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## **EVALUATIVE REPORT OF THE DEPARTMENT**



## **Department of Mathematics**



1. **Name of the Department : Mathematics**

2. **Year of establishment :** Department of Maths was established in 1993 in St.Peter's Engineering College which was declared as Deemed to be University in 2008.

3. **Is the department part of a School/ Faculty of the university**

Department of the University

4. **Names of the Programmes offered (UG, PG, Ph.D., Integrated Masters; Integrated Ph.D., D.Sc., D.Litt etc.)**

- M.Phil
- Ph.D

5. **Interdisciplinary programmes and departments involved**

Nil

6. **Courses in collaboration with other universities, industries, foreign institutions.**

Nil

7. **Details of programmes discontinued, if any.**

Nil

8. **Examination system with: Annual/Semester/Trimester/Choice Based credit system.**

Semester system and Choice Based Credit System (CBCS)

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

S. No	B.E / B.Tech	Semester	Subject / Code
1	I Year All Branches	I Semester	Mathematics – I/113MAT02 Mathematics – II/213MAT02
2	II Year All Branches	II / III Semester	Transforms and Partial Differential Equations/313MAT

3	ECE & Bio Med	II / IV Semester	Probability and Random Process / 413ECT01 & 413BMT01
4	Civil, EEE, AERO & EIE	II / IV Semester	NumericalMethods/413CET01/ 413EET01/413AET01/413EIT01
5	Mechanical	II / IV Semester	Statics and Numerical Method/413MET01
6	Chemical	II / IV Semester	Probability and Statistics/413CHT01
7	CSE & IT	II / IV Semester	Probability and Queueing Theory/413CST01/413ITT01
8	CSE	III / V Semester	Discrete Mathematics/513CST02
9	Chemical	III / V Semester	Numerical Methods/513CHT01
10	B.Arch	I / I Semester	Mathematics/113ART01
<b>S.No</b>	<b>M.E / M.Tech</b>	<b>Year</b>	<b>Subject / Code</b>
11	Structural Engg	I / I Semester	Advanced Numerical Methods/113SEPT01
12	Aero Engg	I / I Semester	Applied Mathematics/113ARPT01
13	Applied Electronics	I / I Semester	Applied Mathematics/113AEPT01
14	Bio-Medical	I / I Semester	Applied Mathematics/113BMPT01
15	CSE	I / I Semester	Applied Probability and Statistics/113CSPT01
16	Instrumentation Engg	I / I Semester	Applied Mathematics/113IEPT01
17	PED	I / I Semester	Applied Mathematics/113PEPT01
18	Bio – Tech	I / I Semester	Applied Statistics for Biotechnologists/113BTPT01
19	Chemical Engg	I / I Semester	Advanced Numerical Methods/113CHPT01
20	IT	I / I Semester	Applied Probability and Statistics/113ITPT01
21	M.B.A	I / I Semester	Applied Operation Research
22	M.B.A	I / II Semester	Statistics for Management / 113MBT02
23	M.C.A	I/II Semester	Foundations of ComputerApplications

**10. Number of Teaching posts sanctioned, Filled**

	<b>Sanctioned</b>	<b>Filled</b>	<b>Actual (including CAS &amp;MPS)</b>
Professors	1	1	1
Associate Professors	-	-	-
Asst. Professors	6	6	6
Others(Senior Professor)	-	1	1

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

<b>S. No</b>	<b>Name of the faculty</b>	<b>Qualification</b>	<b>Designation</b>	<b>Specialization</b>	<b>No. of years of Experience</b>	<b>No. of Ph.D/ M.Phil students under guidance</b>
1.	Dr. N. Srinivasan	B.Sc. , M.Sc M.Phil., Ph.D.	Prof & Head	Statistics and Discrete mathematics	37 Years 2 months	Ph.D -1 M.Phil: 20
2.	Dr. M. Ramalingam	B.Sc. , M.Sc M.Phil., Ph.D.	Dean of Science and Humanities & Sr.Professor	Stochastic process	47 Years	M.Phil: 15
3.	Ms. S. Cynthiya	B.Sc. , M.Sc M.Phil.	Assistant Professor	Numerical Methods	9 Years	M.Phil: 15
4.	Mr. M.V. Suresh	B.Sc., M.Sc., B.Ed., M.Phil.	Assistant Professor		1 Year	-
5.	Ms. K. Ashwini	B.Sc. , M.Sc M.Phil.	Assistant Professor	Operation Research	1 Year	-
6.	Mr.Balachandran	M.Sc., B.Ed., M.Phil.	Assistant Professor	Graph theory	-	-
7.	S.Anisha	M.Sc., M.Phil.,	Assistant Professor	Algebra	-	-
8.	V.Soma Sundram	M.Sc., M.Phil.	Assistant Professor	-	3 Years	-

**12. List of senior visiting faculty :**

Nil

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

M.Phil : 0%

**14. Programme-wise Student Teacher Ratio**

S. No	Program	Sanctioned strength	Student Teacher
1	M.Phil	35	5:1
2	Ph.D.	16	8:1

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

One

**16. Research thrust areas as recognized by major funding agencies.**

- Graph Theory
- Operational Research.

**17. 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, project title and grants received project-wise.**

Nil

**18. Inter-institutional collaborative projects and associated grants received**

- a) National Collaborat - Nil  
b) International Colla - Nil

**19. Departmental projects funded by DST-FIST; DBT, ICSSR, AICTE etc; total grants received.**

Nil

**20. Research facility/centre with**

- State recognition - Nil
- National recognition - Nil
- International recognition - Nil
- Others - Nil

S. No	Softwares available
1	MATLAB
2	LaTex

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

Nil

**22. Publications**

a) No. of paper published in peer reviewed journals (National/International)

Year	International Journal	National Journal	International Conference	National Conference	Total
2015	1	-	-	-	1
<b>Total</b>	1	-	-	-	1

**PUBLICATIONS IN INTERNATIONAL JOURNAL**

<b>2015</b>	
1	<b>Dr.N.Srinivasan and Dr.D.Iranian</b> “An Innovative approach for finding the optimal solution for Transportation” international Journal of Mathematical Archive (IJMA), IJMA-6264 Submitted Provisionally accepted.

- b) **Monographs** – Nil
- c) **Chapters in Books** : Nil
- d) **Edited Books** – 1

S.No.	Book Name
1.	Abstracts of the one day PG and M.Phil Students Technical Seminar in Applied Sciences and Engineering.- Organised by Science and Humanities.

e) **Books with ISBN with details of Publishers** –

<b>S.No.</b>	<b>Name of the Author</b>	<b>Title of the Book</b>	<b>ISBN No.</b>	<b>Publisher</b>
1.	Dr.N.Srinivasan, Dr.M.Ramalingam G.Balaji	Engg.Mathematics- I	93- 851260- 3-1	Bharathi Publishers
2.	Dr.N.Srinivasan, Dr.M.Ramalingam G.Balaji	Engg.Mathematics- II	93- 851260- 3-1	Bharathi Publishers

f) **Number listed in International Database(for e.g. web of science, scopus, Humanities International complete, Dare Database –International Social sciences Directory, EBSCO host, etc) – Nil**

g) **Citation Index - range/ average – Nil**

h) **SNIP - Nil**

i) **SJR - Nil**

j) **Impact factor - Range /average : Nil**

k) **H-index- Nil**

l) **Total Impact factor – Nil**

**23. Details of patents and income generated:**

Nil

**24. Areas of consultancy and income generated :**

Nil

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

Nil

**26. Faculty Serving in a) National Committees b) International Committees c) Editorial Boards**

**a) Faculty serving in National Committees**

<b>S.No</b>	<b>Name of the faculty</b>	<b>Details</b>
1	Dr.N.Srinivasan Prof &Head	Dr. N. Srinivasan, as a Nodal officer in M.H.R.D / Higher Education Survey in Universities from 2011.

**b) Faculty serving in International Committees : Nil**

**c) Editorial Boards : Nil**

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

Year	FDP	Training Prog.	Workshops	Seminars	Conference
2015	1	-	-	-	-
2014	9	-	-	-	-
2013	2	-	-	-	-
2012	4	-	-	-	-
2011	-	-	-	-	-
2010	-	-	-	-	-

S. No.	Date	Name of the Speaker	Participants	Topic
1.	09.04.15 Thursday 2 p.m	Dr.D.S.Ramachandra Murthy Vice Chancellor	1.Dr.N.Srinivasan 2.S.Cynthiya 3.M.V.Suresh 4.K.Ashwini	Assessment and Accreditation of Universities – By NAAC
2.	01.12.14 Monday 10.00 a.m	Prof.Dr.N.S.Venkataraman Formar Dean & Director, MIT, Anna University and Formar Director,TIFAC,DST,Government of India	1.Dr.N.Srinivasan 2.M.V.Suresh 3..K.Ashwini	How to Instill Quality in Technical Education – Practical Approach
3.	10.11.14 Monday 2.00p.m.	Dr.P.V.Senthil, Head – Department of Mechanical, SPU	1.Dr.N.Srinivasan 2.S.Cynthiya 3.M.V.Suresh 4.K.Ashwini	Innovative Teaching Methodology
4.	20.06.14 (Friday) 2pm	Dr.A.Thangaraja, Asso.Prof., Bio-Tech Dept., SPU	1.Dr.N.Srinivasan 2.S.Cynthiya 3.M.V.Suresh 4.K.Ashwini	Nanotechnology-Technology for the future
5.	18.06.14 Wednesday	1. Dr.D.S.Ramachandra Murthy Vice Chancellor	1.S.Cynthiya 2.M.V.Suresh 3.K.Ashwini	Academic and Research program for

	10.30a.m	2. Dr.L.Maheshkumar, Director (Academic) 3.Dr.M.Shanmugam, Registrar, SPU		2014-15
6.	28.04. 14 Monday 10.30 a.m	Dr.S.Gunasekara Dean R&D, SPU	1.D.L.Yamini Latha 2.S.Cynthiya 3.M.V.Suresh 4.K.Ashwini	New Facility materials characterizatio n using Spectroscopy
7.	21.4.14 Monday 10.30a.m	Dr.K.Kantharaj, Former Joint Director(Tamil Nadu State Aids Control Society), Dean (Bio- Medical), SPU	1.D.L.Yamini Latha 2.S.Cynthiya 3.M.V.Suresh 4.K.Ashwini	Management of Students in present environment
8.	07.04.14 Monday 2.00 p.m	Mr.Sabarish, Auditor	1.D.L.Yamini Latha 2.S.Cynthiya 3.M.V.Suresh 4.K.Ashwini 5.E.Shobana 6. T.N. Niveditha Dhevi	Awareness lecture on income tax, professional tax, provident fund and employees state insurance
9.	08.04.14 Tuesday 2.00 p.m	Dr.L.Maheshkumar, Director (Academic)	1.D.L.Yamini Latha 2.S.Cynthiya 3.M.V.Suresh 4.K.Ashwini 5.E.Shobana 6. T.N. Nivethitha Dhevi	Teaching – Learning process
10.	10.04.14 Thursda y 2.00p.m	Dr.D.S.Ramachandra Murthy, Vice chancellor	1.D.L.Yamini Latha 2.S.Cynthiya 3.M.V.Suresh 4.K.Ashwini 5.E.Shobana 6.T.N.Nivethi tha Dhevi	Preparing project proposals
11.	30.10.13	Dr.D.S.Ramachandra Murthy, Vice chancellor	1.Dr.N.Sriniv asan 2. D.L.Yamini Latha	Achieving academic excellence and high quality research
12.	1.10.13	Dr.S.Gunasekaran, Dean (R&D)	1.Dr.N.Sriniv asan 2.D.L.Yamini Latha	Concept development for inspiring innovation

13.	01.09.12 10.30 am to 4.30 pm	Dr.Sridhar Arumuga Swamy, Cbe 9442161065 Dr.Krishna Moorthy, Kalaimagal Arts College, Cbe 9944976324 Dr.Nazar, IIT Madras	1.Dr.N.Sriniv asan 2.S.Cynthiya	
14.	02.09.12 9.00 am to 1.30 pm	Dr.Sridhar Arumuga Swamy, Cbe Dr.Krishna Moorthy, Kalaimagal Arts College, Cbe Dr.Nazar, IIT Madras	Faculty members of SPU 1.Dr.N.Sriniv asan 2.S.Cynthiya	Personality Re- Engineering
15.	11.08.12	Dr.Kannan Girish Psychiatrist	1.Dr.N.Sriniv asan 2.S.Cynthiya	Motivation towards Teaching
16.	11.09.12	Prof.Nazar Kamal IIT – Madras, Chennai	1.Dr.N.Sriniv asan 2.S.Cynthiya	Personality Re- Engineering

## 28. 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

## 29. Awards / recognitions received at the national and international level by Faculty:

- **Awards and Recognition of Faculty : Nil**
- **Doctoral / post doctoral fellows : Nil**
- **Awards and Recognition of Students**

S.No.	Student Name & Class	Activity	Organized by	Period	Award Received
1	N.Raja M.Phil	Paper presentation in Technical seminar	St.Peter's University, Chennai	06/03/2013	First

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

Academic Year	Seminars	Conferences	Workshops/science day
2010-2011	-	-	1
2011- 2012	-	-	1
2012- 2013	-	-	1
2013- 2014	-	-	1
2014-2015	-	-	1
Total	-	-	5

S.No	Title of the program & period	Convenor/ Co-ordinator	National/ International	Funding Agency
1	National Science day Program 11/3/2011, 4/03/2013, 12/03/2014, 3/03/2015	Dr.N.Srinivasan Dr.S.Stella Mary Dr.Sayeeda Sultana Dr.S.Uma Maheswari	National	St.Peter's University

**31. Code of ethics for research followed by the departments:**

- Researchers must respect the rights, interests and dignity of participants and related persons in research.
- Research must be undertaken in accordance with any relevant common law or legislation.
- Informed consent should normally be obtained from participants.
- Consent itself should be given freely without force or coercion.
- Researchers have an obligation to protect research participants wherever possible from significant harm consequent upon the research.
- The confidentiality of information supplied by research participants and any agreement to grant anonymity to respondent should be respected

- All research involving human participants whether undertaken by academic staff, other university staff or students is to be subject to ethical approval.
- Both the design of research and its conduct should ensure integrity and quality.
- Research is to be undertaken subject to the principle of academic independence. Where any conflicts of interest or partiality arise, these must be clearly stated prior to ethical approval being obtained.

**32. Student profile programme-wise:**

Name of the Programme (refer to question no.4)	Applications received	Selected		Pass Percentage	
		Male	Female	Male	Female
<b>M.Phil</b>					
<b>2010-2011</b>	10	4	6	100	100
<b>2011-2012</b>	35	20	15	100	100
<b>2012-2013</b>	38	23	15	100	100
<b>2013-2014</b>	68	41	27	100	100
<b>2014-2015</b>	110	65	45	100	100

**33. Diversity of students**

Name of the Programme (refer to question no. 4)	% 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
<b>M.Phil</b>				
2010-2011	-	100%	-	-
2011-2012	-	100%	-	-
2012-2013	-	100%	-	-
2013-2014	-	100%	-	-
2014-2015	-	99%	1%	

- 34. How many students have cleared Civil services and Defense service examinations, NET, SLET, GATE and other competitive examinations? Give details category wise:**

Nil

- 35. Student progression for last 5 years**

Student progression	Percentage against enrolled				
	2010-11	2011-12	2012-13	2013-14	2014-15
UG to PG	-	-	-	-	-
PG to M.Phil.	-	-	-	-	-
PG to Ph.D.	-	-	-	-	-
M.Phil to Ph.D.	-	-	3%	-	-
Ph.D to post -Doctoral	-	-	-	-	-
Employed	-	-	8%	-	-
<ul style="list-style-type: none"> <li>• Campus selection</li> <li>• Other than campus recruitment</li> </ul>	70%	65%	60%	60%	60%

- 36. Diversity of staff.**

Percentage of faculty who are graduates	
of the same University	-
From other universities within the state	100%
From Universities from other states	-
From Universities outside the country	-

- 37. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period.**

Nil

- 38. Present details of departmental infrastructural facilities with regard to**

a) **Library-** Our department has a library having,

- 225 Mathematics books
- 250 student project reports
- 6 Question Banks
- 176 student project CDs
- Central Library having about 3040 books related to Mathematics subject.

b) **Internet facilities for staff and students – YES**

- Name of the Internet Provider : NKN + BSNL
- Bandwidth : 1 Gbps
- Computer with printer is available in the Department.

c) **Total number of class rooms – 2 classrooms for M.Phil**

d) **Students Laboratories: 1**

e) **Research Laboratories : 1**

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

a) **from the host institution/university**

S.No.	Registration Number	Name of the Ph.D Scholar
1	SP13MAD001	Ms. S.Kalaivani

b) **from other institutions/universities : Nil**

40. **Number of students receiving financial assistance from college, university, government or other agencies**

- 1 M.Phil student - Ms. C.Jenibha has been awarded Maulana Azad National fellowship for minority students for the year 2014 - 2015.
- 8 students got financial assistance from the university during the period 2011-2012 and 2012-2013

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

Not Applicable

**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?**

- Feed back is collected from faculty members on teaching – learning evaluation and were discussed in the department meeting and the best were implemented, Like (Assignments, important other university questions were distributed to the students.

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

- Student feedback for each course faculty member is obtained at the end of every semester.
- The Head of the department will provide appropriate suggestions/guidance to the faculty member based on the feedback received.

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

Curriculum and Syllabus are continuously reviewed and modified every academic year by Board of Studies based on the feedback and comments received from alumni.

**43. List the distinguished alumni of the department (maximum 10)**

<b>S. No</b>	<b>Name of the Alumni</b>	<b>Batch</b>	<b>Company</b>	<b>Position</b>
1	MS.E.Shobana	2011-2012	St.Peter's University	Assistant Professor
2	Ms.T.V.NivethidhaDhevi	2011-2012	St.Peter's University	Assistant Professor
3.	Ms.B.SriRanjini	2011-2012	St.Peter's University	Assistant Professor
4.	Mr.L.Vigneshwaran	2011-2012	St.Peter's University	Assistant Professor
5.	Mr.N.Dilli Babu	2011-2012	Government school	PG Asst.
6.	Mr.M.V.Suresh	2012-2013	St.Peter's	Assistant

			University	Professor
7.	Ms.K.Ashwini	2012-2013	St.Peter's University	Assistant Professor
8.	Mr.P.Vinayagam	2012-2013	SPCET	Assistant Professor

**44. Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts.**

**Details of Students enrichment programmes are given below**

S.No.	Event Name	Event Date	External Experts
<b>SPECIAL LECTURE ON NATIONAL SCIENCE DAY PROGRAMMES ORGANIZED FROM 2010-2015</b>			
1	National Science day	16/10/2014	Dr.S.Mohan,Former Vice Chancellor. PRIST UNIVERSITY

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

- Our faculty uses some of the modern teaching methodologies to improve the quality of the students. They include the use of LCD projector. Using PPT's the technical concepts were explained clearly.
- Faculty explains the methods and they solve the problems completely in the board.
- Conducting the slip test at the end of every hour of the class (explaining and solving the problems for 45 minutes and slip tests are conducted for the remaining 15 minutes.).
- Periodically unit tests are conducted in a cycle of three weeks.
- Student's seminar classes were conducted.
- For PG Students thrust areas were identified for their projects works.

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

The progress report has been sent to parents for every unit test and model exam.

- The slip test has been conducted for the failure students and class committee meeting is also conducted for improving students performance.
- Test – Three Unit tests, Pre Model Exam and a Model Exam is conducted a semester covering entire portions of the syllabus.
- 2 Quality assessments – Learning outcome is monitored through quality assessment by adopting the following evaluation methods.
- Assignment – assignments are given after completing each unit. Various tasks are given individually to complete within the stipulated time.
- Seminar – Seminars are assigned to the students with individual portion to monitor their level of understanding.
- Project Presentation – Students are monitored through conducting oral Presentation of their work.

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

- Students are encouraged to participate in various extension activities by joining University level NSS programme, paper presentation, Sports and extra curricular activities.
- Some of the faculty members take part in Social Service Activities through NSS.
- They Participate in University Cultural Programmes.

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

- Conducts periodic guest lectures and students seminars.
- Conducts Workshops both for faculty and students to help in acquiring the necessary skills for using modern tools and techniques.
- M.Phil students are insisted to prepare Dissertations on recent topics.

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

The Certification Body of TUV SUD South Asia Private Limited certifies that St.Peter's University has established and applies a Quality Management System and fulfilled the ISO 9001: 2008 which is effective from 2014-06-06.

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

- Department of Mathematics has started M.Phil (Mathematics) course from the academic year 2009-2010.
- The M.Phil syllabus is framed according to the latest development in Mathematics.
- The thrust areas of the department include the following: Topology, Analysis, Mathematics, , Optimization technique, Algebra, Graph theory, Fluid Dynamics

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

**Strengths:**

- First year for both semesters text books with the question banks are distributed to the students.For second and third year question banks are distributed .Formulae booklet are given to the students.
- Pre – Model Examination for all I / II (B.E/B.TECH) Students to make them to familiarize 3 units
- Work shop in Research Methodology.
- Counselling the students and advising them.
- Efficient sincere and Committed Teachers.

**Weakness:**

- Lack of research funding Project work.

**Challenges:**

- Few students do not have the required basic knowledge in mathematics. The challenge is to make all students like Mathematics in a span of few years by explaining to them the basic concepts and training them in mathematics in the Orientation Classes.
- Motivating the students towards research.

## 52. Future plans of the department

- To start M.Sc Mathematics
- To improve research and development activities in the department by inducting faculty with research background and getting grants from various funding agencies

### **PHOTO GALLERY**

#### **Science Day Programme**



**Workshop on Research Methodology**



**Faculty Development Programmes:**

