelet	Italian Journal of pure and applied mathematics;Vol. 29 .		ISSN:2239-0227
3	Naresh Berwal, C.L. Parihar,	Le Mathematics (journal of pure and applied mathematics and	University of Catania	ISSN:03733505, 20375298

	D.K. Panchal ; Solution of wave-like equation based on Haar Wavelet	information science; Vol. 67 f.2 pp 157-167.		
4	Naresh Berwal, C.L. Parihar, D.K. Panchal ; Solution of differential equation based on Haar operational method	Bulletin of pure and applied mathematics Rajasthan	Scientific Publishers Jodhapur	ISSN: 0973-5933
5	Naresh Berwal, C.L. Parihar, D.K. Panchal ; Solution of Heat –like equation BASED ON Haar wavelet	Journal of Rajsthan of physical sciences ; Vol. 11. No. 3 .pp 231-240.	Rajsthan academy of physical sciences	ISSN: 0912-6306
6	Naresh Berwal, C.L. Parihar, D.K. Panchal ; Haar Wavelet method for numerical solution of telegraph equation ;	Italian Journal of pure and applied Mathematics ;Vol.32		ISSN:2239-0227
7	Naresh Berwal, C.L. Parihar, D.K. Panchal ; Solution of partial differential equation Based on Haar Wavelet	Accepted in Applicable Analysis and discrete Mathematics		ISSN: 1452-8630

III.2 Number of papers published in peer reviewed journals (national / international)

:14

Monographs 0

Chapters in Books 0

Edited Books 0

Books with ISBN with details of publishers 0

Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.) 14

Citation Index – range / average

SNIP

SJR

Impact Factor – range / average : *Maximum 0 .73*

h-index

III.3 List and Records and Details of patents and income generated Nil

III.4 List and Record of Areas of consultancy and income generated Nil

III.5 List and Record of Faculty selected nationally/internationally to visit other laboratories in India and abroad. *Nil*

III.6 List and Record of Faculty serving in
National committees b) International committees c) Editorial Boards d) any other (please specify)

Nil

III.7 Research thrust area recognized by funding agencies for the department Funding agency grants : *Nil*.

III.8 Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies and grants received project-wise. *Nil*.

III.9 List and details of Inter-institutional collaborative projects and grants received. *Nil*.

All India collaboration b) International

III.10 List and details of Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, etc.; total grants received. *Nil*.

III.11 List and Details of Research facility / centre with

- state recognition
- national recognition
- international recognition

Nil.

III.12 List and details of Special research laboratories sponsored by / created by industry or corporate bodies

Nil.

3.1 Promotion of Research

3.1.1 A. Composition of Departmental Research Committee, List of members and minutes of its meeting

1. *Prof. Sheela Joshi, Dean , Faculty of Science*
2. *Prof. K.N.Rajeswari, Head , School of Mathematics and Chairperson , BOS(Maths)*
3. *Prof. Anupam Jain , VC nominee*
4. *Prof. C.L.Parihar*
5. *Dr. D.K.Panchal*
6. *Dr.Maneesha sakkale.*

B. Records of DRC regarding monitoring and addressing issues related to research

DRC monitored entrance test for Ph.D. in Nov. 2012

C. Record of DRC recommendations which have been implemented and their impact.

DRC selected candidates for admission to Ph.D. course work in January 2013.

File No. 3.1.1

3.1.2 Information of research centers in its affiliated / constituent colleges which are monitored by the DRC of the department

Holkar Science college and Kundkund Gyan peeth.

3.1.3 Details of the

- * advanced funds for the sanctioned projects
- * providing seed money
- * Simplification of procedures related to sanctions / purchases to be made by the investigators
- * Autonomy to the principal investigator/coordinator for utilizing overhead charges
- * Timely release of grants
- * Timely auditing
- * Submitted utilization certificates to the funding authorities

Nil

3.1.4 Record of interdisciplinary research promoted

- * with other departments /schools of the university and
- * collaboration with national/international institutes/industries Nil

3.1.5 Details of workshops/ training programmes/ sensitization programmes conducted by the department to promote a research culture on campus

➤ Mathematical Training & Talent Search Programme funded by National Board for Higher Mathematics(24-05-2009 to 21-06-2009)

- S. Kumaresan, Mumbai University, Mumbai.
- Ajit Kumar, Institute of Chemical Technology, Mumbai.

- K. Santaram, D.A.V.V., Indore
- K.N. Rajeswari, D.A.V.V., Indore
- M.N. Dumaldar, D.A.V.V., Indore.

➤ National workshop on “Linear Algebra & its applications” funded by National Board for Higher Mathematics(26-27th Nov. 2012)

List of speakers:

- Rajendra Bhatia, Indian Statistical Institute (ISI), New Delhi. (Recipient of Bhatnagar Award)
- Ravindra Bapat, Indian Statistical Institute (ISI), New Delhi. (Recipient of J.C. Bose Fellowship)
- P. Bhimasankaram, Indian School of Bussiness (ISB),Hyderabad
- Sk. Safiq Ahmad, Indian Institute of Technology (IIT), Indore.

➤ On the occasion of 125th birth anniversary of Srinivasa Ramanujan (Mathematics Day), one day seminar on Analytical Number Theory on 22nd Dec. 2012 funded by Madhya Pradesh Council of Science & Technology.

speaker:

- N. Saradha, Tata Institute of Fundamental Research, Mumbai.

Year and Date	Renowned Mathematicians and Shanti Swarup Bhatnagar Awardee		Topic
	Name	Organization	
2007, 8 th March	Dr. Sujatha Ramdaroi	T.I.F.R., Mumbai	Problems in Number Theory: Simple yet sophisticated
2007, 10 th March	Dr. Kalyanmoy Deb	IIT, Kanpur	Multiobjective Evolutionary Optimization for Scientific and Engineering Problem Solving.

- 3.1.6 A. Details of visits of researchers of eminence to visit the campus as adjunct professors
 B. Impact of such efforts on the research activities of the university
None
- 3.1.7 A. Percentage of the total budget of the department which is earmarked for research : *Nil*
 B. Details of heads of expenditure, financial allocation and actual utilization
Nil
- 3.1.8 A. Details of University funded research and awarded Post Doctoral Fellowships/Research Associate ships: *Nil*
 B. List of students registered with record of source of funding by the university and other sources
None
- 3.1.10 A. List and percentage of faculty which have utilized the sabbatical leave for pursuit of higher research in premier institutions within the country and abroad
Nil
 B. Record of the output of these scholars
None
- 3.1.11 A. Details with photographs of national and international conferences organized : *Available on the departmental website.*
 B. List highlighting the names of eminent scientists/scholars who participated in these events.
- Rajendra Bhatia, Indian Statistical Institute (ISI), New Delhi.
(Recipient of Bhatnagar Award)
 - Ravindra Bapat, Indian Statistical Institute (ISI), New Delhi.
(Recipient of J.C. Bose Fellowship)
 - P. Bhimasankaram, Indian School of Bussiness (ISB),Hyderabad
 - Sk. Safiq Ahmad, Indian Institute of Technology (IIT), Indore.
 - N. Saradha, Tata Institute of Fundamental Research, Mumbai.
- File no. 3.1.11

3.2 Resource Mobilization for Research

UGC granted Rs. 2 lacs in XIth plan to the department for books and Rs. 3 lacs for computers.

3.2.1 Record of Financial provisions made in the university budget for supporting students' research projects

: Nil

3.2.2 A. Record of special efforts to encourage its faculty to file for patents

B. List of registered and accepted patents.

: Nil

3.2.3 Details of ongoing research projects of faculty: Nil

	Year wise	Number	Name of the project	Name of the funding agency	Total grant received
A. University awarded projects					
Minor projects					
Major projects					
B. Other agencies - national and international (specify)					
Minor projects					
Major projects					

3.2.4 A. Record of projects sponsored by the industry/corporate houses

B. Details such as the name of the project, funding agency and grants received.

: Nil

3.2.5 A. Details of Department recognition for their research activities by national / international agencies (UGC-SAP, CAS; Department with Potential for Excellence; DST-FIST; DBT, ICSSR, ICHR, ICPR, etc.) and the quantum of assistance received :

The department has been receiving library grant from National Board for Higher Mathematics (NBHM). The grant sanctioned for the year 2012-13 is about 8.5 lacs.

B. Record of any two significant outcomes or breakthroughs achieved by this recognition.

: Nil

3.2.6 List details of

- a. Research projects completed and grants received (funded by National/International agencies).
- b. Inter-institutional collaborative projects and grants received
 - i) All India collaboration
 - ii) International

: Nil

3.3 Research Facilities

3.3.1 A. Infrastructure in the department to facilitate research

Internet facility provided by IT centre and INFLIBNET facility provided by central library.

B. Strategies have been evolved to meet the needs of researchers in emerging disciplines :

Encouraging good students to participate in special training programmes in Mathematics

3.3.2 A. Information and Resources catering to the needs of researchers of the department

B. Details of the facility : *Library and Internet facility.*

3.3.3 Record of University Science Instrumentation Centre (USIC) facilities been made available to research scholars

Not required for research in Mathematics.

3.3.4 Record of provision of residential facilities (with computer and internet facilities) for research scholars, post-doctoral fellows, research associates, summer fellows of various academies and visiting scientists (national/international)

Hostels and Guest houses, with wifi facility, are available.

3.3.5 Details of Uses of the Facilities of IUC, CAT, NRCS, IIT Indore and other specialized Research Centers for research

Not required for research in Mathematics.

3.4 Research Publications and Awards

3.4.1 Research journal published, if any, from the department(s)? If yes, indicate the composition of the editorial board, editorial policies and state whether it/they is/are listed in any international database.

No.

3.4.2 Details of publications by the faculty:

- * Number of papers published in peer reviewed journals (national / international) : 14
- * Monographs : 0
- * Chapters in Books : 0
- * Books edited : 0
- * Books with ISBN with details of publishers : 0
- * Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, EBSCO host, etc.)
- * Citation Index - range / average
- * SNIP
- * SJR
- * Impact Factor - range / average : *Maximum 0.73*
- * h-index

3.4.3 Details of

- * faculty serving on the editorial boards of national and international journals
- * faculty serving as members of steering committees of international conferences recognized by reputed organizations / societies

: *None*

3.4.4 Details of

- * research awards received by the faculty and students
- * national and international recognition received by the faculty from reputed professional bodies and agencies

: *None*

3.4.5 A. Number of successful M.Phil. and Ph.D. scholars guided per faculty during the last four years

Name of faculty	No. of successful M.Phil students 2009-2013	No. of successful Ph.D. scholars 2009-2013
Dr. K.N. Rajeswari	5	1
Dr. M.N. Dumaldar	4	0
Dr. D.K. Panchal	1	0

B. University participate in *Shodhganga* by depositing the Ph.D. theses with INFLIBNET for electronic dissemination through open access

: *Yes, through central library.*

3.4.6 A. Record of Promotion of interdisciplinary research *Nil.*

B. Number of interdepartmental / interdisciplinary research projects undertaken *Nil.*

C. Mention the number of departments involved in such endeavours

: *None*

3.4.8 List of University instituted research awards to the faculty of the Department

: *None*

3.4.9 Details of incentives given to the faculty for receiving state, national and international recognition for research contributions

: *None*

3.5 Consultancy

3.5.1 Important consultancies undertaken by the department during the last four years. *None*

3.5.2 A. Department participation in university-industry cell. *None.*

B. If yes, what is its scope and range of activities

3.5.3 Record of publicizing the expertise of the department for consultancy services
Departmental website.

3.6 Extension Activities and Institutional Social Responsibility (ISR)

3.6.1 A. Department records of sensitization of faculty and students on its Institutional Social Responsibilities

Encouraging students to participate in

1. Blood donation camps

2. *Khan river cleaning drive in March 2013*

3. *Campus cleaning drive.*

B. List the social outreach programmes which have created an impact on students' campus experience during the last four years.

3.6.2 Promotion of neighborhood network and student engagement and holistic development of students and sustained community development?

3.6.3 Record of participation of the students and faculty in extension activities including participation in NSS, NCC, YRC and other National/ International programmes

3.6.4 Records of tracking the students' involvement in various social movements / activities which promote citizenship roles

1. *Interdepartmental games (from February 28 to March 02, 2013).*

2. *Convocation ceremony of University. (19.02.2013).*

3. *Khan river cleanliness drive*

4. *Campus cleanliness.*

5. *Blood donation camps*

3.6.5 Write up of the values inculcated and skills learnt during extension activities.
Leadership, social responsibilities, civic sense, environment consciousness.,

3.6.6 Department community in its outreach activities

3.6.7 Details of awards received by the institution for extension activities and/contributions to social/community development during the last four years

Nil.

3.7 Collaboration

A. MOU Copies and Record of collaboration with other agencies impacted the visibility, identity and diversity of activities on campus

B. Record of benefits academically and financially because of collaborations

3.7.2 Records of linkages resulted in

* Curriculum development : *Yes*

- * Internship
- * On-the-job training
- * Faculty exchange and development
- * Research : *Yes*
- * Publication : *Yes*
- * Consultancy
- * Extension
- * Student placement : *Yes*
- * Any other (please specify)

(File no. 3.7.2)

3.7.3 A. Copy of MoUs with institutions of national/international importance/other universities/ industries/corporate houses etc.

None.

B. Record of enhanced the research and development activities

None.

3.7.4 Have the university-industry interactions resulted in the establishment / creation of highly specialized laboratories / facilities?

NA

3.7.5 Any other information regarding Research, Consultancy and Extension, which the university would like to include.

The department is the regional centre for conducting NBHM M.Sc./Ph.D. scholarship examinations which are held twice a year.

CRITERION IV: INFRASTRUCTURE AND LEARNING RESOURCES

4.1 Physical Facilities

4.1.1 A. Details of Department physical infrastructure

- *Water cooler with water purifying system.*
- *AC in Class room & Head's Chamber.*
- *Photocopier cum scanner cum printer*
- *24 Computers with internet connection and a few printers.*
- *Space available to the department : 334 sq. meters*

B. Maintenance of Laboratories for its optimal utilization

Yes

C. Maintenance of Computers for its optimal utilization: *Yes*

D. Maintenance of UPSes, Power Supplies : *Yes*

E. Maintenance of support services, sanitation, first aid boxes : *Yes*

F. Maintenance of building, garden, indoor games structure : *Yes, by university administration*

4.1.2 Record of new initiatives for Infrastructure to promote a good teaching-learning environment-

Use of Internet, Wi-fi, Power Point Projectors, Video Equipment etc.,

4.1.3 Physical ambience for the faculty in terms of adequate research laboratories, computing facilities and allied services

Good Computer and internet facilities.

4.1.4 List of Facilities like office room, common room and separate rest rooms for women students and staff :

Office rooms are provided. No common room and rest rooms for women student and staff.

4.1.5 List of the infrastructure facilities are disabled-friendly

Internet access for blind students is available at IT centre.

4.1.6 Departmental special facilities are available on campus to promote students' interest in sports and cultural events/activities

Department of sports has excellent facilities for promotion of sports. There is Yoga centre, excellent air-conditioned auditorium with seating capacity 1100 for organizing cultural events.

4.2 Library as a Learning Resource

4.2.1 Details of departmental library facilities:

4.2.2 Provide details of the departmental library:

- * Total area of the library (in Sq. Mts.) : 50
- * Total seating capacity :20
- * Working hours (on working days, on holidays, before examination, during examination, during vacation) : *10:30 am to 5:30 pm on working days.*
- * Layout of the library (individual reading carrels, lounge area for browsing and relaxed reading, IT zone for accessing e-resources)
- * Clear and prominent display of floor plan
- * Adequate sign boards;
- * Fire alarm: *Planned in 2013-14.*
- * Access to differently-abled users and
- * Mode of access to collection
Automation planned in 2013-14.

4.2.3 Departmental library holdings:

- a) Print (books, back volumes and theses) : *Books 1410+M.Phil dissertations : 64 and Ph.D. theses 2*
- b) Average number of books added during the last three years : **120**
- c) Non Print (Audio Video, CDs, Downloaded Articles) *available with Faculty.*
- d) Electronic (e-books, e-journals) : *Available through INFLIBNET and also in the department.*
- e) Special collections (e.g. text books, reference books, standards, patents)

Complimentary copies received from National Board for Higher Mathematics about 177.

Central library is within easy reach. It has good number of mathematics books.

4.2.4 Records of tools the library deploys to provide access to the collection

- * OPAC
- * Electronic Resource Management package for e-journals

- * Federated searching tools to search articles in multiple databases
- * Library Website
- * In-house/remote access to e-publications

Central Library provides these facilities

4.2.5 Use of ICT deployed in the library

- * Library automation : *In progress*
- * Total number of computers for public access :
- * Total numbers of printers for public access :
- * Internet band width speed □ 2mbps □ 10 mbps □ 1 GB ✓
- * Institutional Repository
- * Content management system for e-learning
- * Participation in resource sharing networks/consortia (like INFLIBNET)

4.2.6 Details (per year) with regard to

- * Ratio of library books to students enrolled : *19:1*
- * Average number of books added during the last four years : *120*
- * Assistance in searching Databases
- * INFLIBNET/IUC facilities :
Inflibnet facility is available in the department.

4.2.8 Annual departmental library budget and the amount spent for purchasing new books and journals.

Year	National Board for Higher Mathematics Library Grant		UGC XI plan Book Grant 2007-2012
2008-2009	Rs. 6,50,000/-		
2009-2010	Rs. 7,00,000/-		Rs. 2,00,000/-
2010-2011	Rs. 7,50,000/-		
Total	Rs. 21,00,000/-		Rs. 2,00,000/-
Grand Total*	Rs. 23,00,000/-		

**Records of amount spent are with the Central Library.*

4.3 IT Infrastructure

4.3.1 Details of Department IT and ICT Infrastructure

Classrooms are equipped with LCD projectors and all computers are connected to internet.

4.3.2 Details of the computing facilities i.e., hardware and software.

- Number of systems with individual configurations : 24
- Computer-student ratio 1:5
- Dedicated computing facilities
- LAN facility :
- Proprietary software
- Number of nodes/ computers with internet facility : 24
- Any other (please specify)

4.3.3 Plans and strategies for deploying and upgrading the IT infrastructure and associated facilities

Upgradation of computer lab, buying mathematical softwares.

4.3.4 Details on access to on-line teaching and learning resources and other knowledge and information database/packages provided to the staff and students for quality teaching, learning and research.

Students are asked to refer online study material, video lectures and mathematical softwares.

4.3.5 IT facilities available to individual teachers for effective teaching and quality research :

Internet facility is available to all teachers.

4.3.8 A. Details of ICT-enabled classrooms/learning spaces available : 02

B. Record of utilization for enhancing the quality of teaching and learning

Expert lectures are through power point presentations.

4.3.9 Records of Faculty and computer- aided teaching-learning materials

There is computer oriented project work in the last semester.

4.3.10 Department availing of the National Knowledge Network connectivity

Yes, through IT centre.

4.3.12 Record of Availing of web resources such as Wikipedia, dictionary and other education enhancing resources

These are used while preparing research documents, lectures etc.,

4.3.13 Department budget for the update, deployment and maintenance of computers

University provides maintenance.

4.3.14 Details of plans envisioned for the gradual transfer of teaching and learning from closed university information network to open environment

The Department plans to upload study material, lecture notes and lecture videos.

4.4 Any other information regarding Infrastructure and Learning Resources which the university would like to include.

CRITERION V: STUDENT SUPPORT AND PROGRESSION

5.1 Student Mentoring and Support

5.1.1 Department system, structural and functional characteristics for student support and mentoring

Faculty and staff is always available for any type of assistance to students.

5.1.2 Record of 'apart from classroom interaction', the provisions available for academic mentoring

Tutorials and discussions.

5.1.3 Record of department students utilization of personal enhancement and development schemes such as career counseling, soft skill development, career-path-identification, and orientation to well-being for its students.

Students capabilities are assessed and suitable career path is indicated.

5.1.4 Department publish its updated prospectus and handbook info annually on website and online access of course plans, syllabi and result :

Yes. Available on University website.

5.1.5 A. Records of the Timely dissipation of financial aid

C. Tables for type and number of scholarships/free-ships given to the students during the last four years the following categories:
UG/PG/M.Phil/Ph.D./Diploma/others

Scholarships are distributed as and when received from the government.

5.1.6 Table of percentages of students receive financial assistance from state government, central government and other national agencies (Kishore Vaigyanik Protsahan Yojana (KVPY), SN Bose Fellow, etc.)

Single Girl Child Scholarship – Shalini Jha in 2010-2012.

5.1.7 Department use of International Student Cell, number and list of foreign students

None

5.1.8 Department support services available for

- * Students participating in various competitions/conferences in India and abroad

- * Physically challenged / differently-abled students
Support from students' welfare dept. of the university exists.
- * SC/ST, OBC and economically weaker sections
Support from the MP State Govt.
- * Health centre, health insurance etc.
Health centre is situated in the campus.
- * Skill development (spoken English, computer literacy, etc.)
Available through career counseling cell and opportunity cell.
- * performance enhancement for slow learners
Tutorials and assignments.
- * Exposure of students to other institutions of higher learning/
corporate/business houses, etc.
Students participate in advanced training programmes held in national institutes.
- * publication of student magazines
Planned in 2013-14.
- * Record of student participation in sports and extracurricular activities
The list of students, participated in sports and extracurricular activities conducted by the university, is available in the Department.
(File no. 5.1.8)

5.1.9 Placement Records

(File no. 5.1.9)

5.1.10 Number of students selected during campus interviews by different employers (list the employers and the number of companies who visited the campus during the last four years).

Campus Placements for mathematics students do not take place.

5.1.11 A. Record of registered Alumni Association

University has registered Alumni Association.

B. Record of activities and contributions to the development of the department

Alumni contribute to certain academic/administrative tasks.

C. Record of alumni meets

Planned in August 2013.

5.1.12 A. Committee members and record of student grievance redressal.

All the members of the department are members of the committee and address to grievances of students immediately.

B. Details of the nature of grievances reported and the redressal

Mainly regarding tests/examinations schedules, class timings and difficulties in understanding certain topics.

These are addressed to by adjusting schedules suiting their convenience and explaining the topics once again

5.1.13 A. Record of anti-ragging committee :

Committee exist and members are as follows.

Dr. K.N. Rajeswari

Dr. M.N. Dumaldar

Dr. D. K. Panchal.

B. List of instances reported during the last four years and what action has been taken in these cases :

Nil

5.1.14 Details of the cooperation rendered by parents, industry and its stakeholders to ensure the overall development of its students

Informal discussions are held and feedback is used in improving the functioning of the Department.

5.1.18 A. List of participation of women students in intra- and inter-institutional sports competitions and cultural activities

(File no. 5.1.8)

5.2 Student Progression

5.2.1 Analysis of progression and trends for the last four years.

Student Progression	2009	2010	2011	2012
	%	%	%	%
UG to PG*	NA	NA	NA	NA
PG to M.Phil.*	20	0	19	16
PG to Ph.D.	0	0	0	0
Ph.D. to Post-Doctoral	0	0	0	0
Employed				
• Campus selection	0	0	0	0
• Other than campus recruitment	50	60	62	55

- 5.2.2 Programme-wise pass percentage during the time span stipulated :
95% on average
- 5.2.3 Records of Number and percentage of students who appeared/qualified in examinations like UGC-CSIR-NET, UGC-NET, SLET, ATE / CAT / GRE / TOFEL / GMAT / Central / State services, Defense, Civil Services, etc.
: Not available
- 5.2.4 List category-wise with details regarding the number of Ph.D./D.Litt./D.Sc. theses submitted/ accepted/ resubmitted/ rejected in the last four years
General Category- 01-Ph.D. thesis accepted.

5.3 Student Participation and Activities

- 5.3.1 A. List the range of sports, cultural and extracurricular activities available to students
Sport activities are conducted by Department of Physical education & sport section of the University. Extra curricular/cultural activities are conducted by Students' welfare department and EMRC.
- B. Sports and extracurricular calendar and details of students' participation.
Calendar is decided by the university sport section and Students' welfare department. The Mathematics department nominates interested candidates for participation in these activities.
- 5.3.2 Details of the achievements of department students in co-curricular, extracurricular and cultural activities at different levels: University / State / Zonal / National / International, etc. during the last four years.
Nil.
- 5.3.3 A. Gathered data and feedback from pass-out graduates
B. Gathered data and feedback from employers
C. Use of the data for the growth and development of the department
Being gathered.
- 5.3.4 Department special drives / campaigns for its faculty and students to promote heritage consciousness
Nil.

- 5.3.5 A. Records of Department involvement and encourage its students to publish materials like catalogues, wall magazines, departmental magazine, and other material
B. List the major publications/ materials brought out by the students during the last four academic sessions.
Nil.
- 5.3.6 A. Departmental Student and Alumni association or any other similar body
The Alumni group exists on Facebook since 2009.
B. Details on its constitution, activities and funding.
- 5.3.7 Details of student representatives in Board of Studies, various academic and administrative bodies
Student who tops in the first year becomes a BOS member in the following year.

5.3.8 Any other information regarding Student Support and Progression which the university would like to include.

CRITERION VI: GOVERNANCE, LEADERSHIP AND MANAGEMENT

6.1 Institutional Vision and Leadership

- 6.1.1 State the vision and the mission of the department in line with the University

Enhance career opportunities of students by making curriculum skill oriented and prepare students to meet challenges in the field.

- 6.1.2 Mission statement definition for the department's distinctive characteristics in terms of addressing the needs of the society, the students it seeks to serve, the institution's tradition and value orientations, its vision for the future,

Making curriculum skill oriented and prepare students to meet challenges in the field of Mathematics.

- 6.1.3 Write-up of

* ensuring the organization's management system development, implementation and continuous improvement

- * interacting with its stakeholders
- * Reinforcing a culture of excellence
- * identifying organizational needs and striving to fulfill them

The Department takes feedback from various stakeholders into account to monitor the functioning of the Department.

6.1.4 Records of Departmental and other committees meetings :

Available in the department

File No. 3.1.1

6.1.6 Write-up of a culture of participative decisions in the department :

All major decisions are taken in departmental meetings.

File No. 3.1.1

6.1.7 Record of Grooming leadership at various levels

Class coordinator and representative are appointed.

6.1.10 Record of knowledge management strategy

Handouts of teaching material, Cds, Web resources, and PPTs are available.

(File no. 6.1.10)

6.1.11 Write up on

- * Contributing to national development
- * Fostering global competencies among students
- * Inculcating a sound value system among students
- * Promoting use of technology
- * Quest for excellence

Alumni of the department have been serving the Nation in various capacities. For instance, in various teaching institutes(private as well as govt.), in Government Organizations, Research Institutions, Industries and Planning Organizations. Students are appraised of professional ethics and encouraged to use advanced technology to excel in their career.

6.2 Strategy Development and Deployment

6.2.1 Perspective plan for development and write-up of policies and strategies to

- * work for Vision and for achieving the mission
- * Enhancing Teaching and learning

- * Enhancing Research and development
- * Enhancing Community engagement
- * Enhancing Human resource planning and development
- * Enhancing Industry interaction
- * Enhancing Internationalisation

The Department plans to regularly update the syllabi keeping current trends in view to achieve the mission. The teachers are encouraged to participate in conferences and advanced training programmes for teachers and researchers conducted by the National Board for Higher Mathematics. They are also encouraged to get research projects.

6.2.2 Departmental organizational structure and decision making processes and their effectiveness.

Decision making process is participatory in nature which is quite effective in smooth functioning of the department.

6.2.3 Write up of functioning independently and autonomously and ensure accountability

Independence and autonomy is provided to the teachers by ordinance 31 and accountable to complete the syllabi, conduct exams on time.

6.2.5 Record of last four years, have there been any instances of court cases filed by and against the department, What were the critical issues and verdicts of the courts on these issues :

None

6.2.6 Performance audit of the department by external experts

Academic audit was done in 2009 and 2012 by experts.

(File No. 1.1.2 D)

6.3 Faculty Empowerment Strategies

6.3.1 Outcome of the reviews of self appraisal and PBAS and important decisions taken on that

Out come is Good and suggestions given are followed.

6.3.3 List of teachers availing welfare schemes available for teaching and non-teaching staff.

Dr. Mahesh N. Dumaldar is a member of the university empolyee's cooperative society.

Non-teaching staff avail welfare schemes like Grain loan, House loan, PF loan etc.,

6.3.4 List and number of attracted and retained eminent faculty in last 4 years

Nil.

6.3.5 Gender audit during the last four years of the department achievements and pass percentages and its salient findings.

(File no. 6.3.5)

6.4 Financial Management and Resource Mobilization

6.4.1 Statements of audited income and expenditure of academic and administrative activities of the last four years.

Available in the department.

(File no. 6.4.1)

6.4.5 Efforts taken by the department for resource mobilization.

Efforts resulted in getting NBHM library grant since several years and UGC library & infrastructure grant.

6.4.6 Record of endowment funds created

Created by the university.

6.5 Internal Quality Assurance System

6.5.1 Details of department internal quality assurance and sustenance system, give details.

- *Students' feedback is taken regularly and concerned faculty is asked to take necessary action.*
- *Retired Professors of the Department are invited as visiting faculty to maintain Academic Standards.*
- *Quality issues were discussed at University Workshops on Sept. 26, 2012, May 10, 2013 and May 15, 2013.*

6.5.2 Internal workshops to improve teaching, learning and evaluation

Workshop on Teaching Learning Process held on 10.05.2013.

6.5.3 Record of continuously review the teaching learning process

Through regular meetings.

File No. 3.1.1

6.5.4 **Any other information regarding Governance, Leadership and Management which the university would like to include.**

Academic autonomy, Transparency in evaluation, Semester grade system.

CRITERIA VII: INNOVATIONS AND BEST PRACTICES

7.1 Environment Consciousness

7.1.1 Department Area Green Audit details :

Area available to the department: 334 sq. meters.

There is a common garden beside the building where the department is situated.

7.1.2 Departmental initiative to make the campus eco-friendly?

*** Energy conservation :**

Replacing tubelights by CFL lamps and using energy saving equipments like AC with 5 star energy saving ranking.

*** Use of renewable energy**

*** Water harvesting**

*** Check dam construction**

*** Efforts for Carbon neutrality**

*** Plantation**

Undertaken by the students.

*** Hazardous waste management**

*** e-waste management**

Done through IET.

*** any other (please specify)**

7.2 Innovations

7.2.1 Give details of innovations introduced during the last four years which have created a positive impact on the functioning of the department

Use of e-resources has positive impact.

7.3 Best Practices

7.3.1 Give details of any two best practices which have contributed to better academic and administrative functioning of the department.

- 1. Timely completion of syllabus, conduct of examinations and declaration of results.*
- 2. Encouraging student participation during teaching*
- 3. Taking faculty and non-teaching staff into confidence while taking decisions.*

Format for Record of Best Practices of the department

1. Title of the Practice

This title should capture the keywords that describe the practice.

2. Objectives of the Practice

What are the objectives / intended outcomes of this “best practice” and what are the underlying principles or concepts of this practice (in about 100 words)?

3. The Context

What were the contextual features or challenging issues that needed to be addressed in designing and implementing this practice (in about 150 words)?

4. The Practice

Describe the practice and its uniqueness in the context of India higher education. What were the constraints / limitations, if any, faced (in about 400 words)?

5. Evidence of Success

Provide evidence of success such as performance against targets and benchmarks, review results. What do these results indicate? Describe in about 200 words.

6. Problems Encountered and Resources Required

Please identify the problems encountered and resources required to implement the practice (in about 150 words).

7. Notes

Optional. Please add any other information that may be relevant for adopting/ implementing the Best Practice in other institutions (in about 150 words).