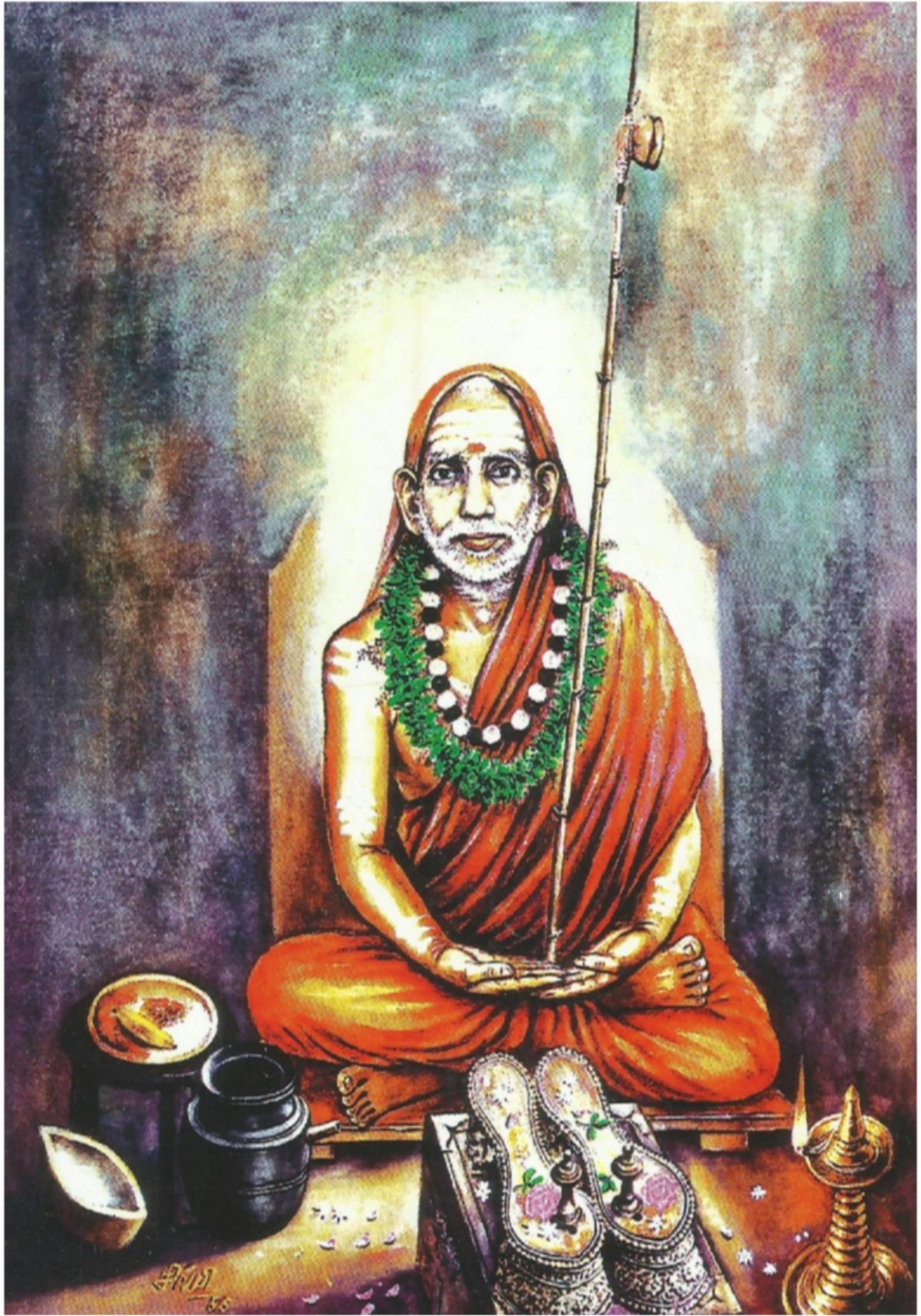


# DEPARTMENT OF MATHEMATICS

## PROFILE 2020-21



**SRI CHANDRASEKHARENDRASARASWATHI  
VISWA MAHAVIDYALAYA**  
(University established under sec. 3 of UGC Act.1956)  
ENATHUR, KANCHIPURAM-631561.



**Profile**

**Department of  
Mathematics**

## **About the Department**

### **Year of Establishment**

1994	Born as a component of Department of Science and Humanities.
1997	Ph.D., programme introduced.
2009	M.Phil. (Full time & Part time) programme commenced.
2010	First batch of the M.Phil. students passed out.
2012	M.Sc. (Mathematics) programme commenced.
2013	The department of Mathematics was separated from the department of Science and Humanities and given independent status.
2013	Sankara Ganitha Sastra Parishad (Mathematical Association) was born.
2014	Highest Intake of Students for Part time M.Phil.
2015	First batch of the M.Sc., full time passed out.
2015	Proposal to start B.Sc (Mathematics) programme was approved and Board of studies met to finalize the syllabus.
2018	First Batch of the B.Sc., students passed out.

## **PREFACE/PREAMBLE**

Mathematics is major contributor in the engineering field and its principles involves in the calculation, compilation, and graphical representation, design of experiments, statistical analysis and development and even in construction of nearly all of the electrical, electronic, mechanical, structural and computing devices and systems. Continued research and development have led to better computing processes (like Mat Lab) helping the mankind.

The Department of Mathematics at SCSVMV is as old as the institute itself. Its impact on the institute and on society is easily established by noticing the alignment of the department's evolution with key events and academic advances in the University. Today, the department of mathematics of SCSVMV attracts and features an extraordinary rich diversity and quantity of talented individuals, with nearly 17 M.Phil. graduates, 37 Post graduate students and 24 faculty members at present. The impressive array of students makes the department as one of the largest in the University.

The department provides the broad knowledge base required for engineers in present global application scenario. It takes the maximum advantage of the latest technologies and market opportunities to enrich the learners with updated and advanced know-how of modern technology. The main focus is concentrating on the significant modern developments in the application of engineering.

## Contents

<b>Sl. No</b>	<b>TOPICS</b>	<b>Page No</b>
1	<b>About the Department</b>	
2	<b>Preface /Preamble</b>	
3	<b>Vision and Mission Statement</b>	
4	<b>Objectives</b>	
5	<b>Academic Programs</b>	
6	<b>Current Student Strength</b>	
7	<b>Faculty Position</b>	
8	<b>Faculty Profile</b>	
9	<b>Remedial Measures</b>	
10	<b>Accessories</b>	
11	<b>Library</b>	
12	<b>Workload</b>	
13	<b>Proposed Academic Activities For the Academic Year 2021-2022</b>	
14	<b>Publications of Faculty Members</b>	
15	<b>Paper Presentation By the Faculty Members</b>	
16	<b>Curriculum</b>	
17	<b>Choice Based Credit System-For U.G And P.G (Mathematics) Programme</b>	
18	<b>Book Publication</b>	
19	<b>Teaching Staff Additional Responsibilities</b>	
20	<b>Research Colloquiums</b>	
21	<b>Awards Won By Faculty Members</b>	
22	<b>Out Reach Activity of Faculty Members</b>	
23	<b>Msc Project Detials</b>	
24	<b>Department minutes</b>	

# DEPARTMENT OF MATHEMATICS

## PROFILE 2020-21



**SRI CHANDRASEKHARENDRASARASWATHI  
VISWA MAHAVIDYALAYA**  
(University established under sec. 3 of UGC Act.1956)  
ENATHUR, KANCHIPURAM-631561.

**Vision**  
**&**  
**Mission**

## **Vision & Mission**

We envision our status to be a unique department of higher learning that offers quality education at an affordable cost in an inclusive manner, in the post-graduate and research level while imparting training in Mathematical software and Mathematical aptitude from time to time, to the Engineering students as well, thus helping the students to be up to date and job-worthy.

We hope to achieve this by producing quality mathematical research; providing teaching and extension services; upgrading the curriculum continuously; producing facilities for faculty development; and helping the development of mathematics faculty of other higher educational institutions by short term training programs, workshops seminars and lectures.

To influence the engineers with mathematical thinking and to develop the skill for applying the mathematical tricks to solve complicated engineering problems and to design mathematical models with a height involving global level technology.

Providing high quality graduate and professional programs of study with a wide spectrum of courses which attract the best students and cater to the mathematical needs of the university, industry and community alike.

Offering rigorous training to students so as to enable them to pursue higher studies or take up jobs that require a high degree of mathematical skill.

Involving graduates who have logical thinking and an aptitude for scientific research in frontier areas of mathematics and offering guidance up to doctoral level so as to support its own and other academic programmes of the university.

Striving to provide excellent teaching, research to serve the university and the community at large by enabling application of mathematics to other disciplines for which mathematical background is essential.

Creating interest in logics in mathematics, increasing the problem solving ability and to make the students aware of the application of mathematics in real-life problems, through the activities of the Mathematics Club (Sankara Ganitha Sastra Parishad).

# Objectives

## **Objectives**

To enhance the Laboratory based teaching to teach the application and theoretical concepts where ever possible, to ensure students volunteer themselves to learn the mathematical concepts with full interests.

To increase the use of ICT tools like MATLAB, some open source softwares and by way of using PPT, Video lectures and to use internet extensively to make the teaching - learning interesting.

To continue follow modern pedagogy methods of teaching in the class rooms.

To conduct national / international conferences so as to create avenues to learn from the experts from beyond our boundaries.

To create a plan to subscribe to various journals in the relative field of study.

To conduct training programs, workshops, lab programs to staffs and students of the various institutes in the region.

# **Academic Programmes**

## Academic Programs Offered

The department offers Doctoral, postgraduate and graduate level courses with the aim of providing a sound background in the areas of Mathematics.

Graduate Courses	:B.Sc (Mathematics)
Post Graduate Courses	:M.Sc(Mathematics)
Research Programs	:Ph.D.,(Full-TimePart Time)

### **M.Sc., Programme [Duration: 2 years/4 semester – FullTime ]**

Master of Science is a Post-Graduate Program for specializing in certain areas of Mathematics.

### **Ph.D. Programme**

The doctoral programme in mathematics offers students the possibility of doing intensive research in an area of their choice. It has been our constant endeavor to provide the best facilities and working environment to our research students.

## **Current Student Details (2020-21)**

<b>Course</b>	<b>No. of Students</b>
II M.Sc.,	10
I M.Sc.,	2
III B.Sc.,	33
II B.Sc.,	28
I B.Sc.,	3

# **Faculty Position**

## FACULTY POSITION

### List of Faculty Members with Designation & Area of Specialization

S.No	Name	Designation	Area of Specialization
1	Prof. Dr.K.Srinivasa Rao	Professor/HOD	Algebra
2	Dr.N.Saradha	Assistant Professor (Stage III)	Graph Theory
3	Dr. R.Malathi	Assistant Professor (Stage II)	Multi-valued logic
4	Dr. D.Vijayalakshmi	Assistant Professor (Stage II)	Graph Theory
5	Dr. E.Geetha	Assistant Professor(Stage II)	Fluid Dynamics
6	Dr. R.Mageswari	Assistant Professor (Stage II)	Graph Theory
7.	Dr. P.Nagarajan	Assistant Professor(Stage II)	Queuing Theory
8	Dr. P. Balaji	Assistant Professor (Stage II)	Petri Nets
9	Dr. S. Vijayabarathi	Assistant Professor (Stage II)	Algebra
10	Dr.K.Pramila	Assistant Professor (Stage II)	Fuzzy Set Theory
11	Dr. J. Sengamala Selvi	Assistant Professor (Stage I)	Applied Mathematics Using ICT
12	Dr. V.K.Radhakrishnan	Assistant Professor (Stage I)	Operation Research
13	Dr. A.Dhanalakshmi	Assistant Professor (Stage I)	Graph Theory
14	Dr.K.Bharathi	Assistant Professor(Stage I)	Operation Research
15	Dr. T.N.Kavitha	Assistant Professor (Stage I)	Algebra
16	Dr. A.Gayathri	Assistant Professor(Stage I)	Applied Mathematics
17	Mrs.B.Amudha	Teaching Assistant	Real Analysis
18	Mr.K.Saravanan	Teaching Assistant	Graph Theory
19	Mrs.A.Shakila	Teaching Assistant	Graph Theory
20	Mrs P.Revathi	Teaching Assistant	Graph theory
21	Mrs.G. Subhashree	Teaching Assistant	Graph theory
22	Mrs.N.Meenakshi	Teaching Assistant	Graph theory

# **Faculty Profile**

## Dr. K.Srinivasa Rao



Professor & Head Department of Mathematics,  
Sri Chandrasekharendra Saraswathi Viswa Mahavidyalaya,  
SCSVMV, Enathur, Kanchipuram 631561.  
Phone (Office): +91 44 27264301/308 Ext:231  
Mobile Number: 8870688896  
E-mail: [raokonda@kanchiuniv.ac.in](mailto:raokonda@kanchiuniv.ac.in)

<b>Name</b>	: Dr. K. Srinivasa Rao
<b>Father's Name</b>	: Veera Suryam
<b>Date of Birth</b>	: 15-04-1970
<b>Nationality</b>	: Indian
<b>Religion</b>	: Hindu
<b>Address for correspondence</b>	: Dr. K. Srinivasa Rao Professor & Head Dept., of Mathematics SCSVMV University, Enathur, Kanchipuram- 631 561, Tamilnadu, India.

### Educational Qualifications:

- Ph.D in Mathematics, from Acharya Nagarjuna University, Guntur, Andhra Pradesh, India, February 2010.
- M.Phil. in Mathematics with **First class**, M.K. University, Madurai, 2004
- Post Graduate Diploma in Computer Science with **First class** University of Hyderabad, Hyderabad, 2003
- Master of Science in Mathemaics with **Distinction**, Jawaharlal Nehru Technological University, Hyderabad, 1993.
- Bachelor of Science with **First Class** MVNJS&RVR College of Arts & Sciene, Malikipuram, Andhra University, Waltair, Vishakhapatnam, 1990
- Board of Intermediate Education with **First Class** Hyderabad, Andhra Pradesh, 1987
- Board of Secondary Education with **First Class** Andhra Pradesh, 1985.

## **Professional Experiences:**

1. At present working as an **Professor & HoD, Department of Mathematics** at S.C.S.V.M.V.University, Kanchipuram, Tamilnadu since 02-07-2012.
2. Worked as a **Principal** of Harshavardhana P G College of Computer Science, Cherukupalli, Guntur District during the period 20-05-2010 to 29-06-2012.
3. Worked as a **Professor and Head of the Department of Science and Humanities** at Adam's Engineering College, Paloncha, Khammam District, Andhra Pradesh during the period 1999-2010.
4. Taught Discrete Mathematics & Probability and Statistics subjects at University College of Engineering, Kakatiya University, Kothagudem as a Guest Lecturer for M.C.A students during the period 20<sup>th</sup> November 2003 to March 2010.
5. Worked as a Lecturer at M.V.N.J.S & R.V.R. Degree College, Malikipuram, East Godavari Dist during the period 1998-1999
6. Worked as a Lecturer at S.N.Raju Jr. College, Gudimellanka, East Godavari District, during the period 1996-1998
7. Worked as a Lecturer at Margadarshi Junior College, Karimnagar, Karimnagar District, during the period 1993-1996

No. of papers published in National/International Journals-43

No. of papers published in conference proceedings-11

No. of books published-04

No. of papers presented in National/International Conference-33

No. of seminars/workshops/conferences attended-45

No. of invited talks delivered/acted as resource Person:68

## **Recognitions**

1. Got Best Teacher award for the academic year 2016-17 from SCSVMV.
2. Received Best Paper Award in International Conference on Contemporary Approaches in Mathematics and Emerging Engineering Trends, organized by Vinayaka Missions University, held on 4-5, May 2017.
3. Got Best Scientist Award from International Multi research Foundation, on the eve of IMRF's 66th International gathering , International Conference on Advances in Mathematics, Computers & Physical Sciences at IMRF Chandigarh Chapter, Chandigarh on 22<sup>nd</sup> February 2018
4. Received Best Paper Award in International Conference on Mathematics, Statistics and Computer Science, at Asian Institute of Technology CC, Bangkok, Thailand, May 25-26,2018
5. Got IMRF Distinguished Inspiring Best Teacher Award -2020 from the International Multidisciplinary Research Foundation, Vijayawada, A.P., Indian on Sept 5th, 2020.

### **Programs Conducted:**

1. National Workshop on MATLAB Programming, 08-11-2014
2. National Seminar on Emerging Trends in Pure and Applied Mathematics, 24-02-2017
3. International Seminar on Fluid Mechanics, 06-03-2017
4. National Workshop on MATLAB in Applied Sciences, 15-16, September, 2017
5. Winter Refresher Course in Mathematics, 1-3 February, 2018
6. International Conference on Pure and Applied Mathematics, 19-20 February 2018
7. Annual Conference on History and Development of Mathematics, 27- 29, November, 2018
8. International Seminar on Astronomical Mathematics, 30th November, 2018
9. International conference on Pure and Applied Mathematics – II , 17-20 December 2018
10. International workshop on Graph theory and its Application , 20-21 December 2018.
11. International Seminar on Complex Analysis, 21-03-2019

### **Research Guidance:**

Six scholars completed their Ph.D degree

Three research scholars are doing their Ph.D Degree

22 Students completed their M.Phil degree

### **Administrative Brief:**

- Nodal Officer, UGC/AISHE
- Chairman-Statistics and Information Cell
- Worked as Assistant Chief Warden during 2014-2015
- Co-Coordinator, National Institute Ranking Framework (NIRF-2017 , 2018 & 2019, 2020 & 2021)
- Acted as Chief Superintendent, University Theory Examinations, March-June, 2017
- Co-coordinator-Curricular Aspects, Task Force Committee (TFC) in order to prepare of Self Study Report (SSR) for re-appraisal to NAAC.
- Member of Anti- Ragging Squad during 2014-2017
- Member of Students' Cabinet Advisory Committee from 2015 to till date
- Member of Students Counseling System from 2016 to till date
- Chairman- Board of Studies, Department of Mathematics, SCSVMV

## **Dr.N.Saradha**



Assistant Professor of Mathematics  
SCSVMV University,  
Enathur, Kanchipuram- 631 501  
Phone (Office): +91 44 27264301/308 Ext:231  
Mobile:9843888520  
Email id: [saaradha@yahoo.com](mailto:saaradha@yahoo.com)

### **Educational Qualifications:**

- Ph.D in Mathematics from SCSVMV University.
- M.Phil in Mathematics with First Class with distinction, Annamalai University.
- M.Sc in Mathematics with First Class with distinction, Seethalakshmi Ramaswamy College, Bharathidasan University, 1996 .Bharathidasan University
- B.Sc in Mathematics with First Class, Shrimathi Indra Gandhi College, Bharathidasan University,1994.

### **Professional Experiences:**

- Working as an Assistant Professor of Mathematics at SCSVMV University, Kanchipuram since 16, November – 1998

No. of papers published in National/International Journals-19

No. of papers presented in National/International Conference-13

No. of seminars/workshops/conferences attended:44

No. of programs acted as resource person within university – 4

### **Recognitions**

Won Global Teacher Award 2019. AKS worldwide PVT.LTD , New Delhi on 15<sup>th</sup> September 2019.

## **Resource Person**

- Acted as Convener cum Resource person for *One Day Workshop on Matlab and Its Applications* organized by Department of Mathematics, SCSVMV University, Kanchipuram on 10.02.2014.
- Acted as Resource person for *One Day Workshop on Matlab and Its Applications* organized by Department of Mathematics, SCSVMV University.
- Acted as Resource person for *One Day Workshop on Matlab and Its Applications* organized by Department of Mathematics, SCSVMV University, Kanchipuram on 12.10.2015
- Acted as Resource person for *Quality Enrichment Programme – III(QEP 2017)* organized by Department of Mathematics, SCSVMV University, Kanchipuram on 27.10.2017.

➤ B.E/BCA/B.Sc/BSCS

**Papers Taught** : Engineering Mathematics (All Semesters)  
Numerical Analysis, Business Statistics, Quantitative Techniques, Operations Research, Discrete Mathematics, Automata Theory, Probability, ODE, Complex Analysis & Statistics.

**Research Guidance** : Guided 26 M.Phil research scholars  
Guiding 1 M.Phil research scholar  
1 M.Sc research scholar.

## **RESEARCH INTERESTS INTER DISCIPLINARY**

Multi-valued logic  
Operations Research Modeling  
Network Models  
Linear Algebra Discrete Mathematics Applied  
Graph Theory Applied Mathematics Logical agents

No. of papers published in National/International Journals-21  
No. of papers published in conference proceedings-7  
No. of books published-8  
No. of papers presented in National/International Conference-23  
No. of seminars/workshops/conferences attended-48  
No. of invited talks delivered:3

## **EDITORIAL BOARD MEMBER**

Editorial board member of IJESIRD Journal.

## **MEMBERSHIP**

AMTI - Junior Mathematics Membership

Indian Society of Industrial and Applied Mathematics ( ISIAM ),

The Association of Mathematics Teachers of India (AMTI )

IAENG –International Association of Engineers

## **AWARDS RECEIVED**

- Received more than 300 API Score award on 05.09.2017, SCSVMV.
- Received Rs 1,000/- contribution to the best link between jaina logic and Multi-valued logic on 11.05.2017.
- Received Best Teacher Award on 26.09.2016, SCSVMV University.

**Dr.D.Vijayalakshmi**



Assistant Professor  
Department of Mathematics  
Sri Chandrasekarendra Saraswathi Viswa Mahavidhyalaya  
EnathurKanchipuram.  
Phone (Office): +91 44 27264301/308 Ext:231  
E-mail: guruviji97@gmail.com  
Mobile: 9445204713

**Fields of Research Interest**

- *Graph theory*
- Application of Graph theory

**Educational Qualification**

PhD	Department of Mathematics, Sri Chandrasekarendra Saraswathi Viswa MahaVidhyalaya Kanchipuram
Thesis	Application of Graph theoretical concepts in Protein Analyses
M.Phil	Alagappa University, Karaikudi Tamilnadu 2004, I class.
M.Sc	S.I.V.E.T Arts and Science College University of Madras Tamilnadu 2002, First Class.
B.Sc	Chellammal Women's College Guindy, Chennai University of Madras, Tamilnadu, 2000, First Class
Higher Secondary	Sri Sankara Vidhyalaya with <b>First Class</b> , State Board, 1997
Secondary	Sri SankaraVidhyalaya with <b>First Class</b> , State Board, 1995

## **Present Position**

Assistant Professor, Department of Mathematics, Sri Chandrasekarendra Saraswathi Viswa Mahavidhyalaya ,Enathur, Kanchipuram, Tamilnadu (2007- till date)

## **Professional Experience**

- Worked as a Lecturer at SIVET College Gowrivakkam, during the period April 2002-June2003.
- Worked as a Lecturer Chellammal women's college Guindy, during the period July 2003-April 2005.
- Worked as a Lecturer at New Shribhavani Arts and Science College during the period June2005-Dec2006
- Worked as a Lecturer at T.S.Narayana Swami College of Arts and Science College during the period Dec2006-July 2007.
- At present working as an Assistant Professor of Mathematics at SCSVMV University, Kanchipuram, Tamilnadu since 14-07-2007.

No. of papers published in National/International Journals-10

No. of papers published in conference proceedings-4

No. of papers presented in National/International Conference-17

No. of seminars/workshops/conferences attended-55

No. of M.Phil Scholars Guided: 14

## **Journal Publication**

1. Vijayalakshmi. D, Divya.K, **Distance Adjacency Matrix with Shortest Path and Protein Similarity/Dissimilarity** .Journal of Xi'an University of Architecture & Technology, VolumeXII, Issue V, 2020, ISSN No :1006-7930, 2474 – 2478

## **Paper Presentation**

1. Vijayalakshmi.D, presented paper titled” **Laplacian Matrix of stable Protein Graph and Protein Study**” in National e-Conference on Recent Advances in Applied Statistics organised by Department of Statistics, School of computational Sciences,Punyashlok Ahilyadevi holkar Solapur University, Solapur on 24.04.21.
2. Vijayalakshmi D presented paper titled “**A Graph theoretical Approach in Similarity/Dissimilarity Study of Proteins**”in “International Virtual Conference on Computational Mathematics-2K21”, organized byDepartment of Mathematics, PPG College of Arts and Science, Coimbatore, India held on 24.06.21-25.06.21

## **Attended**

1. Participated in One week Online workshop on “Image processing using MatLab” organised by Department of computer Science and Engineering & Department of Information Technology of St Xavier’s Catholic college of Engineering held during 06.07.2020 to 11.07.20
2. Attended a webinar on “Introduction to R-programming using data analysis ” organised by Department of Mathematics with Computer Applications, Sri Malolan College Of Arts And Science held on 23-07-2020 through online pedagogy.
3. Participated in the “Webinar on Applications of Laplace Transforms in the Field of Engineering” organized by the Department of Science and Humanities, Nehru Institute of Engineering and Technology, Coimbatore on 13.08.2020.
4. Participated in Webinar on “Statistical Tools on engineering application” organized by Department of Mathematics , Arasu Engineering College Kumbakonam held on 24.02.21
5. Participated in the two days webinar organised by Indian Society for Probability and Statistics and Department of Mathematics & Department of Statistics, The Madura College , Madurai held during 13.03.21 – 14.03.21
6. Participated in Webinar on “Role of Women in Society” organized by Youth Red Cross , St, Joseph’s college of Arts and Science (Autonomus), held on 17.04.21
7. Participated in Webinar on “Real Time Applications of Mathematics in Engineering” organized by Department of Mathematics , Arasu Engineering College Kumbakonam held on 28.04.21.
8. Participated in Webinar on “Quantitative Aptitude and Reasoning skills” organized by Department of Mathematics , Arasu Engineering College Kumbakonam held on 30.04.21
9. Participated in Technical Webinar on “R – Programming for Descriptive Statistics“ organized by the Department of Mathematics, Dr. SNS Rajalakshmi College of Arts and Science, Coimbatore held on 03.06.21.
10. Participated in One Week Online Faculty Development Programme on “ Matlab And Its Applications ” organized by Department of Mathematics, Dr.N.G.P. Institute of Technology, Coimbatore during 07.06.21 – 12.06.21
11. Participated and successfully completed “7 Day International Professional Development Programme (PDP) on SPSS” Organized by PG & Research Department of Commerce (Shift-I) Patrician College of Arts & Science from 21.06.2021 to 27.06.2021.

**Dr.E.Geetha**



Assistant Professor  
Department of Mathematics,  
Sri Chandrasekharendra Saraswathi ViswaMahavidyalaya,  
SCSVMV, Enathur, Kanchipuram 631561.  
Phone (Office): +91 4427264301/308 Ext:231  
Email ID: [geethamuthu06@gmail.com](mailto:geethamuthu06@gmail.com), [egeetha@kanchiuniv.ac.in](mailto:egeetha@kanchiuniv.ac.in)

**Name** : **Dr.E.GEETHA**  
**Father Name** : S.T.Ellappan  
**Date of Birth** : 06.08.1982  
**Nationality** : Indian  
**Religion** : Hindu  
**Aadhar Number** : **5083 5309 7806**  
**Pan Number** : ATJPG9577G  
**Address for Correspondence** : No.26, Nithyanandhar Nagar, Kanchipuram 631502  
**Permanent address** : No.26, Nithyanandhar Nagar,  
Kanchipuram 631502

**Educational Qualification:**

TN-SET | 2016 | Mother Teresa Women's University, Kodaikanal  
Ph.D | 2014 | Manonmaniam Sundaranar University, Thirunelveli  
Mathematics- Fluid Dynamics  
M.Phil | 2006 | Alagappa University, Karaikudi  
Mathematics  
M.Sc. with Distinction | 2005 | Arcot Sri Mahalakshmi College – Thiruvalluvar university  
Mathematics  
B.Sc.with Distinction | 2003 | Arignar Anna Govt.Arts College, Walajapet - University of Madras  
Mathematics

### **Professional Experience:**

- Worked as a Lecturer in Arulmigu Meenakshi Amman College of Engineering, Kanchipuram from September 2005 to July 2007.
- Working as a Assistant Professor (Stage I) in Sri Chandrasekharendra Saraswathi Viswa MahaVidyalaya, Kanchipuram from July 2007 to July 2012.
- Working as a Assistant Professor (Stage II) in Sri Chandrasekharendra Saraswathi Viswa Maha Vidyalaya, Kanchipuram from July 2012 to till date.

### **Research experience:**

Ph.D: 2 (persuing)

M.Phil Guided: 18

M.Sc Project guided: 3

### **Reviewer for the following journals:**

Journal of Physics and chemistry of solids- Elsevier

Journal of Molecular Modeling-Springer

### **Member of Professional Bodies:**

Indian Mathematical Society, NewDelhi.

Indian Society of Industrial and Applied Mathematics

The Association of Mathematics Teachers of India

No. of papers published in National/International Journals-17

No. of papers presented in National/International Conference-18

No. of seminars/workshops/conferences attended-58

No. of FDP attended: 9

No. of Programs organized: 2

No. of M.Phil Scholars guided: 18

### **Resource Person:**

- Acted as a Resource person for the workshop on “MATLAB for Researchers” organized by Department of Mathematics at SCSVMV University on 12th Feb 2017.
- Acted as a Resource person for “Quality Enrichment Programme – III” organized by Department of Mathematics at SCSVMV University on 27th October 2017.
- Acted as a Chair person in “International Conference in Pure and Applied Mathematics” organized by Department of Mathematics at SCSVMV on 17<sup>th</sup> – 19<sup>th</sup> December 2018.
- Acted as a Chief guest for the Mathematics Department Association, conducted by Department of Mathematics, Dr.Puratchi Thalairar MGR arts and science college, Uthiramerur on 23.01.2019.

**Dr.R.Mageswari**



Assistant Professor  
Department of Mathematics,  
Sri Chandrasekharendra Saraswathi ViswaMahavidyalaya,  
SCSVMV, Enathur, Kanchipuram 631561.  
Phone (Office): +91 4427264301/308 Ext:231  
E-mail: [mageswari78@gmail.com](mailto:mageswari78@gmail.com):  
[rmageswari@kanchiuniv.ac.in](mailto:rmageswari@kanchiuniv.ac.in)

**Name** : Dr. R.Mageswari  
**Father's Name** : A.Rajapandian  
**Date of Birth** : 19.06.1978  
**Nationality** : Indian  
**Religion** : Hindu  
**Aadhar Number** : 5894 9093 5616  
**PAN Number** : AZTPM2307E  
**Designation** : Assistant Professor (S-II),  
Department of Mathematics,  
SCSVMV.  
**Address for correspondence** : Dr.R.Mageswari,  
Assistant Professor,  
Dept., of Mathematics SCSVMV,  
Enathur,  
Kanchipuram- 631 501.  
Tamilnadu, India  
Mobile Number: 9842853476  
**Permanent Address** : No.97, Arignar Anna Nagar,  
Enathur, Kanchipuram-631501.

## **Educational Qualifications:**

- **Ph.D** in Mathematics with distinction, SCSVMV , Enathur, Kanchipuram, 2018
- **M.Phil.** in Mathematics with *First class*, Aditanar College, M.S university, Tirunelveli, 2001.
- Master of Science in Mathematics with First class, Aditanar College, M.S University, Tirunelveli, 2000.
- Bachelor of Science with First Class Govindammal Aditanar College for Women, Tiruchendur, M.S. University, 1998.
- Board of Higher Secondary Education with First Class, Thisaiyanvilai, Tirunelveli District, Tamil Nadu, 1995.
- Board of Secondary Education with First Class, Thisaiyanvilai, Tirunelveli District, Tamil Nadu, 1993.

## **Professional Experiences:**

1. Worked as a Lecturer / Officer in Charge at Sri Jeyandra Saraswathi Centre, (Unit of SCSVMV) Kommadikottai, Thoothukudi District, during the period 2002-2007.
2. At present working as an Assistant Professor of Mathematics at SCSVMV, Kanchipuram, Tamilnadu since 2007.

## **Additional Responsibilities:**

1. Member - BOM - Sri Sankara Bagavathi Arts&Science College, Kommadikottai, since July 2007.
2. Warden - Bangaru Amman Ladies Hostel , SCSVMV - July 2007 - March 2009.
3. Visiting Warden - Bangaru Amman Ladies Hostel, SCSVMV - July 2011 - Sep.2012.
4. Chief Warden - Ladies Hostels, SCSVMV - Sep.2012- May 2013.
5. BOS – Member – Department of Mathematics, SCSVMV – 2014-2016.
6. Member – Women Cell, Green Cell, SCSVMV.
7. NSS Programme Officer since September 2017.
8. Member – Unnat Bharat Abhiyan 2.0 – Survey Coordination Committee, since April 2019.

No. of papers published in National/International Journals-11

No. of papers presented in National/International Conference-14

No. of seminars/workshops/conferences attended-58

No. of Programs organized: 5

No. of invited talks delivered: 3

**Dr.P.Nagarajan**



Assistant Professor

Department of Mathematics,  
Sri Chandrasekharendra Saraswathi ViswaMahavidyalaya,  
SCSVMV, Enathur, Kanchipuram 631561.  
Phone (Office): +91 4427264301/308 Ext:231  
E-mail: nagarajan@kanchiuniv.ac.in

**Name** : Dr.P.Nagarajan  
**Department** : Mathematics  
**Designation** : Assistant professor (stage-II)  
**Qualification** : M.sc., M.Phil., Ph.D  
**Area of research** : Queueing theory & Stochastic processes  
**Date of joining** : 23.08.2008  
**Pan Number** : AIYPN6790L  
**Aadhar Number** : 589700721464  
**Residential Address** : No. 28, 29, Adhi Sankarar Nagar,  
Enathur-631561, Kanchipuram  
**Permanent Address** : No. 66/29, East car Street,  
Chidambaram-608001  
**Contact number** : 93642900300, 9952788541

**Research activities:-**

Guided an student for M.Sc -Mathematics Project.

### **Educational Qualifications:**

- Ph.D in Queueing theory in part time mode from Annamalai University on December 2017..
- M.Phil in Mathematics with first class, thesis entitled “**An M/M/1 RetrialQueue with unreliable server**”. Annamali University, Annamalai Nagar,Chidambaram, Cuddalore district, Tamil Nadu, India, (Course completed 2008).
- M.Sc in Mathematics with first class, Annamalai University, Annamalai Nagar, Chidambaram, Cuddalore district, Tamil Nadu, India, (Course completed 2006)
- B.Sc in Mathematics with first class, Sri Karumariamman Government Arts College (Affiliated to University of Madras), C-Mulur, Cuddalore district, Tamil nadu, India (Course completed 2004).

### **Professional Experiences:**

Working as an Assistant Professor of Mathematics at SCSVMV University, Kanchipuram,Tamilnadu Since 23-07-2008. (13 years)

No. of papers published in National/International Journals- Nil

No. of papers published in National/International conference proceedings- Nil

No. of papers presented in National/International Conference-Nil

No. of seminars/workshops/conferences attended-02

No. of books published: Nil

No. of invited talks delivered: Nil

**Dr. P. Balaji**



Assistant Professor  
Department of Mathematics,  
Sri Chandrasekharendra Saraswathi Viswa Mahavidyalaya,  
SCSVMV, Enathur, Kanchipuram 631561.  
Phone (Office): +91 44 27264301/308 Ext:231  
E-mail: [pbr1002007@yahoo.com](mailto:pbr1002007@yahoo.com)

<b>Name</b>	:P.BALAJI
<b>Father's Name</b>	: S.Padmanaban
<b>Date of Birth</b>	:15.06.1972
<b>Nationality</b>	: Indian
<b>Religion</b>	: Hindu
<b>Address for correspondence</b>	: P.BALAJI Assistant Professor Dept., of Mathematics, SCSVMV University,Enathur, Kanchipuram- 631 561, Tamilnadu, India Mobile Number: +91 9486082115
<b>Permanent Address</b>	: P.BALAJI Plot no 19,Sri Rangaraja veethi, L.Kanchipuram- 631501

## **Educational Qualification**

- M.Sc.,(Mathematics) Degree 1 Class (Studied at Department of Mathematics, Bharathidasan University, Trichy), Regular Course in the year 1995
- M.Phil.,(Mathematics) Degree of Madurai Kamaraj University, Madurai in the year 2000
- PG CDA Course of Madurai Kamaraj University, Madurai in the year 2003 4. GATE-2001
- Rastrabhasa Praveen from Dakshina Bharathi Prachar Sabha, Chennai in the year 1995
- PhD Undergoing Phd(Part time-External) at Sathyabama university Chennai, under the guidance of Dr.Rangarajan of Bharath University, Chennai in Petri Nets area.

## **Teaching Experience:**

1. 7 Years and 3 months experience at Thiruvalluvar College of Engg and Technology, Vandavasi
2. 1 Year and 3 months experience at MNM Jain Engg.College, Chennai-96
3. 4 Years and 6 Months at Arulmigu Meenakshi Amman College of Engg., Kanchipuram.
4. 10Years experience at SCSVMV University, Kanchipuram.

No. of papers published in National/International Journals- 18 No. of papers presented in National/International Conference- 14 No. of seminars/workshops/conferences attended- 32  
No. of invited talks delivered: 3  
No. of programs organized: 1

## **Dr.S.Vijayarathi**



Assistant Professor  
Department of Mathematics,  
Sri Chandrasekharendra Saraswathi Viswa Mahavidyalaya,  
SCSVMV, Enathur, Kanchipuram 631561.  
Phone (Office): +91 44 27264301/308 Ext:231  
Email:vijayarathiguru @gmail.com.

<b>Name</b>	: S.Vijayarathi
<b>Father's Name</b>	: D.Shanmugam.
<b>Date of Birth</b>	: 24.06.1966
<b>Nationality</b>	: Indian
<b>Religion</b>	: Hindu
<b>Aadhar Number</b>	: 7344 9080 0340
<b>Pan Number</b>	: ALTPV0089L
<b>Address for correspondence</b>	: Mrs.S.Vijayarathi Assistant Professor, Dept., of Mathematics,SCSVMV University, Enathur, Kanchipuram- 631 561, Tamilnadu, India Mobile Number: +91 9789187704
<b>Permanent Address</b>	: Mrs.S.Vijayarathi 233 H,Govindasamy Street, Sudharsan nagar, Chinna Kanchipuram-631 501

### **Educational Qualifications:**

- Ph.D in algebra ( Mathematics) from SCSVMV University.
- M.Phil in Mathematics with First Class ,Alagappa University,2004.
- M.Sc in Mathematics with First Class, University of Madras, 1989.
- B.Sc in Mathematics with First Class, University of Madras,1987.
- B.Ed in Mathematics and English,Department of Collegiate Education, TamilNadu,1991.

### **Professional Experiences:**

- Worked as a PG Assistant in Siddhardha Senior Secondary School, Vellore,during the period 1989-1990.
- Worked as a PG Assistant in Desia Matriculation HrSec.School,Vellore,during the period 1991-1992.
- Worked as a Maths Lecturer in Annai Theresa Teacher training School, Madhurandagam,during the period 1992-1994.
- Worked as a PG Assistant in S.S.K.V.MatricHr.Sec.School, Kancheepuram,during the period 1995-2005
- Worked as a Lecturer in the Department of Mathematics,Sri Sankara Arts &Science College, Enathur,during the period 2005-2008.
- At present working as an Assistant Professor of Mathematics at SCSVMVUniversity, Kanchipuram since 31, August-2009.

No. of papers published in National/International Journals-9

No. of papers published in National/International conference proceedings-7 No. of papers presented in National/International Conference-8

No. of seminars/workshops/conferences attended-24No. of

books published:1

No. of invited talks delivered: 2

## **Dr.K.Pramila**



Assistant Professor  
Department of Mathematics,  
Sri Chandrasekharendra Saraswathi Viswa Mahavidyalaya,  
SCSVMV, Enathur, Kanchipuram 631561.  
Phone (Office): +91 44 27264301/308 Ext:231  
Email : [kpramila\\_74@yahoo.com](mailto:kpramila_74@yahoo.com)

### **Academic Brief**

- Completed Ph.D., in SCSVMV University in the area of application of fuzzy set theory.
- Completed M.Phil. (Mathematics) in Manonmaniam Sundaranar University in 2008
- Finished B.Ed. in IGNOU in the year 2004
- Completed M.Sc. (Mathematics) in Bharathidasan University in the year 1996
- Completed B.Sc., (Mathematics) in Bharathidasan University in the year 1994

### **Personal Profile**

**Name** : K.PRAMILA  
**Father's Name** : S.KALIYAMURTHY  
**Date of Birth** : 09-04-1974  
**Nationality** : Indian  
**Religion** : Hindu  
**Aadhar Number** : 9705 5445 9689  
**PAN Number** : BLYPP 3581 P  
**Address for Correspondence** : W/o M. SUNDARRAJAN  
167/2, Plot No.2, Saravana Nagar,  
Sevilimedu, Kanchipuram-631 501.

**Professional Experience** : 7 years of teaching experience in Higher Secondary Schools  
14 Years of teaching experience at UG and PG Level

**Courses Taught** : B.E., M.E., M.C.A., B.Sc., M.Phil.,  
**Research Guidance** : Guided - 20 M.Phil., Research Scholars  
2 M.Sc., Students.

No. of papers published in National/International Journals-12

No. of papers published in National/International conference proceedings-3

No. of papers presented in National/International Conference-15

No. of seminars/workshops/conferences attended-57

No. of books published: Part of a book

No. of programs acted as resource person: 1

## Dr.J.SENGAMALASELVI



Assistant Professor  
Department of Mathematics,  
Sri Chandrasekharendra Saraswathi Viswa Mahavidyalaya,  
SCSVMV, Enathur, Kanchipuram 631561.  
Phone (Office): +91 44 27264301/308 Ext:231  
E-mail: [Pavisneka@gmail.com](mailto:Pavisneka@gmail.com)

### Academic Brief

- Ph.D., in SCSVMV University in the area of Application of Mathematics in the year of Oct 2016.
- M.Phil. (Mathematics) with **First class** in Madurai Kamaraj University in 2009
- B.Ed. with **First class** in Chozhan Educational college, Madras University.
- M.Sc. (Mathematics) in Ramanujan Institute of Advance study in Mathematics, Madras University in the year 1997
- B.Sc., (Mathematics) with **First class** in Arignar Anna Govt. Arts and Science college, Cheyyar, Madras University in the year 1994

### PERSONAL PROFILE

<b>Name</b>	: J.Sengamalaselvi
<b>Fathers Name</b>	: M.Jagadeesan
<b>Date of birth</b>	: 06.06.1974
<b>Languages Known</b>	: Tamil, English
<b>Marital Status</b>	: Married
<b>Interests</b>	: Collecting and reading books in Delivering talks on Mathematics and Conducting Workshop on Mathematics with software
<b>Qualifications</b>	: M.Sc., B.Ed, M.Phil., Ph.D
<b>Occupation</b>	: Assistant Professor of Mathematics, SCSVMV
<b>Experience</b>	: 15+ Years in teaching Mathematics
<b>Pan card no</b>	: CIXPS0893N
<b>Aadhar card No</b>	: 812451928682

## **Professional Experiences:**

- Worked as a Teacher at, Govt. Girls Hsc. School, Uthiramerur Kanchipuram District, during the period 1997-2000
- Worked as a Teacher at SSKV HSc.School, Kanchipuram,during the period, 2000-2001.
- Worked as a Lecturer at Adiparashakthi Arts &Science College, Kalavai during the period 2001-2014.
- Worked as a Lecturer at Jei Mathajee Teacher Training Institute, Kanchipuram during the period 2004-2006.
- Worked as a lecturer at Jei Mathajee College of Engineering, Kanchipuram during the period 2006-2008.
- At present working as an Assistant Professor of Mathematics at SCSVMV University, Kanchipuram, Tamilnadu since 31.08.2009.

No. of papers published in National/International Journals-23

No. of papers presented in National/International Conference-33

No. of seminars/workshops/conferences attended-95

No. of workshops conducted/invited talks/ resource person: 30

No of awards received- 2

No of programs organized – 10

No of M.Phil students guided - 25

## Dr. Radhakrishnan V K



### Assistant Professor

Department of Mathematics

Sri Chandrasekharendra Saraswathi Viswa Mahavidyalaya (SCSVMV)  
Enathur, Kanchipuram 631561.

Phone (Office): +91 44 27264301/308 Ext:231

Official E-Mail: [vkradhakrishnan@kanchiuniv.ac.in](mailto:vkradhakrishnan@kanchiuniv.ac.in)

Personal E-Mail: [vkraiki@gmail.com](mailto:vkraiki@gmail.com)

**Name** : Dr. Radhakrishnan V K  
**Father's Name** : Mr. V. Kumar  
**Date of Birth** : 14 – September – 1987  
**Nationality** : Indian  
**Religion** : Hindu  
**Address for Correspondence** : # 27, 28 Kamatchi Amman Avenue  
Extension 1, Vishnu Kanchi  
Across Temple City  
Kanchipuram-631 501.  
**Mobile** : 9944369061

## **EDUCATIONAL QUALIFICATION**

### **Doctor of Philosophy (Ph.D.) in Mathematics September 2018**

**Thesis title:** Development of Optimal Network Model for Tourism and Queueing Management in Temples with Case Studies on Kanchipuram

**Institute:** Sri Chandrasekharendra Saraswathi Viswa Mahavidyalaya, Enathur, Kanchipuram.

### **Master of Business Administration (M.B.A) – Human Resource Management June 2012**

**Institute:** University of Madras – Distance Education

**Grade:** First Class – 63.2%

### **Master of Philosophy (M.Phil.) in Mathematics June 2011**

**Thesis title:** Application of Wavelets in Genetic Sequence Analysis

**Institute:** Sri Chandrasekharendra Saraswathi Viswa Mahavidyalaya, Enathur, Kanchipuram.

**Grade:** First Class – 8.70 (CGPA)

### **Master of Science (M.Sc.,) in Mathematics May 2009**

**Thesis title:** Fixed Point Theorems in Compact Space and Pseudo-Compact Tichonov Spaces

**Institute:** Madras Institute of Technology Campus, Anna University, Chrompet, Chennai.

**Grade:** First Class – 8.4 (CGPA)

### **Bachelor of Science (B.Sc.,) in Mathematics May 2007**

**Institute:** Pachaiyappa's College for Men, Kanchipuram – Affiliated to University of Madras

**Grade:** First Class – 74.3%

## **PROFESSIONAL EXPERIENCE**

- Currently working as an Assistant Professor of Mathematics in Sri Chandrasekharendra Saraswathi Viswa Mahavidyalaya from September 2010 to till date.
- Worked as Lecturer in the Department of Mathematics at Sri Sankara Arts & Science College, Enathur, Kanchipuram from August 2009 to August 2010.

## **RESEARCH GUIDANCE**

- Master of Philosophy – 16
- Master of Science – 3 (as of 2020 – 21 Academic Session)

## **PUBLICATIONS – JOURNALS / CONFERENCE PROCEEDINGS**

- National/International Journals – 9
- Proceedings of National / International Conferences – 7
- Papers Presented in National / International Conference – 15
- Seminars / Workshops / Training Programmes attended – 45

## **AWARDS AND HONORS**

- Best Paper Award received at the International Conference on Data Analytics & Mathematical Modeling organised by Department of Mathematics and Computer Science Engineering & IT, Aarupadai Veedu Institute of Technology, Chennai during May 5 and 6, 2016.
- Best Paper Award – First Prize (Cash Award of Rs. 5000/-) received at the National Conference on NXTGEN Developments on Computer Science and Mathematics organised by Department of Mathematics and Computer Science, Shree Chandrababhu Jain College, Minjur, Chennai in collaboration with ICTACT Journal, during September 29 and 30, 2016.
- Best Poster Award received at the International Conference on Functional Materials organised by Department of Physics, SCSVMV, Kanchipuram during March 2 and 3, 2017.

## **Dr. A. Dhanalakshmi**



Assistant Professor

Department of Mathematics,

Sri Chandrasekharendra Saraswathi ViswaMahavidyalaya,

SCSVMV, Enathur, Kanchipuram 631561.

Phone (Office): +91 4427264301/308 Ext:231

E-mail: [dhana\\_amaresan@yahoo.com](mailto:dhana_amaresan@yahoo.com)

**Name** : **A. DHANALAKSHMI**  
**Father's Name** : P. Amaresan  
**Date of Birth** : 11-07-1979  
**Nationality** : Indian  
**Religion** : Hindu  
**Date of Joining** : 29.06.2012  
**Address for correspondence** : A. DHANALAKSHMI,  
Assistant Professor,  
Dept., of Mathematics  
SCSVMV University,  
Enathur,  
Kanchipuram- 631 561,  
Tamilnadu, India  
Mobile Number: 9500538546  
**Permanent Address** : A. DHANALAKSHMI,  
20, Chengalvarayan Othavadai Street,  
Pillaiyarpalayam,  
Kancheepuram – 631 501.

## **EDUCATIONAL QUALIFICATIONS:**

- Qualified **SET** Examination in 2017.
- Ph.D in Mathematics, Title: Graph Theoretical Characterization of Some Chemical Structures For Finding Topological Indices as Molecular Descriptors in SCSVMV University, Enathur, Kancheepuram, 2017.
- M.Phil. in Mathematics with **First class**, Algappa University, 2004
- Master of Science in Mathemaics, Annamalai University, 2001.
- Bachelor of Science with **First Class** Pachaiyappa's College for Women, Kancheepuram, 1999.
- Board of Higher Secondary Education with **First Class**, Tamil Nadu, 1996
- Board of Secondary Education with **First Class**, Tamil Nadu, 1994

## **PROFESSIONAL EXPERIENCE:**

1. Worked as a Lecturer at Pattammal Alagesan College of Arts and Science, Athur, Chengalpat, during the period 2002-2006.
2. Worked as a Lecturer at Arupadaivedu Institute of Technology, Paiyanoor, Kancheepuram District, during the period 2006-2009.
3. Worked as a Lecturer at Shri Sapthagiri Institute of Technology, Ocheri, Vellore District, during the period 2010-2012
4. At present working as an Assistant Professor of Mathematics at SCSVMV University, Kanchipuram, Tamilnadu since 29-06-2012.

No. of papers published in National/International Journals-11

No. of papers published in National/International conference proceedings-12

No. of papers presented in National/International Conference-25

No. of seminars/workshops/conferences attended-72

No. of seminars/workshops/conferences organized- 6

No. of invited talks delivered-2

No. of Mphil students guided – 16

## **Resource Person:**

1. Acted as a **Resource Person** in the **National Workshop on Math Open Source Software(NWMOSS-2015)** held during 3<sup>rd</sup> and 4<sup>th</sup> of September 2015, Organised by Department of Mathematics, SCSVMV University, Kanchipuram.
2. Acted as a **Assistant Resource Person** in the **Workshop on Math with Matlab for Researchers** held on 7<sup>th</sup> of February 2016, Organised by Department of Mathematics, SCSVMV University, Kanchipuram.
3. Acted as a **Resource Person** in the **Workshop on Matlab and its applications** held on 24 September 2016, Organised by Department of Mathematics, SCSVMV University, Kanchipuram.
4. Acted as a **Resource Person** in the **Workshop on Transforms and Probability** held on 01 October 2016, Organised by Department of Mathematics, SCSVMV University, Kanchipuram.
5. Acted a **Resource Person** in the *Workshop on Matlab in Applied Sciences* organized by Department of Mathematics, SCSVMV University, Kanchipuram held on 15.09.2017 to 16.09.2017.
6. Acted as a Chair Person in the **National Workshop on Open Source Mathematics Software & its Applications**, organized by St. Peter's Institute of Higher Education and Research, Avadi, Chennai on 09.11.2018.
7. Acted a **Resource Person** in the **Faculty Development Programme on Computational tools : Megastat & Solver (MS-Excel Add-ins)** organized by Department of Mathematics, SCSVMV University, Kanchipuram held on 19<sup>th</sup> & 20<sup>th</sup> December 2019.

**Dr.K.Bharathi**



Assistant Professor

Department of Mathematics,  
Sri Chandrasekharendra Saraswathi Viswa Mahavidyalaya,  
SCSVMV, Enathur, Kanchipuram 631561.  
Phone (Office): +91 44 27264301/308 Ext:231  
E-mail: [03bharathi@gmail.com](mailto:03bharathi@gmail.com)

**Name** : K.BHARATHI  
**Father's Name** : M.Krishnamoorthy  
**Date of Birth** : 03-10-1982  
**Nationality** : Indian  
**Religion** : Hindu  
**Pan No** : BLQPB2708A  
**Aadhar No** : 961767047188  
**Address for correspondence** : K.BHARATHI,  
Assistant Professor,  
Dept., of Mathematics  
SCSVMV University,  
Enathur,Kanchipuram- 631501,  
Tamilnadu, India  
Mobile Number: 9894281989  
**Permanent Address** : K.BHARATHI,  
14,B,Desipalayam street,  
Kanchipuram 631 501.

**Educational Qualifications:**

- Ph.D in Mathematics, Title : Evolutionary Algorithm in Multi Objective Optimization, VIT, Chennai., 2018.
- M.Phil. in Mathematics with **First class**, VIT University, Vellore., 2007
- Master of Science in Mathemaics with **First class**, Thiruvalluvar University, 2006.
- Bachelor of Science with **First Class**, University of Madras, 2004
- Board of Higher Secondary Education with **First Class** Tamil Nadu, 2001
- Board of Secondary Education with **First Class**, Tamil Nadu, 1999.

**Professional Experiences:**

- Worked as a Lecturer at Thirumalai Engineering College, Kilambi, Kanchipuram – 631551, during the period 2008-2012.
- At present working as an Assistant Professor of Mathematics at SCSVMV, Kanchipuram, Tamilnadu since 06-07-2012.

No. of papers published in National/International Journals-7

No. of papers presented in National/International Conference-14

No. of seminars/workshops/conferences attended-53

No. of seminars/workshops/conferences organized: 4

**Dr.T.N.Kavitha**



Assistant Professor

Department of Mathematics,

Sri Chandrasekharendra Saraswathi Viswa Mahavidyalaya,

SCSVMV, Enathur, Kanchipuram 631501.

Phone (Office): +91 44 27264301/308 Ext:231

E-mail: tnkmaths@gmail.com

**Name** : Dr. T.N. KAVITHA

**Father's Name** : T.D. NARAYANASAMY

**Husband's Name** : P. Chandramohan

**Date of Birth** : 30. 07. 1974

**Nationality** : Indian

**Religion** : Hindu

**Address for correspondence: T.N. KAVITHA**

Assistant Professor

Dept., of Mathematics

SCSVMV University,

Enathur, Kanchipuram- 631 501,

Tamilnadu, India.

**Mobile Number:** 9952112346;

9952124112.

**Permanent Address** : T.N.KAVITHA

**W/O P. CHANDRAMOHAN**

48 Vallal Pachaiyappan Street,

Kanchipuram., Pin: 631 501, India

**Aadhar No.** : **897530417049**

**PAN No.** : ATKPK7564L

**Educational Qualifications:**

- Ph.D in Mathematics, entitled '**Semigroups With Special Algebraic Structures**', SCSVMV University, Enathur, Tamilnadu, India, (viva 25.10.2016)., October 2016.
- M.Phil. In Mathematics, **First class with distinction**, Periyar University, Salem, 2007
- Master of Science in Mathematics, Arignar Anna Arts And Science College, Cheyyar, University of Madras, Chennai, 2006.
- Bachelor of Science with **First Class**, Arignar Anna Arts And Science College, Cheyyar, University of Madras, Chennai, 1994
- Bachelor of education with **First Class with distinction**, Arulmigu Meenakshi Amman College Of Education, Uttiramerur, University Of Madras, Chennai, 2008
- Board of Intermediate Education with **First Class**, Cheyyar, T.V.Malai Dt, Tamilnadu, 1987
- Board of Secondary Education with **First Class**, Cheyyar, T.V.Malai Dt, Tamilnadu, 1985.

**Professional Experiences:**

1. Worked as a Assistant Professor & Head of the department of Mathematics at Sri Sankara Arts and Science College, Enathur, Kanchipuram, during the period, 6.6 .2008 to 15.07. 2012, 4 years
2. Worked as a PGT Assistant, Mathematics, M. L. M. Mamalan Matriculation School, Kanchipuram, during the period, 1.1. 2005 to 30.05. 2008, 3 years
3. Worked as a PGT Assistant, Mathematics, Infant Jesus metric hr. sec.school, Kanchipuram, during the period, 30.5.2004 to 25.5.2005, 1 year
4. Worked as a Principal, Sengunthar Matriculation School, Cheyyar, during the period, 1.6.1996 to 2.5.2004, 8 years
5. At present working as an Assistant Professor of Mathematics at SCSVMV University, Kanchipuram, Tamilnadu since 18-07-2012.

No. of papers published in National/International Journals-18

No. of papers published in National/International conference proceedings-15

No. of papers presented in National/International Conference-31

No. of seminars/workshops/conferences attended-57

No. of seminars/workshops/conferences organized: 181

No. of invited talks delivered: 20

No of books published-1, Book chapters - 6

No. of M.Phil Scholars guided-18

**Dr. A.Gayathri**



Assistant Professor

Department of Mathematics,  
Sri Chandrasekharendra Saraswathi Viswa Mahavidyalaya,  
SCSVMV, Enathur, Kanchipuram 631561.

Phone (Office): +91 44 27264301/308 Ext:231

E-mail: [ag@kanchiuniv.ac.in](mailto:ag@kanchiuniv.ac.in)

Name	:	<b>Dr.A.GAYATHRI</b>
Designation	:	Assistant Professor (Stage-I)
Date of Joining(SCSVMV)	:	03.09.2010 (First joined – to 2013) 21.07.2014 (Rejoined)
Total Teaching Experience	:	12 years
• In SCSVMV	:	09 years
• TNAU	:	03 years
Specialization	:	Mathematical Physics
Awards received	:	Silver Medalist (M.Phil - 2004) Best Paper Award (Int.Conf. - 2017) Best Thesis Award (Indo-Thai Award 2019) Women Researcher Award(2019)
7.M.Phil/M.Sc. Guidance	:	05
8. No. of handling years	:	13
9. Permanent Address	:	No.24, Rajaji Salai, Arignar Anna nagar , Vaiyavoor Road , Kanchipuram - 631561

## ***Profile 2020-2021***

### **Academic Details:**

- Completed **Ph.D** Mathematics, Sri Chandrasekherendra Saraswathi Viswa Mahavidhyalaya (SCSVMV) during **2014-2017**. [Part time]
- Secured **FIRST class** in **M.Phil., Mathematics**, Madurai Kamaraj University during **2003 – 2004**. [Silver medal]
- Secured **FIRST class** in **M.Sc., Mathematics**, Madurai Kamaraj University during 2001-2003
- Secured **FIRST class** in **B.Sc., Mathematics**, Madurai Kamaraj University during 1998-2001.

### **Academic Experience:**

- Working as Assistant Professor of Mathematics at Sri Chandrasekharendra Saraswathi Viswa Mahavidyalaya [SCSVMV], Enathur, Kanchipuram since **July 2014**.
- Worked as **Assistant Professor of Mathematics** at Ramco Institute of Technology, Rajapalayam, from **July 2013 to Dec 2013**.
- Worked as **Assistant Professor in Mathematics** at Sri Chandrasekharendra Saraswathi Viswa Mahavidyalaya [SCSVMV], Enathur, Kanchipuram, from **Sep 2010 to May 2013**.
- Worked as Senior Research Fellow in **Govt. Agricultural College and Research Institute**, Killikulam, Vallanad – 628 252, Tuticorin District under Tamil Nadu Agricultural University from **Sep 2005 to Apr 2008**.

### **Manuals Prepared:**

- Mathematics for Agricultural Sciences
- Introduction to Computer Technology
- Computer Applications
- Communications and Information Technology
- Agricultural Statistics
- Workshop Manual – MegaStat
- Lab Manual –Excel Solver
-

***Profile 2020-2021***

No. of papers published in National/International Journals-12

No. of papers published in National/International conference proceedings- 3

No. of papers presented in National/International Conference-12

No. of seminars/workshops/conferences attended- 43

No. of seminars/workshops/conferences organized - 2

No. of programs acted as resource person – 4

**Mrs. B.Amudha**



Teaching Assistant of Mathematics SCSVMV  
University,  
Enathur, Kanchipuram- 631 501  
9524867776, [amudhamaths@gmail.com](mailto:amudhamaths@gmail.com)

**Educational Qualifications:**

- M.Phil in Mathematics with First Class, SCSVMV University, Enathur, 2012.
- M.Sc in Mathematics with First Class, Ramanujam Institute for Advanced Study in Mathematics, Madras University, Chennai, 2010.
- B.Ed in Mathematics with First Class, Cholan College of Education, Madras University, Kancheepuram, 2008.
- B.Sc in Mathematics with First Class, Pachaiyappa's College for women, Madras University, Kancheepuram, 2007.

**Professional Experiences:**

- At present working as an Teaching Assistant of Mathematics at SCSVMV University, Kancheepuram, since AUG 2017
- Worked as Assistant Professor of Mathematics in Sri Sankara Arts and Science College, Enathur, Kanchipuram since NOV 2012 to JULY 2016.
- Worked as Maths Teacher in SSKV Matriculation Hr. Sec School, Kanchipuram since JUNE 2010 to NOV 2012

No. of papers presented in National/International Conference-01

No. of seminars/workshops/conferences attended-02

**Mr.K.SARAVANAN**



Teaching Assistant of Mathematics SCSVMV,  
Enathur, Kanchipuram- 631 501  
9943789515, kadirvelsaravanan@gmail.com

**Educational Qualifications:**

- M.Phil in mathematics with second class, RKM Vivekananda college, University of Madras.
- M.Sc in Mathematics with First Class, RIASM, University of Madras.
- B.Sc in Mathematics with Second Class, Periyar Arts college, University of Madras.

**Professional Experiences:**

- Working as Teaching Assistant of Mathematics at SCSVMV U, Kanchipuram since August 2017
- Worked as Asst. Professor in Mathematics Department from JULY 2012 to July 2017, at Pallava Raja College of Engineering, Near Kanchipuram
- Worked as a Lecturer in Mathematics Department from NOV 2011 to MAY 2012, at The New Royal College of Engineering and Technology, Near Mamallapuram.
- Worked as a Lecturer in Mathematics Department from OCT 2007 to NOV 2011, at Arulmigu Meenakshi Amman College of Engineering, Near Kancheepuram.
- Worked as a Lecturer - Mathematics Department from NOV 2006 to OCT 2007 at Thiruvalluvar College of Engineering and Technology, Near Vandavasi,

No. of papers presented in National/International Conference-1  
No. of seminars/workshops/conferences attended-3

**Mrs.A.Shakila**



Teaching Assistant of Mathematics SCSVMV,  
Enathur, Kanchipuram- 631 501

**Educational Qualifications:**

- M.Phil in Mathematics with First Class, SCSVMV University, Enathur, 2012.
- M.Sc in Mathematics with First Class, Pachayappa's Collage For Women. Madras University, Kanchipuram. 2009
- B.Sc., in Mathematics with third Class, Pachayappa's College For Women, Madras University, Kancheepuram, 1999..

**Professional Experience:**

- At present working as Teaching Assistant of Mathematics at SCSVMV University, Kancheepuram, since AUG 2017
- Worked as Assistant Professor of Mathematics in Sri Sankara Arts and Science College, Enathur, Kanchipuram since AUG 2012 to FEB 2017..
- Worked as Maths Teacher in Sundar Mission Matriculation Hr. Sec School, Kanchipuram since JUNE 2008 to Mar 2009.

No. of papers presented in National/International Conference-1

No. of seminars/workshops/conferences attended-11

**Mrs. N. Meenakshi**



Teaching Assistant

Department of Mathematics

SCSVMV University

Enathur, Kanchipuram - 631501

Gmail: [nmeenakshi@kanchiuniv.ac.in](mailto:nmeenakshi@kanchiuniv.ac.in)

Mobile: 9940772334

**Name** : N. Meenakshi  
**Husband's Name** : N. Janarthanan pillai  
**Date of Birth** : 05-05-1982  
**Nationality** : Indian  
**Religion** : Hindu

**Educational Qualifications:**

- Master of Philosophy in Mathematics( 2018-2019) with **First class**, Secured **9.00 C.G.P.A**  
SCSVMV university, Enathur, Kanchipuram, Tamil Nadu.
- Master of Science in Mathematics (2016-2018) with **First class -Exemplary**  
Secured **9.11 C.G.P.A (Madras University Rank Holder- 9 th Rank)**  
University of Madras ,Vidhyasagar Womens college, Chengalpattu.
- Bachelor of Science in Mathematics with **First class** (1999-2002)  
Secured **71%** ,M.S.University ,S.T.Hindu college,Nagercoil
- HSC in S .M. R. V H S S with **First class**, Vadasery, 1999  
Secured **80.91%** .
- SSLC in S.M.R. V H S S with **First class**, Vadasery,1997  
Secured **84%**

**PROFESSIONAL EXPERIENCE:**

At present working as an Teaching Assistant of Mathematics at SCSVMV university, Kanchipuram , since 16, July- 2019

No. of papers published in National/ International journals : 2  
No. of papers presented in National/International conference : 2  
No. of Seminars/Workshops/conferences attended : 9

### **Profile 2020-2021**

No. of Faculty Development Program Attended : 8  
No. of Webinars attended : 32

#### **AWARDS:**

1. Got **Best outstanding student award** in M.Sc mathematics at vidya sagar womens college for (PG) topper.

2. Madras university 9 th rank holder in M.Sc mathematics secured 92 % marks.

Got 2 medals for centum scored for the paper Number theory and cryptography,

Mathematical statistics.

3. Got 4 medals for class topper and subject topper.

#### **OTHER QUALIFICATIONS:**

1. NSE'S Certifications in Financial Markets( NCFM)- Commodities Market Module

2. NSE'S Certifications in Financial Markets( NCFM)- Capital Market Module

**Mrs. P. Revathi**



Teaching Assistant

Department of Mathematics,

Sri Chandrasekharendra Saraswathi Viswa Mahavidyalaya,

SCSVMV, Enathur, Kanchipuram 631561.

Phone (Office): +91 44 27264301/308 Ext:231

E-mail: rev.poov@gmail.com

**Name** : Mrs. P. REVATHI

**Father's Name** : M. POOMALAI

**Husband's Name** : T. THIRUKUMAR

**Date of Birth** : 12. 04. 1987

**Nationality** : Indian

**Religion** : Hindu

**Address for correspondence** : **P. Revathi,**  
Teaching Assistant,  
Dept., of Mathematics,  
SCSVMV University,  
Enathur,  
Kanchipuram- 631 561,  
Tamilnadu, India.  
Mobile Number: +91 8973866409;

**Educational Qualifications:**

- M.Phil. in Mathematics, *First class with distinction*, Annamalai University, Chidambaram, 2012.
- Master of Science in Mathematics with Computer Science, *First class*, Annamalai University, Chidambaram, 2010.
- Bachelor of Science in Mathematics, *First class with distinction*, D.G.Govt., Arts College for women, Mayiladuthurai, Bharathidasan University, 2008

***Profile 2020-2021***

**Professional Experiences:**

1. Worked as a Teaching Assistant of Mathematics in SCSVMV University, Kanchipuram, during the period 23.07.2018 to 30.06.2021.
2. Worked as an Assistant Professor of Mathematics in Mailam Engineering College, Mailam, Tindivanam, during the period, 08.02.2012 to 31.12.2013.

No. of papers presented in National/International Conference-

No. of seminars/workshops/conferences attended: 3

**Mrs. G. Subasri**



Teaching Assistant of Mathematics  
SCSVMV University,  
Enathur, Kanchipuram- 631 501  
9442091784, [gsubhasri@kanchiuniv.ac.in](mailto:gsubhasri@kanchiuniv.ac.in)

**Name** : G. Subasri

**Father's Name** : Mr. A. Gopalan

**Date of Birth** : 14-05-1982

**Nationality** : Indian

**Religion** : Hindu

**Address for Correspondence** : G. Subasri  
Teaching Assistant  
Dept., of Mathematics  
SCSVMV University,  
Enathur, Kanchipuram- 631 561.  
Tamilnadu, India

**Email** : [gsubhasri@kanchiuniv.ac.in](mailto:gsubhasri@kanchiuniv.ac.in)

**Permanent Address** : Mrs. G. Subasri  
No.4, Ezhumalai Nagar,  
Vishnu Kanchi,  
Kanchipuram-631 501

**Educational Qualifications:**

- M.Phil in Mathematics with Second Class, Annamalai University, Annamalai Nagar, 2009 (Directorate of Distance education).
- B.Ed in Mathematics with First Class, Annamalai University, Annamalai Nagar, 2007.
- M.Sc in Mathematics with First Class, Annamalai University, Annamalai Nagar, 2006.
- B.Sc in Mathematics with First Class, Seethalakshmi Achi college for women, Pallathur, Madurai Kamaraj University, 2002.

**Professional Experiences:**

- Worked as a Teaching Assistant of Mathematics at SCSVMV University, Kancheepuram, from July 2018 to June 2021
- Worked as an Assistant Professor of Mathematics in Krishnasamy College of Engineering & Technolgy, Cuddalore from 01-07-2011 to 30-04-2014
- Worked as a Maths Teacher in Subramania Bharathiar Matric Higher Secondary School, Bhuvanagiri from 01-06-2008 to 31-05-2011
- Worked as a Maths Teacher in Vivekananda Matric Higher Secondary School, Sirkazhi from 01-06-2007 to 31-05-2008

No. of seminars/workshops/conferences attended : 08

# **REMEDIAL MEASURES**

## **Remedial Measures**

Staff Members often identify the students who are having less knowledge in Mathematics and scored very less marks in unit test and internal test. After identifying those students, they were called to cabins for discussion regarding their poor performance. At the time of discussion with each student in person, the remedial measure that to be followed for the improvement of their marks in upcoming test and external examinations and the ways to improve the basic level of knowledge in mathematics is clearly pictured out.

First, the students are asked to study some basic level books on the respective topics, so that they feel free and come forward to study with interest. Also hand-outs are given to students for better understanding. Finally, the students are insisted to go through their topic thoroughly and come back to the teachers in case of any difficulty, so that the students can get clear cut explanations on the respective topics. Later, enough number of problems in all chapters is given for practice.

Apart from this, some general remedial measures as mentioned below is also followed:

- Important questions expected at the end-semester examination are identified and given to students.
- Previous year question papers and solutions, if needed are given to them.
- Assignments are given on important topics.

# **ACCESSORIES**

## Accessories – 2020-2021

Sl.No.	Item Name	Quantity
1	Computers - Monitors	14
2	Computers – CPU	14
3	Computers - Mouse	14
4	Computers - Keyboard	14
5	Printers	6
6	Computer tables	8
7	LCD Projectors	2
8	Staff tables	24
9	S type chairs	11
10	Cushion chairs	1
11	Cushion rolling chairs	7
12	Plastic chairs	22
13	Pad chairs	2
14	Steel racks (closed)	3
15	Steel racks small	6
16	Steel racks big	1
17	Almirah small	10
18	Almirah big	3
19	Almirah with glass	7
20	Four seater (sitting desk)	1
21	Two seater (writing desk)	2
22	Two seater (sitting desk)	14
23	Small steel stools	7
24	Big steel stools	1
25	Wooden stools	1
26	Whiteboards	1
27	Department Name boards	1
28	Pedestal fans	5
29	Ceiling fans	21
30	Ceiling Lights	18
31	Tube light s	10
32	Window AC	1
33	Wall speakers	2
34	0.5 KVA UPS (HOD)	1
35	Exide Battery (LAB)	10
36	Consul UPS (LAB)	1
37	Wall clocks	1
38	Telephones	2
39	Dustbins	3
40	Water dispensers	1
41	Fire Extinguishers	4
42	Mirrors	2

**LIBRARY**

**Library Book Details**

<b>Sl. No.</b>	<b>Accn. No</b>	<b>Title</b>	<b>Author</b>
1.	55205	Modern Methods of Teaching Mathematics	Shalini Wadhwa
2.	62624	A Text Book of Practical Mathematics	I.B. Prasad
3.	62995	Problem Solving Strategies	Engel
4.	Spec. Copy	System Programming and Operating Systems	D.M. Dhamdhare
5.	64358	A Primer of Mathematical Writing	Steven G. Krantz
6.	64906	Standard Mathematical Tables and Formulae	Daniel Zwillinger
7.	65094	Graded Exercise in Pure Mathematics for AS and A2	Barrie Hunt
8.	65202	Mathematical Conservations	Wilson Gray
9.	68472	Teaching and Assessing Skill in Mathematics	Audrey Simpson
10.	66973	How to solve it	G. Polya
11.	67705	What is Mathematics?	Courant/Robbins/ Stewart
12.	68417	The Philosophy of Mathematics Today	Schirn
13.	68418	Story of Number	Eli Maor
14.	68420	Fun and Fundamental of Mathematics	Jayant V. Narlikar
15.	68423	Adventures in Problem Solving	Shailesu Shirali
16.	68424	Applicable Mathematics at the Golden age	Misra
17.	68939	All the Mathematics You Missed	Garrity
18.	68968	Hand Book of Mathematics	In Bronshtein and Co
19.	69689	Think Without Ink	Venkataraman
20.	69708	Test of Reasoning	Edgar Thorte
21.	69710	General Intelligence for Students	B. James
22.	69725	Quick Arithmetic	Asish Agarwal
23.	69764	GRE Math Subject Test	Steven A Leduc
24.	69827	Quantitative Aptitude	R.S. Agarwal
25.	69830	Math for Smart test takers	Mark Alan
26.	78265	Vedic Mathematics	Jagathkuruswamy
27.	95684	The Mathematical Century	Piergiorgio Odifreddi
28.	95685	Mathematical Olympic at challenges	Titu Andreescu & Razvan Gelca
29.	95698	Mathematics in Nature	John A. Adam
30.	96097	Dictionary of Mathematics	Mcgraw-Hill
31.	99072	Mathematical control theory	Jerzy/ Zabczyk
32.	99194	The world of Mathematics Vol. 1	James Newman

33.	99195	The world of Mathematics Vol. 2	James Newman
34.	99196	The world of Mathematics Vol. 3	James Newman
35.	99197	The world of Mathematics Vol. 4	Newman
36.	Spec. Copy	Practice of Bakthi Yoga	Sri Sivananda Saraswathi
37.	101408	Technical Analysis and Applications with MATLAB	William D. Stanley
38.	69720	Objective General Science	2001 Edition
39.	Spec. Copy	Vedanta in Daily Life	Sri Sivananda Saraswathi
40.	111087	Stories about Maxima and Minima	V.M. Tikhomirov
41.	112266	A First course in Finite Elements Methods	Daryl. L. Logan
42.	Spec. Copy	Bramha Sutras	Sri Sivananda Saraswathi
43.	Spec. Copy	System software	Leland. L. Beck
44.	119074	Vedic Mathematics for School Book - 2	Glover
45.	119132	A problem book in Mathematics	S. K. Goyal
46.	119155	Dictionary of Mathematics	V.P. Jaggi
47.	66593	Fuzzy logic with Engineering Applications	Timothy J Ross
48.	68460	Fuzzy Topology	N. Pazaniyappan
49.	100084	Fuzzy Logic	Timothy J. Ross
50.	104732	Fuzzy Sets & Fuzzy Logic	Klir/Yual
51.	104782	Fuzzy Logic	Timothy J. Ross
52.	106251	Fuzzy Sets & Fuzzy Logic	Klir/Yual
53.	126592	Fuzzy Topology	N. Pazhaniappa
54.	126828	Fuzzy Logic	Timoto J. Ross
55.	25455	Modern Algebra	A.R. Vasantha
56.	54744	Matrix Theory	David W. Lewis
57.	54991	Group Theory	M. Suzuki
58.	58865	Applied Abstract Algebra	Rudolf Lidl
59.	61872	Exercises in Classical Ring Theory	Lam
60.	61874	Algebra	Serge Lang
61.	62896	An introduction to Ring Theory	Cohn
62.	64305	The first course in Non-commutative rings	Lam
63.	64308	Matrix Analysis	Rajendra Bhatia
64.	65417	Jordon Algebra and Algebraic Graphs	Springer
65.	67960	Local algebra	Serre
66.	67961	Algebraic Curves, Algebraic Manifolds & Schemes	Danilov /Shokurov
67.	67962	Glimpses of Algebra and Geometry	Toth

68.	68436	Linear Algebra	Hoffman/Kunze
69.	68437	Linear Algebra	Kumaresan
70.	68450	A First Course in Abstract Algebra	Fraleigh
71.	68455	Topics in products of Random Matrices	Mukherje. A
72.	68941	Basic Abstract Algebra	P.B. Bhattacharya
73.	68942	Basic Algebra	Cohn
74.	69349	Commutative Algebra	Zariski and Samuvel
75.	96082	Linear Algebra	Friedberg/Arnold J. Insel
76.	96083	Linear Algebra	Kwak/Hong
77.	99082	Matrix Method an Introduction	Richard Bronson
78.	99084	Modern algebra an introduction	Durbin
79.	104719	Algebra	M. Artin
80.	104734	Matrix and Linear Algebra	Datta
81.	104739	Topics in Algebra	Herstein
82.	104779	Field Theory	Luthar Passi
83.	104805	Introduction to Rings & Modulus	Musili
84.	104807	A first course in Abstract Algebra	Fraleigh
85.	109710	Modern Algebra	Surjeet Singh/ Qazi Zameeruddin
86.	Dept Copy	Modern Algebra	Surjeet Singh
87.	Dept Copy	Modern Algebra	Surjeet Singh
88.	108994	Artificial Intelligence	Nilssan
89.	101042	Introduction to Artificial Neural System	Zurada
90.	109000	Fundamentals of Artificial Neural Networks	Hassoun
91.	112913	Artificial Intelligence	Stuart Russel/ Peter Norving
92.	112959	Artificial Intelligence	Elaine Rich and Kevin Knight
93.	64817	An introduction to Formal Languages & Automata	Peter Linz
94.	65079	Automata Theory and its application	Bakhadyr Khossainov
95.	95368	Automata Theory	Siman
96.	95725	Automata and Language Theory and Application	Alexander Meduna
97.	95759	Elements of Theory of Computation	Harry R. Lewis Christos H. Papad
98.	95907	Introduction to Languages and the Theory of Computation	John C. Martine
99.	99000	An introduction to Formal Languages & Automata	Peter Linz
100	99300	Introduction to Automata Theory and Languages Computation	Hopcroft/Motwani/Ullman

101	104762	Introduction to Automata Theory and Languages Computation	Hopcroft/Motwani/Ullman
102	104803	Introduction to Automata Theory and Languages Computation	John E Hopcraft/Jeffery D Ullman
103	106240	Automata Theory, Languages and Computation	Hopcroft / Motwani / Ullman
104	106288	Theory of Computer Science, Automata Languages & Computation	K. L. P. Mishra/Chandrasekaran
105	119033	Theory of Computations	J.C. Hopcraft
106	119084	Introduction to Automata and Compiler Design	Dasaradh Ramaiah
107	120188	Introduction to Languages and the Theory of Computation	John C. Martine
108	122650	Formal Languages and Automata	Peter Linz
109	125658	Finite Automata and Functional Languages	Padma Reddy
110	1	Fuzzy Logic Toolbox	
111	40285	Mastering MATLAB	Hanselman/Littlefield
112	40286	Kalman filtering	Grewal and Andrews
113	65034	Kalman Filtering Theory & Practice Using MATLAB	Mohinder S.Grewal
114	95442	MATLAB and Introduction to Applications	Gilate
115	110788	MATLAB Demystified	K.K. Sharma
116	111283	Practical MATLAB Basics for Engineers	Misza Kalechman
117	111284	Practical MATLAB Applications for Engineers	Kalechman
118	113023	Numerical Technique Lab: MATLAB based Experiments	K.K. Mishra
119	7240	Foundations of Complex Analysis	S. Ponnusamy
120	62871	A panorama Harmonic Analysis	Steven G Krantz
121	66984	An imaginary table: The story of Root of -1	J. Nahin
122	68419	Introduction to Analytic Theory	Apostol
123	68451	Complex Variables	Mark. J. Ablowitz Athanassios
124	68453	Complex Analysis	V. Karunakaran
125	68454	Complex Analysis	V. Karunakaran
126	68457	Functions of one Complex Variable	John B. Conway
127	68458	Functions of one Complex Variable	John B. Conway
128	69345	Classical topics in Complex Function Theory	Reinhold Remmort
129	69351	Harmonic analysis & Application	John .J. Bnedetto
130	77235	Theory of Function	Konrad Kropp
131	95741	Complex Variables & Applications	James Ward Brown and V.

			Churchill
132.	99151	Real and Complex Analysis	Rudin
133.	102133	Complex Analysis	John. H. Mathews/Russel. W. Howell
134.	102138	Complex Analysis	John H. Mathews
135.	104758	Complex Analysis	S. Arumugam
136.	104804	An introduction to Differentiable Manifolds and Riemann Geometry	William. M. Boothby
137.	104806	Introduction to Analytic Theory	Apostol
138.	111083	Problems in Real & Complex Analysis	Bernard R. Gelbaum
139.	124067	Fundamentals of Complex Analysis	E.B. Soff
140.	126567	Complex Analysis for Mechanical Engineering	John E. Mathews
141.	55705	Discrete mathematical structure with application to C.S	J. P. Tremblay/Manohar
142.	54725	Applied combinatorics	Alan Tucker
143.	54987	Discrete mathematics with applications	S. Epp
144.	54995	Algorithms And Classification In Combinatorial Group Theory	G. Baumslag/Miller
145.	62539	Discrete Mathematics	B. S. Vatssa
146.	64311	Discrete Algorithmic Mathematics	Stephen B. Maurer Antony
147.	64311	Discrete Algorithmic and Mathematics 2	Stephen B. Maurer Anthony Ralston
148.	64315	Introduction to Mathematical Structures & Proofs	Larry J. Gerstein
149.	65759	Discrete Mathematics.	V. Sunderesan
150.	66304	A Course In Combinatorics	Vanliut and Wilson
151.	66419	Applied Discrete Structures for Computer Science	Alan Doerr / Keneth L'evasseur
152.	67278	Discrete Mathematics	Lovasz / Pelikan/ Vesztergombi
153.	68430	Discrete Mathematics	Iyengar
154.	68442	Discrete and Combinatorial Mathematics	Ralph P. Grimaldi
155.	68467	Combinatorial Optimisation	M. M. Shikare/Bn Waphare
156.	69309	Discrete Mathematics for ComputerScientists	Truss
157.	99047	Discrete Mathematics	Johnson Baugh
158.	99051	Discrete mathematical structure	Kolman /Busby/Ross/ Rehman
159.	99304	Introduction to logic	I.M. Copi/Cohean
160.	100534	Introduction to logic	I.M. Copi/Cohean
161.	104818	Discrete Maths	Kolmann Bushy Rose
162.	106615	Combinatorics & Graph Theory	J. M. Harris

163.	119091	Discrete Mathematics	Chakraborty/ Sarkar
164.	119102	Discrete Mathematics	Balaji
165.	119123	Mathematical Foundation of Computer Science	Shahuaz Bathul
166.	120208	Discrete Mathematics	Babu Ram
167.	58405	2000 Solved problems in Discrete Mathematics	Schaum's Series
168.	40739	Engineering Maths Vol. 1	A. Kandasamy and Thilagavathy
169.	40813	Engineering Maths Vol. 2	A. Kandasamy
170.	55519	Engineering Maths	M. K. Venkatraman
171.	57261	Engineering Maths Vol. 3	A. Kandasamy and K. Thilagavathy
172.	58294	Mathematical Methods for Engineers and Physicists	A.K. Mukhopadhyay
173.	65826	Engineering Maths Vol. 4	T. Veerarajan
174.	68445	Engineering Mathematics	V. Sundaram / Balasubramaniam / Lakshmi Narayanan
175.	69346	Algorithms for Discrete Fourier transform & Convolution	Richard Tolimien/Myoung Anchaolu
176.	95713	Applied Mathematical Methods	B. Dasgupta
177.	97914	Higher Engineering Maths	B.S. Grewal
178.	101656	An introduction to Laplace transform & Fourier Series	P.P.G. Dyke
179.	101672	Difference Equations	Walter. G. Kelley
180.	101714	Engineering Maths Vol. 3	T. Veerarajan
181.	104742	Engineering Maths Vol. 3	T. Veerarajan
182.	104788	Engineering Mathematics Vol. 1	S. S. Sastry
183.	106232	Engineering Maths	S. S. Sastry
184.	106249	Engineering Mathematics	T. Veerarajan
185.	110989	Signal Systems and Transforms	C. L. Philips/Parr/Riskil
186.	111164	Mathematical methods	G. Sankar Rao and E. Kesava Reddy
187.	119108	Engineering mathematics Vol. 2	A.C. Srivastava and P.K. Srinivasan
188.	119115	Engineering mathematics Vol. 4	M. C. Mohan / Philip/ Jacob/ Shetty
189.	119116	Engineering mathematics Vol. 2	M. Chandra Mohan/Varghese/Philip
190.	119129	Transforms & PDE	A. Singaravelu
191.	119156	Transforms & PDE	G. Balaji
192.	124088	Mathematical Methods	T. Veerarajan
193.	124110	The Fourier transform and its applications	R.M. Bracewell

194.	127273	Engineering Mathematics (Vol. I and II)	T. Veerarajan
195.	127298	Transforms and PDE	K. Vairamanickam
196.	Spec. Copy	A Text Book of Engineering Mathematics	N.P. Bali Manish Goyal
197.	119153	business mathematics	D.R. Aggarwal
198.	Spec. Copy	Engineering Mathematics	A. K. Thilakavathy and Gunavathy
199.	Dept. Copy	Engineering Mathematics	S. Sankarappan and S. Kalavathy
200.	Spec. Copy	Higher Engineering Mathematics	B.S. Grewal
201.	99218	Vector Calculus, Fourier Series and Fourier Transforms	S. Sankarappan
202.	Spec. Copy	Engineering Mathematics	Rajkumar and Roy Chowdry
203.	Dept Copy	Engineering Mathematics	V. Sundaram
204.	Spec. Copy	Engineering Maths	T. Veerarajan
205.	Spec. Copy	Engineering Maths	T. Veerarajan
206.	53525	An introduction to Mathematical Modeling	Fowkes maholy
207.	54997	Curve and Surface in Geometric Modeling	J. Galleir
208.	62866	Nature of Mathematical Modeling	Neil Gershenfeld
209.	64313	Elementary Mathematical Model	G.D. Kalmal
210.	96015	Mathematical Modeling	J.N. Kapoor
211.	99074	Mathematical Modeling	Bimal K. Mishra
212.	99284	Mathematical Modeling	D. Edward and Hamsan
213.	105715	Theory of Modeling and simulation	Zeigler/ Praehofer/Kim
214.	64321	Random Graphs	B. Bollobas
215.	64315	Introduction Mathematical Structure and Proofs	Gerstein
216.	65080	Algebraic Graph Theory	C. Godsil / Royle
217.	65088	Digraphs theory algorithms and applications	Jorgen Bang / Jensen
218.	65427	Graph Theory & Its Application	Jonathan Gross, Jay Yellen
219.	65444	Pristine Transfinite Graphs and Permissive Electrical Networks	Zemanian
220.	65526	Introduction to Graph Theory	Robin J. Wilson
221.	65771	Graph Theory	Narasingh Deo
222.	68415	Graphs, Combinatorics, Algorithms and applications	S. Arumugam/B.D. Acharya/S.B.

			Rao
223.	68440	Graph theory and its applications	G.K. Ranganath
224.	68462	A Text Book of Graph theory	R. Balakrishnan
225.	68463	Graph theory	Harary
226.	68464	Graph Theory	Harary
227.	95679	Graph theory	Reinhard Diestel
228.	99296	Introduction to graph Theory	Robin J. Wilson
229.	125357	Graph Theory	Narasingha Deo
230.	10092	Classical mechanics	H. Goldstein
231.	53519	An introduction to the mathematical theory of Navier-Stokes equations	G.G.P Galdi
232.	68421	Tensor Calculus	U. C. De
233.	95376	Classical mechanics	K. N. Srinivasa Rao
234.	104825	Tensor Calculus	David Kay
235.	107562	Introduction To Classical mechanics	David Morin
236.	110965	Classical mechanics	Goldstein Pook Sofko
237.	110968	Neural networks using MATLAB	S.N. Sivanandam/S.Sumathi/S.N. De epa
238.	103477	Neural networks	Sathish Kumar
239.	112367	Introduction to neural networks, Fuzzy Logic and Genetic Algorithm	Sudharsan K. Valluru/ Nageshwara Rao
240.	61869	Numerical Solution of P.D.E	G.D. Smith
241.	62518	Applied Numerical Analysis	C.F. Gerald/ Wheatley
242.	66745	Block Error - Correcting Codes	Xambo-Descampes
243.	68426	Practical Numerical Analysis Using MS-Excel	A. Nandy
244.	68427	Numerical Methods for Engineers And Scientists	J.N. Sharma
245.	68470	Fundamentals of Approximation Theory	H.N. Mhaskar/Pai
246.	68989	Rational Points on Elliptic Curves	J.H. Silverman/Tate
247.	69348	The Graduates Students Guide to Numerical Analysis	M. Ainsworth/Levesley/Marletta
248.	69352	Conservation Finite Difference Methods on General Grids	M. Shashkor
249.	95719	Applied numerical methods using MATLAB	W.Y. Yang/Cao/Chung/Morris
250.	96433	Applied Numerical Analysis	Gerald/ Wheatley
251.	97049	Theory and Application of Numerical Analysis	Phillips and Taylor
252.	99006	Applied Numerical Methods with MATLAB	P.C. Chapra
253.	99100	Numerical Analysis	G. Shankar Rao

254.	99255	Error correction and coding	Todd. K. Moon
255.	99927	Applied numerical methods using MATLAB	W.Y. Yang/Cao/Chung/Morris
256.	104757	Introductory Methods of Numerical Analysis	S.S. Sastry
257.	104775	Numerical Methods	T. Veerarajan
258.	106262	Introductory Methods of Numerical Analysis	S.S. Sastry
259.	106267	Numerical Methods	E. Balaguruswamy
260.	119131	A Text Book of Statistical and Numerical Methods	P. Sivarama Krishna Dhas
261.	119135	Numerical Analysis	Francis Scheid
262.	122984	Numerical Methods	P. Kandasamy
263.	124046	Analysis of Linear Systems	David k. Cheng
264.	124096	Numerical Analysis	R.L. Burden
265.	125079	Concepts and Applications of Finite Elements Analysis	Robert D. Cook
266.	125113	Introduction to the Finite Elements Method	Desai / Abel
267.	125205	The Finite Elements Method in Engineering	Singiresu S. Rao
268.	125679	Numerical Methods with C++Programming	N.H. Saha
269.	127256	Rational Points and Elliptic Curves	J.H. Silverman
270.	127267	Introductory Methods of Numerical Analysis	S.S. Sastri
271.	127292	Introduction to the Finite Elements in Engineering	T.R. Chandrupatla
272.	Spec Cop	Numerical Methods For Science and Engineering	Radha Kanka Sarkar
273.	Spec Cop	Numerical Methods	M.K. Venkataraman
274.	40251	Operations research	A.Taha
275.	45276	Elements of queueing theory	Thomas L saaty
276.	56156	Introduction to operation research	Billy. E. gillett
277.	61378	Introduction to operation research	Hillier Lieberman
278.	68425	Optimization	M.C. Joshi / Moutgalya
279.	68428	Principles of optimization theory	G.R. Bector / Chandra/Dutta
280.	95796	Introduction to operational research	C.R. Kothari
281.	97656	Engineering optimization(Theory & Practice)	Singiresu S. Rao
282.	98051	Operation Research	P.K. Gupta / Manmohan Kanti Swarup

283.	98693	Optimization of Stochastic Systems	Masanao Aoki
284.	99115	Operation research	H.A. Taha
285.	99118	Operation research (principles and practice)	Ravindran/ philips /Solberg
286.	99276	Fundamentals Of Queuing Theory	Donald Gross / Hanres
287.	100528	Linear Programming	L.N. Vaserstein
288.	106258	Operation research Concepts and cases	Frederik S. Hillier / Gerald J. Lieberman
289.	106269	Operation Research	A. Taha
290.	106285	Operations Research Vol. 2	Richard Bronson / Govindasamy Nodimuthu
291.	119036	Operational Research	N. Ramanathan
292.	104717	Operation Research an Intro	H. Taha
293.	120173	Operation Research	W.V.R. Naidu / Rajendra /Krishna Rao
294.	125526	An Introduction to Game Theory	M.J. Osborne
295.	54777	Theory of O.D.E	Earl A. Coddington and Levinson
296.	54796	Elements of P.D.E	Ian Sneddon
297.	54992	Linear Integral Equations	R Kress
298.	58790	Partial Differential Equations	Jeffrey Rauch
299.	58792	Applied P.D.E's	J. David Logan
300.	62895	Applied Partial Differential Equations	John Ockendon/Howison
301.	68083	Theory of O.D.E	Earl A.Coddington and Levinson
302.	68950	Differential Equations	A.C.King and J. Billingham
303.	68951	Differential Equations	A.C.King and J. Billingham
304.	68981	Lectures on P.D.E	Vladmir Arnold
305.	94837	Options, Futures and Other Derivatives	Hull
306.	100871	P.D.E Methods and Applications Vol. 2	Robert C. Mcowen
307.	106940	Non-linear O.D.E	P.W. Jordon and P. Smith
308.	110967	Ordinary Differential Equations	Purna Chandra Biswal
309.	111045	Linear Partial Differential Equations	Tyn Myiut-U.Debnath
310.	111065	An introduction to PDE with MATLAB	Matthew P. Coleman
311.	119075	Special Functions	George E. Andrews/ Askey/Roy
312.	119095	Transform and PDE	T. Veerarajan
313.	111254	Simulation and Interference for Stochastic D.E	M. Lacus
314.	1558	Random point processer	Donald. L. Snyder

315.	6052	Statistical Methods	S.P. Gupta
316.	44700	Probability and Random Processes for Electrical Engineering	Alberto Leon and Garcia
317.	46969	Probability and Random Processes for Electrical Engineering	Alberto Leon and Garcia
318.	53506	Stochastics Process	J. Medhy
319.	54580	Standard Probability and Statistical Table and Formulae	Daniel Zwillinger/Stephin Kokoska
320.	63980	Statistical Methods	J. Medhi
321.	64350	Measure Theory and Probability	A.K. Basu
322.	64354	Stochastic D.E and Applications	Xuerong Mao
323.	65729	Probability, Statistics and Random Processes	T. Veerarajan
324.	65863	Introduction to Mathematical Statistics	Robert. V. Hogg /Allen .T. Craig
325.	65981	First Step in Statistics	Daniel B. Wright
326.	66416	Probability, Statistics and Random Processes	T. Veerarajan
327.	66485	Probability Essential	Jean Jacod Philip and Protter
328.	66963	Probability Random Variable and Stochastic Process	Athanasios Papoulis
329.	66978	A Course In Distribution Theory and Applications	R.S. Pathak
330.	68416	Industrial Mathematics and Statistics	J.C. Misra
331.	68432	Sampling Theory and Methods	S. Sampath
332.	68433	Sample Survey Theory	Des Raj Promod
333.	68434	Applied Multivariate Statistical Analysis	Richard A. Johnson
334.	68439	Practical Mathematical Statistics	H.C. Saxena
335.	68448	Probability Theory	Heinz Bauee Mainz
336.	68449	Introduction to Stochastic Process	A.H. Basu
337.	68452	A course in Distribution Theory and Application	R.S. Pathak
338.	68987	Probability Through Problems	Marek Capinski/tomasz zastawniak
339.	95669	Probability Basic Stochastic Process	Zdzistar Brzezniak
340.	95723	Applied Statistics and Probability for Engineers	A Douglas C. Montgomery / Gorg C. Runger
341.	96076	Introduction to Time Series and Forecasting	Brackwell/Davis
342.	96123	Probability, Random Variables and Random Processes	Hwei Hsu
343.	99009	Fundamental Probability and Random Processes	Oliver C. Ibe

344.	99138	Probability and Statistics	Mendenhall/Beaver
345.	99156	Sampling Techniques	Cochran
346.	104729	Mathematical Statistics with Application	Miller Freund's
347.	104760	Multivariate Analysis and Application	Bhuyan
348.	104793	Probability Statistics and Random Processes	T. Veerarajan
349.	104799	Elementary Probability Theory with Stochastic Processes	Kai Lai Chung
350.	106247	Elementary Probability Theory with Stochastic Processes	Kai Lai Chung
351.	106274	Probability and Statistical Inference	Hogg/Tanis Rao
352.	106284	Probability Statistics and Random Process	T. Veerarajan
353.	106612	Probability Random Variables and Random Signals Principles	Peyton Z Peebles
354.	107933	100 Statistical Tests	Gopal. K. Kanji
355.	111066	Introduction to Probability	Charles M. Grinstead/J.Maurie Snell
356.	111171	Statistical Methods	H.C. Taneja
357.	111251	A Model Approach to Regression with R	Simon J. Sheather
358.	111253	Applied Statistics	P.N. Majumdar
359.	111254	Simulation and Inference for Stochastic De	Stefano M. Lacus
360.	111574	Probability Statistics	Schaum's Series
361.	119109	Statistics and Numerical Methods	A. Singaravelu
362.	119124	Probability and Random Processes	S. Palaniammal
363.	120204	Fundamental Probability and Random Processes	Oliver C. Ibe
364.	120211	Probability Random variable and Stochasticprocess	T. Veerarajan
365.	120213	An introduction to Statistical Methods	C. B. Gupta/Vijay Gupta
366.	122620	Probability and Statistics for Engineers	R.A. Johnson
367.	127334	Probability and Statistical Inferences	Hogg
368.	Spec. Copy	Probability , Statistics And Queuing Theory	A. Kandasamy and K. Gunavaathy
369.	99137	Probability And Measure Theory	Robert B. Ash
370.	Dept Copy	Basic Stochastic Process	Tomasz
371.	Dept Copy	Probability Theory	Heinz Bauer
372.	111756	Probability Statistics	Kishor. S. Trivedi
373.	59340	Methods of Real Analysis	Richard R. Goldberg
374.	59343	Methods of Real Analysis	Richard R. Goldberg
375.	61849	Principles of Real Analysis	D.Aliprantis/Owen Burkinshaw
376.	64216	A Course on Borel Sets	S.M. Sivasubramanian

377.	68444	Real Analysis	H.L. Royden
378.	68459	An Introduction to Measures and Integration	Inder K. Rana
379.	68465	Mathematical Analysis	Apostol
380.	68466	Mathematical Analysis and Application	S. Nandha/G.P. Rajasekar
381.	68468	Measure Theory and Integration	G. Debarra
382.	68957	A First Course in Real Analysis	M.H. Protter and C.B.
383.	68971	Mathematical Analysis	Jonathan Lewin
384.	69347	Geometric Construction	Geroge E. Martin
385.	95691	Real Analysis	N.L. Carothers
386.	104721	Mathematical Analysis	Sathish Shirali/Vasudeva
387.	104802	Mathematical Analysis	Apostol
388.	110960	The First Course in Mathematical Analysis	D. Somasundaram and B. Chaudary
389.	111073	A Modern Theory of Integration	Robert G. Bartle
390.	126583	Metric Spaces	Q.H. Ansari
391.	54795	Topology and Modern Analysis	Simons
392.	54994	Basic Topology	Amstrong
393.	65212	Operator Theory and Analysis	H. Bart and I. Gohberg
394.	65558	Linear Functional Analysis	Rynne and Youngson
395.	66307	Begining Functional Analysis	Karen Saxe
396.	66969	Introductory Functional Analysis with Application	Kregszig
397.	68082	Functional Analysis	M. Thamban Nair
398.	68443	Text Book of Functional Analysis	V.K. Krishnan
399.	68456	Foundations of Functional Analysis	S. Ponnusamy
400.	68469	Functional Analysis	Limaye
401.	68972	An Introduction to Algebraic Topology	Joseph J. Rofman
402.	68977	Introductory Functional Analysis	D. Reddy
403.	69350	Robust Control Theory in Hibert Space	Feintuch
404.	69353	Algebraic Topology: An Introduction	Massey
405.	95670	Basic Topology	Amstrong
406.	99266	Functional Analysis	Frige Riesz Bela SZ.Nagy
407.	104722	A First Course in Functional Analysis	D. Somasundaram
408.	104726	Topology	Jaraes.R Mumres
409.	104787	Functional Analysis	M. Thamban Nair
410.	104800	Topology of Metric Space	S. Kumaresan
411.	108213	Foundation of Topology	B. Wayne Patty
412.	111081	Principles of Functional Analysis	Martin Schechter
413.	119144	Vector Algebra and Solid Analytic Geometry	Kantikumar/Depak Kumar
414.	68441	Vector Analysis	Shandhi Narayanan/R.K.

415.	64366	An Introduction to Wavelets Through Linear Algebra	Micheal. W. Frazier
416.	65553	An Introduction to Wavelets Through Linear Algebra	Micheal. W. Frazier
417.	68471	Wavelets and Allied Topics	Jain,Krishna,Mhaskar and Prestin Singh
418.	95677	Fourier and Wavelet Analysis	G. Bachman/ Narich/ Beckenstien
419.	95692	Ripples in Mathematics	A. Jensen and A Lacour Harbo
420.	95694	Wavelets A Primer	Christian Blatter
421.	95696	Wavelets Theory Applications Implementation	M.V. Altaisky
422.	95790	Insight into Wavelets from Theory to Practice	K.P. Soman / Ramachandran
423.	99152	Real Analysis with an Introduction to Wavelets and Applications	Hong / Wang / Gardner
424.	101643	Fourier and Wavelet Analysis	G. Bachman/ Narich/ Beckenstien
425.	125911	Waves and Oscillations	N. Subramaiyam
426.	63961	A Course in Number Theory and Cryptography	Neal Koblitz
427.	64306	Algebraic Number Theory	Nevkirch
428.	65084	Number Theory in Function Fields	Rosen
429.	67280	Elementary Number Theory	Davidoff / Sarnak
430.	68419	Introduction to Analytic Number Theory	Tom and M. Apostol
431.	68422	First Step in Number Theory	Shaitesh Shirali
432.	68447	A Primer on Number Sequence	Shaitesh Shirali
433.	68472	Teaching and Assessing Skill in Mathematics	Simpson
434.	104806	Introduction to Analytic Number theory	Tom and M. Apostol
435.	10392	Differential Equations and Calculus of Variation	L. Elsgolts
436.	53352	Solution to Problems in Calculus of one Variables	Vadlamani Shyam /I.A. Maron
437.	66743	Calculus	Michael Comenetz
438.	68435	Integral Calculus	Shanthi Narayan / P.K Mittal
439.	68474	Calculus for Scientists and Engineers	K.D. Joshi
440.	95734	A Course in Calculus and Real Analysis	Ghorpade / Limaye
441.	104783	Calculus of Variations with Applications	A.S. Gupta
442.	106242	Calculus of Variations with Applications	A.S. Gupta
443.	109699	Calculus	Apostol
444.	110959	Calculus with Maple Labs	Krawcew /Rai
445.	124048	Calculus and Analytic Geometry	Thomas

446.	127343	Problems in Calculus of One Variable	I.A. Maron
447.	127345	Differential and Integral Calculus	N. Piskunov
448.	68431	Differential Geometry	D. Somasundaram
449.	106244	Differential Geometry	D. Somasundaram
450.	106719	The mathematics on Financial Derivatives	Paul Wilmott / Sam Howison
451.	106720	The concepts and practice of mathematical finance	Mark S Joshi
452.	106964	Computational and Finance	Levy
453.	99265	Foundation of Cryptography	Odcd Goldreich
454.	104725	Applied Cryptography	B. Schneier
455.	106234	Applied Cryptography	B. Schneier
456.	66486	Berkley problems in Mathematics	Desouza
457.	69365	Mathematical Methods for Physicists	Arfken / Weber
458.	97193	SPSS for Windows Step by Step	Geroge Mallery
459.	104884	Mathematical Physics	Joglekar
460.	111252	Introduction to Mathematical Systems Theory	C. Heij / A. Ran / F.Van Schagen
461.	111256	A Physicist Guide to Mathematician	Tam
462.	111474	Pattern Recognition and Image Analysis	Earl Gose Richard
463.	113024	Methods of Mathematical Physics Vol. 2	Courant / Hilbert
464.	127752	Arithmetic	R.S. Agarwal
465.	99911	Quantitative Aptitude	R.S. Agarwal
466.	106293	Topics in Algebra	I.N. Herstein
467.	129259	Topics in Algebra	I.N. Herstein
468.	95781	Higher Algebra	H.Shall and S.R.Knight
469.	101651	Matrix Operations	Richard Grandson
470.	7642	Algebra Vol.1	Manika Vasagam Pillai
471.	104737	Theory of Automata and Formal Language	A.M. Natarajan
472.	111091	A Text Book on Automata Theory	P.K. Srimani
473.	110968	MATLAB	Hanselman
474.	52929	Mastering MATLAB	Duane Hanselman
475.	68429	Discrete Mathematics	Rajendra Akerker and Rupali Akerker
476.	129141	Discrete Mathematics and its Applications	Kenneth H. Roshan
477.	Spec. Copy	Engineering Mathematics Vol. 1	Kandasamy and Co
478.	127309	Higher Engineering Mathematics	B.V. Ramana
479.	122190	Advanced Engineering Mathematics	Erwin Kreyszig
480.	106256	Graph Theory	Narasingh Deo
481.	122984	Numerical Methods	Kandasamy and Co
482.	54861	Numerical Methods for Scientific Computation	M. K. Jain and S.R.K. Iyengar
483.	45962	ODE and Their Solutions	George M. Murphy
484.	120201	Resource Management Technologies	v. Sundaresan

485.	6088		Kanti Swaroop
486.	110972	Probability and Random Processes	Scott L. Miller and Co
487.	7081	Mathematics Statistics	S.C. Gupta and V.K. Kapoor
488.	66785	Mathematics Statistics	S.C. Gupta and V.K. Kapoor
489.	54834	Business Statistics	S.P. Gupta
490.	63215	Applied Statistics and Probability	George C. Runger
491.	53667	Fundamentals of Applied Statistics	S.C. Gupta and V.K. Gupta
492.	Spec. Copy	Probability Statistics and Queuing Theory	A. Kandasamy and Co
493.	61846	Schaum's Outlines - Statistics	Murray R. Spiegel
494.	56817	Probability and Random Processes	M.B.K. Moorthy
495.	96124	Probability, Statistics and Random Processes	T. Veerarajan
496.	58360	Vector Calculus	Santhi Narayanan
497.	64322	Number Theory for Computing	Song Y. Yan
498.	119149	Ancillary Mathematics Vol. 2	Manicavasagam Pillay and Co
499.	7271	Ancillary Mathematics Vol. 1	Narayanan
500.	7648	Analytical Geometry	T.K. Manicavachagam Pillai
501.	119149	Ancillary Mathematics Vol.2	S. Narayanan
502.	101842	Research Methodology	R. Pannerselvam
503.	Spec. Copy	Basic Mathematics for Engineering	S. Arumugam and Co
504.	Spec. Copy	Basic Mathematics for Engineering	S. Arumugam and co
505.	Spec. Copy	Basic Mathematics for Engineering	S. Arumugam and co
506.	Spec.	Basic Mathematics for Engineering	S. Arumugam and co
507.	Spec. Copy	Basic Mathematics for Engineering	S. Arumugam and co
508.	Spec. Copy	Basic Mathematics for Engineering	S. Arumugam and co
509.	Spec. Copy	Brilliant a tutorials ELITE	Set 2
510.	Spec. Copy	Brilliant a tutorials ELITE	Series, Triangle and Functions
511.	Spec. Copy	Brilliant a tutorials ELITE	Trigonometry
512.	Spec. Copy	Brilliant a tutorials ELITE	Point, Straight line, Circle
513.	Spec. Copy	Brilliant a tutorials ELITE	Ellipse, Hyperbola

514.	Spec. Copy	Brilliant a tutorials ELITE	Binomial Theorem, Permutation and Combination
515.	Spec. Copy	Brilliant a tutorials ELITE	Matrix, Determinant
516.	Spec. Copy	Brilliant a tutorials ELITE	Functional Limits
517.	Spec. Copy	Brilliant a tutorials ELITE	Integration
518.	Spec. Copy	Brilliant a tutorials ELITE	Probability
519.	Dept. Copy	Numerical Methods	A. Singaravelu
520.	Dept. Copy	Algebra Vol.1	T.K. Manicavasagam and co
521.	Dept. Copy	Engineering Mathematics IV Sem QP	A. Singaravelu
522.	Det Coy	Computer Oriented Statistical Method	Shanti Sophia Bharathi
523.	Spec. Copy	Engineering Mathematics Vol.1	Kandasamy And Co
525.	Dept. Copy	Time Series	Aptitude
526.	Dept. Copy	Engineering Mathematics Vol.1	Kandasamy And Co
527.	Dept. Copy	Operational Research	H. Taha
528.	Spec. Copy	Transforms and Partial Differential Equation	Kandasamy And Co
529.	Dept. Copy	Engineering Mathematics Vol.1	ITL Education
530.	Dept. Copy	Engineering Mathematics Vol.1	K. Vairamanickam And Co
531.	Dept Copy	Numerical Methods	K. Subramani and A. Shantha
532.	Dept. Copy	Engineering Mathematics Vol.2	ITL Education
533.	Dept. Copy	Statistics and Numerical Methods	K. Subramani and A. Shantha
534.	Dept Copy	Ancillary Mathematics Vol.1	S. Narayanan, T.K. Manickavachogam and R. Hanumantha Rao
535.	Dept copy	Ancillary Mathematics Vol.2	S. Narayanan T.K. Manickavachogam and R. Hanumantha Rao
536.	119151	Probability and Random Processes with Applications to Signal Processing	Henry Stark and John W. Woods
537.	132511	Operational Research	J.K. Sharma

538.	Spec. Copy	Engineering Maths 1st Sem	M.K. Venkatraman
539.	Spec. Copy	Mathematical Analysis	Apostol
540.	Spec. Copy	Engineering Mathematics Vol.2	Kandasamy and Co
541.	Spec. Copy	Discrete Mathematics - Question Bank	Rajesh Prohit
542.	58314	Operations Research	Kanti Swarup
543.	Comp. Copy	Calculus volume - 1	S. Narayanan
544.	Comp. Copy	Calculus volume - III	S. Narayanan
545.	Comp. Copy	Calculus Volume - II	S. Narayanan
546.	Comp. Copy	Numerical Methods - Question Bank	G. Balaji
547.	Comp. Copy	Operations Research	V.K. Kapoor
548.	Comp. Copy	Topogeometry	K.M.A. Kadhar Batcha
549.	Comp. Copy	Mathematical Modelling	
550.	Comp. Copy	A Primer For Engineering Students With Examples	K. Sivakumar et al
551.	Comp. Copy	Mathematics For Computer Science	Albert. R. Meyer
552.	Comp. Copy	UGC CSIR NET/SET	Pawan Sharma and Co
553.	Spec. Copy	Basic Mathematics For Engineering	S. Arumugam
554.	Spec. Copy	Higher Engineering Mathematics	B.S. Grewal
555.	Spec. Copy	Allied Mathematics Vol.1	Prof. P. Duraipandian
556.	Spec. Copy	Allied Mathematics Vol.2	Prof. P. Duraipandian
557.	Dept. Copy	Numerical Methods	Saumyen Guha
558.	Dept. Copy	Computational Methods For Partial Differential Equations	M.K. Jain, S.R.K. Iyengar
559.	Dept. Copy	Numerical Solution Of P.D.E	K.W. Morton, D.F. Mayers
560.	Dept. Copy	Cryptography, Automata And Learning Theory	Gnanaraj Thomas

561.	Dept. Copy	Numerical Methods With Programs In MATLAB	P. Nagarajan, K. Srinivasa Rao
562.	Dept. Copy	Numerical Methods With Programs In MATLAB	P. Nagarajan, K. Srinivasa Rao
563.	Dept. Copy	Discrete Mathematics	M.K. Venkataraman
564.	Dept. Copy	Discrete Mathematics	M.K. Venkataraman
565.	Dept. Copy	Discrete Mathematics	M.K. Venkataraman
566.	Dept. Copy	Discrete Mathematics	M.K. Venkataraman
567.	Dept. Copy	Discrete Mathematics	M.K. Venkataraman
568.	Dept. Copy	Introduction To Graph Theory	R.J. Wilson
569.	Spec. Copy	Advanced Engineering Mathematics	D.G. Zill

# **WORK LOAD**

**ODD SEMESTER (2020 – 2021)**

**Workload for the Academic Year 2020-2021(Odd Semester)**

**Department of Mathematics**

<b>S.No.</b>	<b>Faculty Name</b>	<b>Papers Allotted</b>
1.	Dr.K.Srinivasa Rao	I B.Sc., -Basics of MATLAB
		I M.Sc., Software lab-I
2.	Dr.N.Saradha	IV B.E Mechanical –A
		BE/II/EEE- Mathematics-III
		I B.Sc., Analytical Geometry-Trigonometry
3.	Dr.R.Malathi	BE/II/ ECE – B
		III CSE-S5-Automata Theory
		I M.E- Advance NM-I Unit
4.	Dr.D.Vijayalakshmi	II M.Sc., Fluid Dynamics
		BE/II/ CSE – S4- Mathematics-III
		I B.E (ECE,EEE and Mechatronics)-Mathematics-I
5.	Dr.E.Geetha	II B.Sc., Numerical Methods
		II B.E(ECE-EEE-Mechatronics)-Mathematics
6.	Dr. R.Mageswari	M.Sc /II/ Mathematics- Discrete Mathematics
		III CSE-S2-Automata Theory
		I B.E-CSE-Mech-IT-Mathematics-I
7.	Dr.P.Nagarajan	M.Sc /II/ Mathematics- Advanced OR
		BE/II/ CSE – S5-Mathematics-III
8.	Dr.P.Balaji	BE /IV/CSE – S3- RMT
		B.E/II/EIE & Mechatronics
		I M.Sc.,-ODE
9.	Dr.S.Vijayabharathi	III CSE-S1-Automata Theory
		BE/II/Mech
10.	Dr.K.Pramila	III CSE-S3-Automata Theory
		III B.Sc., Statics
11.	Dr.J.Sengamala Selvi	BE /IV/CSE- S2- RMT
		II B.Sc., Differential Equations and Applications
12.	Dr.V.K.Radhakrishnan	II M.Sc., -Functional Analysis
		BE /IV/CSE – S5- RMT
		II M.E-Optimization Techniques in Design
13.	Dr. A.Dhanalakshmi	BE /IV/CSE – S4-RMT
		BE/II/ ECE – Mathematics-III-D
		I MCA-Probability and Statistics

		I M.Sc., -Real Analysis
		I M.E- Advance NM-II Unit
14.	Dr.K.Bharathi	BE /IV/CSE –S1- RMT
		BE / IV/ Mech –C
		Software Lab-VI
		B.Sc/II/ Mathematics-QA
		I M.E- Advance NM-III &V Unit
15.	Dr.T.N.Kavitha	III B.Sc- Abstract Algebra
		III CSE-S4-Automata Theory
		I M.Sc., Abstract Algebra
16.	Dr.A.Gayathri	B.Sc/III/ Mathematics
		BE / IV/ Mech –B
		M.Sc /II/ Mathematics- Software Lab-V
		M.Sc /I/- Awareness course(Ancient Mathematics)
		I M.E- Advance NM-IV Unit
17.	Mr. K.Sarvanan	BE/II/ CSE – S1-Mathematics-III
		BE/II/ ECE – C-Mathematics-III
		I B.Sc., -Calculus
18.	Ms. B.Amudha	BE/II/ CSE – S2- Mathematics-III
		B.Sc/I/ Physics- Allied Mathematics-I
		B.Sc(CS& BCA)/I/-MFCS
		III B.Sc., -Data Interpretation
19.	A.Shakila	B.Sc/II/ Chemistry-Allied Mathematics
		II BBA-Business Statistics
20.	Ms. P. Revathy	BE/II/Civil-Mathematics-III
		M.Sc /I /Physics- Mathematical Physics
		M.Sc /II/ Mathematics-Awareness Course-3
21.	Ms. G.Subhasri	B.Sc/III/ Mathematics-Series and Sequence
		BE/II/ CSE – S3-Mathematics-III
		B.Sc/I/ Mathematics-Allied Statistics
22.	Ms. N.Meenakshi	II B.Com-S1& S2-Business Statistics
		III B.Sc Physics- Mathematical Physics

**Workload for the Academic Year 2020-2021(EVEN Semester)**  
**Department of Mathematics**

<b>S.No.</b>	<b>Faculty Name</b>	<b>Papers Allotted</b>
1.	Dr.K.Srinivasa Rao	I B.Sc., -Basics of MATLAB
		I M.Sc., Software lab-III
2.	Dr.N.Saradha	I MBA-Business Mathematics and Statistics-II
		I M.Com-Quantitative Techniques for Business Decisions
3.	Dr.R.Malathi	III B.Sc., Real Analysis
		III B.E., Mechanical - OR
4.	Dr.D.Vijayalakshmi	II B.Sc.,-Graph Theory
		I B.Sc.,-Vector Calculus and Fourier Series
5.	Dr.E.Geetha	II B.E-ECE-Mathematics-IV-A
		II B.E(CSE)-Discrete Mathematics
		I B.E-ECE-EEE-Mechatronics-Mathematics-II
6.	Dr. R.Mageswari	II-ECE-Mathematics-IV
		I M.Sc.,-Linear Algebra
7.	Dr.P.Nagarajan	III B.Sc., Dynamics
		II M.C.A- OR+ Quantitative Aptitude
		I B.E-Civil- Mathematics-II
8.	Dr.P.Balaji	III B.Sc., -Discrete Mathematics
		I B.E-Mechanical –Mathematics-II
9.	Dr.S.Vijayabharathi	II ECE-C-Mathematics-IV
		II CSE-S4-Discrete Mathematis
10.	Dr.K.Pramila	II M.Sc.,-Fuzzy Mathematics
		II Civil- Probability and Statistics
		I EEE (PT)- Mathematics(BEEP182T10)
11.	Dr.J.Sengamala Selvi	I M.Sc.,-Complex Analysis
		II B.E-ECE-Mathematics-IV-S4
		II B.E-CSE-Discrete Mathematics-S4
12.	Dr.V.K.Radhakrishnan	II M.Sc., -Applied GT
		I B.E,-Mathematics-II
13.	Dr. A.Dhanalakshmi	I M.Sc., -Topology
14.	Dr.K.Bharathi	III B.Sc.,-Operations Research
		I B.Sc.,-Classical Algebra
		II M.Sc(Phy) Numerical Methods and C-programming
15.	Dr.T.N.Kavitha	I B.Sc.,(Phy)- Allied Mathematics
		I B.Com Business Statistics & OR

16.	Dr.A.Gayathri	II M.Sc., Partial Differential Equations
		II B.Sc.,-PDE and Transform Techniques
		II B.Sc.,(Phy)-Introduction to MATLAB
17.	Mr. K.Sarvanan	II CSE-S2-Discrete Mathematics
		I M.Sc., Software Lab-IV
18.	Ms. B.Amudha	III B.Sc.,-Linear Algebra
		I M.C.A-Communication Skills-II
19.	A.Shakila	II B.Sc.,(Chem)-Allied Mathematics-I
		II B.Com-Business Statistics
20.	Ms. P. Revathy	I B.Sc.,-Allied Statistics-II
		II M.Sc.,-Awareness Course-IV
21.	Ms. G.Subhasri	I B.Sc.,(CS)-I BCA-CANM
		BE/II/ CSE – S3-Discrete Mathematics
22.	Ms. N.Meenakshi	II B.Com-Business Mathematics
		II B.Sc., -Logical and Verbal Reason
		I B.E- Mechanical-Mathematics-II (PT)

HoD

Department of Mathematics

## **Proposed Activities 2021-2022**

### **Proposed Activities for the Academic Year 2021-2022**

The Department of Mathematics planned to conduct the following programs in the next academic year 2020-21.

- A workshop on MATLAB
- Two International Conferences
- A National Seminar
- Quality Enrichment Program.
- Faculty Development Program.

**PUBLICATION**

## **Publications**

### **Dr.K.Srinivasa Rao**

- 1.K.SrinivasaRao, B.Amudha, Ismail Naci Cangul, Hosoya Polynomial and Wiener Index of Concatenated Octachains, Advanced Studies in Contemporary Mathematics, 30(2020),No.4, pp. 609-622
- 2.K.Srinivasa Rao, K.N.Prakasha, K.Saravanan, Ismail Naci Cangul, Maximum Degree Energy, Advanced Studies in Contemporary Mathematics, 31(2021), No.1, pp.49-66.
- 3.K.Srinivasa Rao, B.Amudha, symmetric division Deg index, SDD and Randic Metrics, Proc. Jangjeon Math. Soc. Vol. 24 (2021), No. 3, 389-402
4. **K.Srinivasa Rao**, K.N.Prakasha, **K.Saravanan**, Ismail Naci Cangul, Maximum Degree Energy, Advanced Studies in Contemporary Mathematics, 31(2021), No.1, pp.49-66.
- 5.**K.Srinivasa Rao**, **B.Amudha**, symmetric division Deg index, SDD and Randic Metrics, Proc . Jangjeon Math. Soc. Vol. 24 (2021), No. 3, 389-402.

### **Dr.N.Saradha.**

1. N.Saradha, Secure Triple connected two domination of a graph, GIS Science Journal, Volume 8 (6), June 2021, 1858-1869.
2. N.Saradha, Equivalence (1,2) domination of a graph, GIS Science Journal, Volume 8 (6), June 2021, 2209-2217.

### **Dr.D.Vijayalakshmi**

- 1.Vijayalakshmi. D, Directed graph with DA Matrix in Similarity and Dissimilarity Study of Protein, Physics& Statistics , ESN Publications, India 2021, 124-138.

### **Dr.P.Balaji**

- 1.Balaji P “Converting Four Work Station Automated Manufacturing system’s Marked graph into Digraphs and their Analysis”, Mukta Shabd Journal , Volume X, issue V, May 2021.211-217.

### **Dr.A.Dhanalakshmi**

- 1.Dhanalakshmi.A, “Weighted Vertex PI Index of Crown and Fan Graph”, International Journal of Research Publication and Reviews(IJRPR), Volume 2, Issue 4,2021, pp 143-146 , April 2021.

**Dr.K.Bharathi**

1.K.Bharathi, “Design of Project Networks and Solving by Critical Path Analyzes”.  
International Journal of Research Publication and Reviews, ISSN: 2582-7421, Vol (2)  
Issue (4) (April - 2021) Page 182-185.

**Dr.T N Kavitha**

1.T N Kavitha,“A New Identity From Near Idempotent”, Proceedings of International  
Conference on “Computational Mathematics” (ICCM 2021) 11th January 2021,  
Organized by Department Of Mathematics, Rathinam College Of Arts And  
Science,(Autonomous), Eachanari, Coimbatore, ISBN 978-93-89105-57-5.

**PAPER  
PRESENTATION**

## **Paper Presentation**

### **Dr.K.Srinivasa rao**

1. **Dr. K. Srinivasa Rao** presented a paper titled “Calculation of Maximum Degree Energy Using Integrals “ in the National E-Conference on Recent Trends in Mathematics-2021, Organised by the department of Mathematics, BIST, BIHER, Thiruvanchery, Chennai, on 22nd January 2021.
2. **Dr. K.Srinivasa Rao** presented a paper on the topic ”The sub-near-rings of a Homomorphic Group Semi Turing Machine form a Near Ring Structure”, at International Conference on Advances in Mathematics and Computer Science2021, organized by IMRF Institute of Higher Education and Research, Vijayawada, A.P, during 16-17 April,2021.

### **Dr.R.Malathi**

1. R.Malathi, Medium Domination Number of a Mongolian Tent Graph during Ist online National Conference on Recent Trends in Science & Technology (RTST – 2020) held on November 21st 2020 organized by department of Applied Sciences. Faculty of Engineering & Techology.Manav Rachna International Institute of Research and Studies, Faridabad Haryana, India.
2. R. Malathi, Finding Maximum Independent Set of Mongolian Tent Graph  $M_{r,3}$  in the National Conference on “Mathematical Modelling with Differential Equations – NCMMDE2020” held during 14th October – 17th October 2020. DWARAKA DOSS GOVERDHAN DOSS VAISHNAV COLLEGE, Chennai – 600106.
3. R. Malathi, Discussion about chromatic number, total number of vertex and edges in Mongolian Tent Graph  $M_{r,3}$  in the “ International Conference on Advance in Science, Engineering & Mathematics (ICASEM 2020)”, Conducted by Department of Mathematics, Annamacharya Institute of Technology and Science held on 7th to 9th, August 2020 in virtual mode.
4. R. Malathi, Finding Laplacian Matrix for Mongolian Tent Graph  $M_{r,3}$  using Diagonal Matrix in the “ International Conference on Advance in Science, Engineering & Mathematics (ICASEM 2020)”, Conducted by Department of Mathematics, Annamacharya Institute of Technology and Science held on 7th to 9th, August 2020 in virtual mode.

### **Dr.E.Geetha**

1. E.Geetha, Ramifications of Hall current, heat and mass transfer on MHD nanofluid flow past over an oscillating permeable vertical plate with radiation and chemical reaction on "International virtual conference on organized by smart advanced material science and engineering applications, on 3rd –5th December, 2020 organized by KL University, Kuntur.
2. E.Geetha, Effects of heat and mass transfer of nanoparticles in an impulsively started vertical plate on International virtual conference on organized by smart advanced material science and engineering applications, on 3rd – 5th December, 2020 organized by KL University, Kuntur

### **Dr.R.Mageswari**

1. Mageswari.R , Finding Surface Residues of a Protein through Augmented Zagreb Index presented in Virtual International Conference on Surface Chemistry 27-28th August 2020, organized by Department of Chemistry, Annamalai University, Annamalai, Nagar, India.
2. Mageswari. R, Finding Hydrophobic Core of a Protein through Augmented Zagreb Index presented in the national conference on Recent Frontiers in Fractional Calculus theory and its Applications (NCFCTA 2021), 7-8th March 2021, organized by Department of Mathematics, Vel Tech High Tech Dr.Rangarajan Dr.Sakunthala Engineering College, Chennai.
3. Mageswari.R , Protein Core Identification Through Perfect Domination presented in the national conference on Recent Frontiers in Fractional Calculus Theory and its Applications (NCFCTA 2021),7-8th March 2021, organized by Department of Mathematics, Vel Tech High Tech Dr.Rangarajan Dr.Sakunthala Engineering College, Chennai.

### **Dr.D.Vijayalakshmi**

1. *Dr. Vijayalakshmi.D*, presented a paper on the topic “ Laplacian Matrix of stable Protein Graph and Protein Study” in National e-Conference on Recent Advances in Applied Statistics organised by Department of Statistics, School of computational Sciences ,Punyashlok Ahilyadevi holkar Solapur University, Solapur held on 24.04.21.
2. *Dr.Vijayalakshmi.D*, presented a paper titled “A Graph theoretical Approach in Similarity/Dissimilarity Study of Proteins”in “International Virtual Conference on Computational Mathematics-2K21”, organized by Department of Mathematics, PPG College of Arts and Science, Coimbatore, India held on 24.06.21-25.06.21.

### **Dr.R.Mageswari**

1. ***Dr. Mageswari.R*** , presented a paper titled “Finding Hydrophobic Core of a Protein through Augmented Zagreb Index” in the national conference on Recent Frontiers in Fractional Calculus theory and its Applications (NCFCTA 2021), 7-8th March 2021, organized by Department of Mathematics, Vel Tech High Tech Dr.Rangarajan Dr.Sakunthala Engineering College, Chennai.
2. ***Dr. Mageswari.R*** , presented a paper titled “Protein Core Identification Through Perfect Domination” presented in the national conference on Recent Frontiers in Fractional Calculus Theory and its Applications (NCFCTA 2021), 7-8th March 2021, organized by Department of Mathematics, Vel Tech High Tech Dr.Rangarajan Dr.Sakunthala Engineering College, Chennai.

### **Dr.P.Balaji**

1. ***Dr. P.Balaji*** presented a paper titled, Analysis of Marked Graphs of an Automated Manufacturing Cell with Three Machines and Three Robots Using Sign Incidence Matrix in the “National E-Conference on Recent Trends in Mathematics-2021 (NECRTM-2021)” Organized by the Department of Mathematics, Faculty of Arts & Science, BIST, BIHER, Thiruvanchery, Chennai, Tamil Nadu, India on 22nd January 2021.

### **Dr.K.Pramila**

1. ***Dr. K.Pramila*** presented a paper entitled , “ Study on Domination Number and Bondage Number of Stacked Prism Graphs” presented in the National Conference on Recent Frontiers in Fractional Calculus Theory and its Applications (NCFCTA 2021), 7-8th March 2021, organized by Department of Mathematics, Vel Tech High Tech Dr.Rangarajan Dr.Sakunthala Engineering College, Chennai, in virtual mode.

### **Dr.J.SengamalaSelvi**

1. J.Sengamalaselvi, Application of Membership Matrix in the Field of Medical Diagnosis, in International Conference on Advances in Science, Engineering & Mathematics (ICASEM-20) Annamacharya Institute of Technology And Science, Rajampet, A.P.India held on 7th to 9th August 2020 in virtual mode.
2. Sengamalaselvi, Application of Fuzzy Soft Matrix in Day Today Life in International seminar on “ Present Trends in Application of Mathematics PG and Research Department of Mathematics, Holy Cross College, Tiruchirappalli India held on 16th to 17th November 2020 in virtual mode.

### **Dr.V.K.RadhaKrishnan**

1. *Dr. V.K. Radha Krishnan* presented a paper titled, “Monte-Carlo Simulation Study on the Queueing Model of Kanchi Kamakshi Amman Temple”, in the National Conference on Future Perspective for Basic Science organised by Dept. of Mathematics, AVIT Chennai, during April 8 and 9, 2021

### **Dr.A.Dhanalakshmi**

2. A.Dhanalakshmi, Spectral Properties of Hexagonal Chain, International Conference on Advances in Science, Engineering and Mathematics(ICASEM-020) organized by the Andhra Pradesh and Telangana society for Mathematical Sciences, Annamacharya Institute of Technology and Sciences, Rajampet, Andhra Pradesh held on 7th to 9th August 2020 in virtual mode.
3. A.Dhanalakshmi, Spectral Properties of Hexagonal Chain, International Conference on Advances in Science, Engineering and Mathematics(ICASEM-020) organized by the Andhra Pradesh and Telangana society for Mathematical Sciences, Annamacharya Institute of Technology and Sciences, Rajampet, Andhra Pradesh held on 7th to 9th August 2020 in virtual mode.
4. Dhanalakshmi, Spectral Properties of King's Graph, International Conference on Advances in Science, Engineering and Mathematics(ICASEM-2020) organized by PG & Research Department of Mathematics, Holy Cross College, Trichy held on 16th to 17th November 2020 in virtual mode.

### **Dr.T.N/Kavitha**

1. T N Kavitha, Explore the Respiratory infection's statistical analysis using R in 2nd international virtual conference on 'Role of Mathematics in present scenario'(RMPS-2020) on September 29, 2020 organised by Department of Applied Science, SIRT Bhopal.

2. T N Kavitha, A generalization of idempotent semigroup” in ‘XXXIX Congress of APTSMS & National conference on Mathematics and its applications (NCMA-2020) on December 3rd - 5th, 2020 organised by Department of Mathematics, Mahatma Gandhi University, Nalgonda, T.S.

1. ***1. Dr. T.N. Kavitha*** presented a paper titled “A new identity from near idempotent” in international virtual conference on Recent Development in computational Mathematics (ICCM-21) on January 11, 2021 organised by Department of Mathematics, Rathinam college of arts and science, Coimbatore-21.
2. ***2. Dr. T N. Kavitha*** presented a paper titled ‘A New Signifier Of Near Idempotent Semigroup’ In The “National e-Conference On Recent Trends In Mathematics-2021 (NECRTM-2021)” Organized By The Department Of Mathematics, Faculty Of Arts & Science, BIST, Biher, Thiruvanchery, Chennai, Tamil Nadu, India On 22nd January 2021

#### **K. Saravanan**

1. ***Mr. K. Saravanan*** presented a paper titled "Maximum degree energy using integrals" in the National E-Conference on Recent Trends in Mathematics-2021 at Bharath Institute of Higher Education and Research on 22/01/2021.

# **CURRICULUM**

# Syllabus

# MECHANICAL ENGINEERING

## **SEMESTER – I**

### **MATHEMATICS – I – CALCULUS AND LINEAR ALGEBRA (B.E. FIRST SEMESTER – MECHANICAL ENGINEERING)**

**(For the students admitted from 2018-19)**

The objective of this course is to familiarize the prospective engineers with techniques in calculus, Multi-variable calculus and sequence and series. It aims to equip the students with standard concepts and tools at an intermediate to advanced level that will serve them well towards tackling more advanced level of mathematics.

#### **Unit I: Calculus**

Evaluation of definite and improper integrals- Beta and Gamma functions and their properties - Applications of definite integrals to evaluate surface areas and volumes of revolutions.

#### **Unit II: Numerical Methods**

Solution of polynomial and transcendental equations – Bisection method- Newton-Raphson method-Regula-Falsi Method. Interpolation- Newton's forward and backward difference formulae- Interpolation with unequal intervals-Newton's divided difference and Lagrange's formulae-Numerical Differentiation.

#### **Unit III: Sequences and Series**

Convergence of sequence and series-tests for convergence- Comparison test- D'Alembert's ratio test- Raabe's test-Lagrange's test- Cauchy's root test-Fourier series: Half range sine and cosine series-Parseval's theorem.

#### **Unit IV: Multivariable Calculus (Differentiation)**

Limit-Continuity - Partial derivatives, total derivatives- Directional derivatives-Tangent plane and normal line- Maxima, minima and saddle points-Method of Lagrange multipliers-Gradient-Curl -Divergence.

## Unit V: Matrices

Matrices: Rank of a matrix-rank-nullity theorem-System of linear equations- Symmetric matrices-Skew symmetric matrices- Orthogonal matrices; Eigen values and Eigenvectors- Cayley-Hamilton theorem-Diagonalization of matrices

### Suggested Books

1. B.S. Grewal, "Higher Engineering Mathematics", Khanna Publishers, 2000.
2. G.B. Thomas and R.L. Finney, Calculus and Analytic geometry, Pearson, 2002.
3. T. Veerarajan, Engineering Mathematics, McGraw-Hill, New Delhi, 2008.
4. B. V. Ramana, Higher Engineering Mathematics, McGraw Hill, New Delhi, 2010.
5. N.P. Bali and M. Goyal, A text book of Engineering Mathematics, Laxmi Publications, 2010..
6. E. Kreyszig, Advanced Engineering Mathematics, John Wiley & Sons, 2006.

## SEMESTER – II

### **MATHEMATICS – II – CALCULUS ,ODE&COMPLEX VARIABLES(B.E. SECOND SEMESTER – MECHANICAL ENGINEERING) (For the students admitted from 2018-19)**

The objective of this course is to familiarize the prospective engineers with techniques in multivariate integration, ordinary and partial differential equations and complex variables. It aims to equip the students to deal with advanced level of mathematics and applications that would be essential for their disciplines.

#### **Unit I: Multivariable Calculus (Integration):**

Multiple Integration: Double and Triple integrals (Cartesian) - Change of order of integration in double integrals - Problems on Green, Gauss and Stokes theorems.

#### **Unit II: Ordinary Differential Equations of Higher Orders:**

Operator D – Rules for finding complementary function – Rules for finding particular integral - Second order linear differential equations with variable coefficients: Cauchy-Euler equation - Method of variation of parameters.

### **Unit III: Partial Differential Equations of Higher Orders:**

Definition of Partial Differential Equations- Formation of Partial differential equations, solutions of a Partial differential equation -Linear equations of the first order - Solution to homogenous and non-homogenous linear partial differential equations of second order by complementary function and particular integral method.

### **Unit IV: Complex Variable – Differentiation:**

Differentiation - Cauchy-Riemann equations - Analytic functions - Harmonic functions, Finding Harmonic conjugate - Conformal mappings:  $z+c$ ,  $1/z$ ,  $cz$ ,  $z^2$ ,  $z+1/z$ ,  $e^z$  - Mobius transformations and their properties.

### **Unit V: Complex Variable – Integration:**

Contour integrals: Cauchy-Goursat theorem (without proof) - Cauchy Integral formula (without proof) - Taylor's series - Laurent's series - Zeros of analytic functions – singularities – Residues - Cauchy Residue theorem (without proof) – Simple problems.

### **Suggested Books**

1. B.S. Grewal, Higher Engineering Mathematics, Khanna Publishers, 36th Edition, 2010
2. Erwin kreyszig, Advanced Engineering Mathematics, 9th Edition, John Wiley & Sons, 2006.
3. G.B. Thomas and R.L. Finney, Calculus and Analytic geometry, 9th Edition, Pearson, Reprint, 2002.
4. W. E. Boyce and R. C. DiPrima, Elementary Differential Equations and Boundary Value Problems, 9th Edition, Wiley India, 2009.
5. S. L. Ross, Differential Equations, 3rd Ed., Wiley India, 1984.
6. N.P. Bali and Manish Goyal, A text book of Engineering Mathematics, Laxmi Publications, Reprint, 2008.

**SEMESTER – III**  
**ENGINEERING MATHEMATICS – III**  
**(B.E. THIRD SEMESTER – MECHANICAL ENGINEERING)**

(For students admitted in 2017-2021 batch)

To enable the students in applying mathematical methods in various engineering fields by making them to understand the method of Fourier series and Fourier Transform and Z-Transform.

**Unit 1: Interpolation And Numerical Solution of Ordinary Differential Equations**

Interpolation with equal intervals – Newton's forward interpolation formula – Newton's backward interpolation formula - Interpolation with unequal intervals: Lagrange's interpolation formula, Newton's divided difference formula. Picard's method – Taylor series method - Modified Euler's method – Runge's method – Runge-Kutta method – Predictor-corrector methods: Milne's method, Outline of applications of numerical solutions of ordinary differential equations in engineering.

**Unit II: Fourier Series**

Euler's Formulae (Without Proof) – Condition for Fourier expansion – Functions having points of discontinuity – Change of interval – Expansions of even and odd functions – Half Range series – Parseval's formula (without proof) – Root mean square value (without proof) – Typical waveforms (Definition Only): Square wave form, Saw toothed waveform, Modified saw toothed waveform, Triangular waveform, Half wave rectifier, Full wave rectifier - Outline of applications of Fourier series in engineering

**Unit III: Laplace Transforms and Its Applications**

Transforms of elementary functions :  $1, t^n, e^{at}, \sin at, \cos at, \sinh at, \cosh at$  - Properties of Laplace transforms: Linearity Property, First shifting property, Change of scale property – Transforms of derivatives - Transforms of integrals - Multiplication by  $t^n$  - Division by  $t$  - Evaluation of integrals by Laplace transform - Inverse transforms: Method of partial

fractions – Other methods of finding inverse - Convolution theorem (Without proof) - Unit step function – Unit Impulse Function - Application to differential equations – Outline of applications of Laplace transforms in engineering.

#### Unit IV: Z – Transform and Its Applications

Standard z-transforms of  $1, a^n, n^p$  – Linearity property – Damping rule – Shifting rules – Multiplication by n - Initial and final value theorems (without proof) – inverse z – transforms – Convolution theorem (without proof) – Convergence of z-transforms – Two sided z-transform – Evaluation of inverse z-transforms: Power series method, Partial fraction method, inversion integral method – Application to difference equations – Outline of applications of z-transform in engineering

#### Unit V: Fourier Transforms and Its Applications

Fourier integral theorem (without proof) - Fourier Sine and Cosine integrals – Complex form of Fourier integral - Fourier integral representation of a function - Fourier transform – Fourier sine and Cosine transforms – Properties of Fourier Transforms: Linear property, Change of scale property, Shifting property - Parseval's identity for Fourier transforms (without proof) – Application of transforms to boundary value problems: Heat conduction, Vibrations of a string, Transmission lines.

**Note:** Questions are to be set on problem solving and not on the theoretical aspects.

#### Prescribed Text Book:

Grewal B.S, Higher Engineering Mathematics, 41st Edition, Khanna Publishers, New Delhi, 2011.

#### References

- Erwin Kreyszig, Advanced Engineering Mathematics, John Wiley & Sons, 9<sup>th</sup> Edition, 2006
- Gerald C.F and Wheatley P.O, Applied Numerical Analysis, Addison-Wesley Publishing Company, 7<sup>th</sup> Edition, 2003
- Ramana.B.V. Higher Engineering Mathematics, Tata McGraw Hill New Delhi, 11<sup>th</sup> reprint, 2010.

**SEMESTER – IV**  
**ENGINEERING MATHEMATICS – IV**  
**(B.E. Fourth SEMESTER – MECHANICAL ENGINEERING)**

(For students admitted in 2017-2021 batch)

To provide a definite idea about complex functions and their applications. To solve series solution of differential equation, higher order partial differential equations and difference equation.

**Unit I: Analytic Functions**

Limit and continuity of a complex function - Derivative of a complex function: Cauchy Riemann equations – Analytic functions – Harmonic functions - Orthogonal system – Applications to flow problems – Geometric representation of a complex function - Standard transformations: Translation, Magnification and rotation, Inversion and reflection, Bilinear transformation - Conformal transformation – Special conformal transformations :  $e^z, z^2, z + \frac{1}{z}$  Outline of applications of analytic functions in engineering

**Unit II: Complex Integration**

Integration of complex functions – Cauchy's theorem (without proof) – Cauchy's integral formula (without proof) – Taylor's series (without proof)– Laurent's series (without proof) – Zeros and Singularities of an analytic function – Residues – Residue theorem (without proof) – Calculation of residues – Evaluation of real definite integrals: Integration around the unit circle, Integration around a small semi-circle, Integration around rectangular contours, Indenting the contours having poles on the real axis – Outline of applications of complex integration in engineering.

**Unit III: Calculus of Variations**

Functionals – Euler's Equation - Solutions of Euler's equation – Geodesics – Isoperimetric problems – Several dependant variables – Functionals involving higher order derivatives – Approximate solution of boundary value problems: Rayleigh-Ritz method.

**Unit IV: Partial Differential Equations**

Formation of partial differential equations – Solution of a partial differential equation – Equations solvable by direct integration – Linear equations of first order – Non-linear equations of the first order – Charpit's method - Homogeneous linear equations with constant coefficients – Rules for finding complementary functions – Rules for finding particular integral – Solution of homogeneous linear equation of any order.

## Unit V: Applications of Partial Differential Equations

Method of separation of variables – Vibration of a stretched string: Wave equation – Solution of Wave equation - D'Alembert's solution of wave equation – One dimensional heat flow – Solution of heat equation – Two dimensional heat flow – Solution of Laplace equation: temperature distribution in long plates, Temperature distribution in finite plates.

### Prescribed Text Book:

Grewal B.S, Higher Engineering Mathematics, 41st Edition, Khanna Publishers, New Delhi, 2011.

### References

1. Erwin Kreyszig, Advanced Engineering Mathematics, John Wiley & Sons, 9<sup>th</sup> Edition, 2006
2. N.P.Bali, Manish Goyal, A Text Book of Engineering Mathematics, Laksmi Publications, 2010 reprint.
3. Ramana.B.V. Higher Engineering Mathematics, Tata McGraw Hill New Delhi, 11<sup>th</sup> reprint, 2010.

## Semester V

### **APPLIED MATHEMATICS FOR MECHANICAL ENGINEERS III (B.E. FIFTH SEMESTER – MECHANICAL ENGINEERING)**

(For students admitted from 2012-13)

#### **UNIT I**

#### **(FOURIER SERIES)**

Euler's Formulae (Without Proof) – Condition for Fourier expansion – Functions having points of discontinuity – Change of interval – Expansions of even and odd functions -

Half-Range series – Parseval's formula (without proof) – Root mean square value (without proof) – Typical waveforms (Definition Only): Square wave form, Saw toothed waveform, Modified saw toothed waveform, Triangular waveform, Half wave rectifier, Full wave rectifier - Outline of applications of Fourier series in engineering

#### **UNIT II**

#### **(CALCULUS OF VARIATIONS)**

Functionals – Euler's Equation - Solutions of Euler's equation – Geodesics – Isoperimetric problems – Several dependant variables – Functionals involving higher

order derivatives – Approximate solution of boundary value problems: Rayleigh-Ritz method.

### UNIT III

#### **(COLLECTION AND ANALYSIS OF DATA)**

Classification and tabulation of data - Frequency tables - Graphical representation - Measures of central tendency : Averages, mean, median, mode, Geometric and harmonic means - Measures of dispersion : Range, quartile deviation, Mean deviation, Standard deviation - Relative distribution - Moments - Skewness - Kurtosis - Linear correlation - Coefficient of correlation - Grouped data : calculation of correlation coefficient - Rank correlation - Linear regression - Regression lines.

### UNIT IV

#### **(ANALYSIS OF TIME SERIES)**

Measurement of trend: Freehand method, Semi-average method, Moving average method, Method of least squares – Measuring trends by logarithms – Measurement of seasonal variations: Method of simple averages, Ratio-to-trend method, Ratio-to-moving average method, Link relative method – Measurement of cyclic variations: Residual method, Reference cycle analysis method, Direct method, Harmonic analysis method – Measurement of irregular variations – Outline of applications of analysis of time series in engineering.

### UNIT V

#### **(DESIGN OF EXPERIMENTS)**

Parameters and statistics – Sampling distribution – Tests of hypothesis and tests of significance – Critical region and level of significance – Errors in testing of hypothesis – one tailed and two tailed tests – Procedure for testing of hypothesis – Design of experiments – Completely randomized design: Analysis of variance for one factor of classification – Randomized block design: Analysis of variance for two factors of classification – Latin square design: Analysis of variance for three factors of classification – Outline of applications of design of experiments in engineering.

**Note:** Questions are to be set on problem solving and not on the theoretical aspects.

## **PRESCRIBED TEXT BOOKS**

1. Grewal B.S, Higher Engineering Mathematics, 41st Edition, Khanna Publishers, New Delhi, 2011.
2. Gupta S.P, Statistical Methods, 31<sup>st</sup> Edition, Sultan Chand and Sons., New Delhi, 2002.

## **REFERENCES**

1. Erwin Kreyszig, Advanced Engineering Mathematics, John Wiley & Sons
2. Forsyth, Calculus of variations, Cambridge.
3. Snedecor George W. Cochran William G, Statistical Methods, Affiliated East West Press

Semester – VII  
OPERATION RESEARCH  
**(B.E. SEVENTH SEMESTER – MECHANICAL ENGINEERING)**

(For students admitted from 2012-13)

**UNIT I**

**(LINEAR PROGRAMMING AND SIMPLEX METHOD)**

Mathematical formulation of the problem - Graphical solution method - Exceptional cases - General linear programming problem - Canonical and standard forms of linear programming problem - The simplex method - Computational procedure : The simplex algorithm - Artificial variable techniques : Big M method, Two phase method - problem of degeneracy.

**UNIT II**

**(TRANSPORTATION, ASSIGNMENT AND ROUTING PROBLEMS)**

Mathematical formulation of the transportation problem - Triangular basis - Loops in a transportation table - Finding initial basic feasible solution (NWC, IBM and VAM methods) - Moving towards optimality - Degeneracy in transportation problems- Transportation algorithm (MODI method) - Unbalanced transportation problems - Mathematical formulation of the assignment problem - Assignment algorithm : Hungarian assignment method - Routing problems : Travelling salesman problem.

**UNIT III**

**(GAME THEORY AND SEQUENCING PROBLEMS)**

Two person zero sum games - Maxmin Minmax principle - Games without saddle points (Mixed strategies) - Solution of 2 X 2 rectangular games - Graphical method - Dominance property - Algebraic method for  $m \times n$  games - Matrix oddments method for  $m \times n$  games - Problem of sequencing - Problems with  $n$  jobs and 2 machines - Problems with  $n$  jobs and  $k$  machines - Problems with 2 jobs and  $k$  machines.

## **UNIT IV**

### **INTEGER PROGRAMMING AND INVENTORY CONTROL)**

Gomory's All I.P.P method - Gomory's mixed integer method - Branch and bound method - Reasons for carrying inventory - Types of inventory - Inventory decisions - Economic order quantity - Deterministic inventory problem - EOQ problem with price breaks - Multi item deterministic problem.

## **UNIT V**

### **(REPLACEMENT PROBLEMS AND PERT/CPM)**

Replacement of equipment or asset that deteriorates gradually - Replacement of equipment that fails suddenly - Recruitment and promotion problem - Network and basic components - Rules of network construction - Time calculations in networks - Critical path method (CPM) - PERT - PERT calculations - Negative float and negative Slack - Advantages of network (PERT/CPM).

## **TEXT BOOK**

1. Kanti Swarup, P.K.Gupta and Man Mohan, Operations Research, Eighth Edition, Sultan Chand & Sons, New Delhi, 1999.

## **REFERENCES**

1. H.A.Taha, Operations Research, Sixth Edition, MacMillen.
2. Richard Bronson, Operations Research, (Schaum's Outline Series, McGraw Hill Company, 1982.
3. J.K.Sharma, Operation Research (Theory and Applications), Mac Millen Ltd., 1997

**CIVIL AND CIVIL  
STRUCTURAL  
ENGINEERING**

## **SEMESTER – I**

### **MATHEMATICS – I – CALCULUS , MULTIVARIABLE CALCULUS AND LINEAR ALGEBRA**

#### **(B.E. FIRST SEMESTER – CIVIL & CIVIL STRUCTURE ENGINEERING)**

**(For the students admitted from 2018-19)**

The objective of this course is to familiarize the prospective engineers with techniques in calculus, multivariate analysis and linear algebra. It aims to equip the students with standard concepts and tools at an intermediate to advanced level that will serve them well towards tackling more advanced level of mathematics.

#### Unit-I Matrix

Symmetric- Skew-symmetric- Orthogonal matrices - Eigen values and Eigenvectors - Cayley-Hamilton Theorem - Diagonalization of Matrices - Orthogonal transformation and Quadratic to Canonical forms.

#### Unit-II Sequence & Series

Convergence of sequence and series - tests for convergence - Comparison test - D'Alembert's ratio test - Raabe's test - Cauchy's root test - Fourier series: Half range sine and cosine series - Parseval's theorem.

#### Unit-III Multivariable Calculus - Differentiation

Evolutes and Involutives - Partial derivatives - Total derivative - Maxima, Minima and Saddle points - Vector differentiation: Directional Derivatives - Tangent Plane and Normal line - Gradient, Divergence and Curl - Solenoidal - Irrotational.

#### Unit-IV Multiple Integrals

Multiple Integration - Double and Triple integrals (Cartesian and polar) - Change of order of integration in double integrals - Applications of definite integrals to evaluate surface areas and volumes of revolutions.

#### Unit –V Vector Integration

Theorems of Green, Gauss and Stokes (without proof) - Beta and Gamma functions and their properties

### **Suggested Books**

1. B.S. Grewal, Higher Engineering Mathematics, Khanna Publishers, 35th Edition, 2000.
2. G.B. Thomas and R.L. Finney, Calculus and Analytic geometry, 9th Edition, Pearson, reprint, 2002.
3. Veerarajan T., Engineering Mathematics for first year, Tata McGraw-Hill, New Delhi, 2008.
4. Ramana B.V., Higher Engineering Mathematics, Tata McGraw Hill New Delhi, 11th Reprint, 2010.
5. N.P. Bali and Manish Goyal, A text book of Engineering Mathematics, Laxmi Publications, Reprint, 2010.
6. E. Kreyszig, Advanced Engineering Mathematics, John Wiley & Sons, 2006.

## SEMESTER – II

### MATHEMATICS – II – DIFFERENTIAL EQUATIONS, NUMERICAL METHODS

(B.E. SECOND SEMESTER – CIVIL & CIVIL STRUCTURE ENGINEERING)

**(For the students admitted from 2018-19)**

The objective of this course is to familiarize the prospective engineers with techniques in ordinary differential equations of higher order, Partial differential equations, Numerical methods and integration. It aims to equip the students with standard concepts and tools at an intermediate to advanced level that will serve them well towards tackling more advanced level of mathematics.

To understand the basic concepts in Ordinary and Partial Differential Equations.

Unit- I Ordinary Differential Equations of Higher Orders

Operator D – Rules for finding complementary function – Rules for finding particular Integral – Working procedure to solve the equation - Method of variation of parameters - Equations reducible to linear equations with constant coefficients: Cauchy's homogeneous linear equation.

Unit- II Partial Differential Equations – First order

Formation of partial differential equations – Solution of a partial differential equation – Equations solvable by direct integration – Linear equations of first order – Non linear equations of the first order

Unit- III Partial Differential Equations – Higher order

Solution to homogeneous and non-homogeneous linear partial differential equations second and higher order by complementary function and particular integral method.

Method of separation of variables – Vibration of a stretched string: Wave equation – Solution of Wave equation - D'Alembert's solution of wave equation – One dimensional heat flow – Solution of heat equation.

Unit-IV Numerical Methods

Solution of algebraic and transcendental equations - Bisection method – Method of false position (Regula-Falsi Method) - Newton-Raphson Iterative method- Numerical integration: Trapezoidal rule - Simpson's one-third rule - Simpson's

three-eighth rule.

#### Unit- V Numerical Solution of Ordinary Differential Equations

Interpolation with equal intervals – Newton’s forward interpolation formula  
– Newton’s backward interpolation formula - Interpolation with unequal intervals: Lagrange’s interpolation formula, Newton’s divided difference formula. Picard’s method – Taylor series method - Modified Euler’s method  
– Runge’s method – Runge-Kutta method – Predictor-corrector methods: Milne’s method,

#### Suggested Books

1. Grewal B.S, Higher Engineering Mathematics, 41st Edition, Khanna Publishers, New Delhi, 2011.
2. P. Kandasamy, K. Thilagavathy, K. Gunavathi, Numerical Methods, S.Chand & Company, 2<sup>nd</sup> Edition, Reprint 2012.
3. Chandrika Prasad, Advanced Engineering Mathematics, Khanna Book Publishing Co. (P) Ltd., Delhi
4. Ramana B.V., Higher Engineering Mathematics, Tata McGraw Hill
5. Sashtry, Advanced Engineering Mathematics (ISBN:9788120336094), PHI

**SEMESTER – III**  
**ENGINEERING MATHEMATICS -III**  
**(B.E. THIRD SEMESTER – CIVIL & CIVIL STRUCTURE**  
**ENGINEERING)**

(For students admitted in 2017-2021 batch)

To enable the students in applying mathematical methods in various engineering fields by making them to understand the method of Fourier series and Fourier Transform and Z-Transform.

**Unit I: Interpolation and Numerical Solution of Ordinary Differential Equations**

Interpolation with equal intervals – Newton's forward interpolation formula – Newton's backward interpolation formula - Interpolation with unequal intervals: Lagrange's interpolation formula, Newton's divided difference formula. Picard's method – Taylor series method - Modified Euler's method – Runge's method – Runge-Kutta method – Predictor-corrector methods: Milne's method, Outline of applications of numerical solutions of ordinary differential equations in engineering.

**Unit II: Fourier Series**

Euler's Formulae (Without Proof) – Condition for Fourier expansion – Functions having points of discontinuity – Change of interval – Expansions of even and odd functions – Half Range series – Parseval's formula (without proof) – Root mean square value (without proof) – Typical waveforms (Definition Only): Square wave form, Saw toothed waveform, Modified saw toothed waveform, Triangular waveform, Half wave rectifier, Full wave rectifier - Outline of applications of Fourier series in engineering

**Unit III: Laplace Transforms and Its Applications**

Transforms of elementary functions :  $1, t^n, e^{at}, \sin at, \cos at, \sinh at, \cosh at$  - Properties of Laplace transforms: Linearity Property, First shifting property, Change of scale property – Transforms of derivatives - Transforms of integrals - Multiplication by  $t^n$  - Division by  $t$  - Evaluation of integrals by Laplace transform - Inverse transforms: Method of partial fractions – Other methods of finding inverse - Convolution theorem (Without proof) - Unit step function – Unit Impulse Function - Application to differential equations – Outline of applications of Laplace transforms in engineering.

#### Unit IV: Z – Transform and Its Applications

Standard z-transforms of  $1, \alpha^n, n^p$  – Linearity property – Damping rule – Shifting rules – Multiplication by n - Initial and final value theorems (without proof) – inverse z – transforms – Convolution theorem (without proof) – Convergence of z-transforms – Two sided z-transform – Evaluation of inverse z-transforms: Power series method, Partial fraction method, inversion integral method – Application to difference equations – Outline of applications of z-transform in engineering

#### Unit V: Fourier Transforms and Its Applications

Fourier integral theorem (without proof) - Fourier Sine and Cosine integrals – Complex form of Fourier integral - Fourier integral representation of a function - Fourier transform – Fourier sine and Cosine transforms – Properties of Fourier Transforms: Linear property, Change of scale property, Shifting property - Parseval's identity for Fourier transforms (without proof) – Application of transforms to boundary value problems: Heat conduction, Vibrations of a string, Transmission lines.

**Note:** Questions are to be set on problem solving and not on the theoretical aspects.

#### **Prescribed Text Book:.**

Grewal B.S, Higher Engineering Mathematics, 41st Edition, Khanna Publishers, New Delhi, 2011.

References

Erwin Kreyszig, Advanced Engineering Mathematics, John Wiley & Sons, 9<sup>th</sup> Edition, 2006

2. Gerald C.F and Wheatley P.O, Applied Numerical Analysis, Addison-Wesley Publishing Company, 7<sup>th</sup> Edition, 2003

3. Ramana.B.V. Higher Engineering Mathematics, Tata McGraw Hill New Delhi, 11<sup>th</sup> reprint, 2010.

**SEMESTER – IV**  
**ENGINEERING MATHEMATICS -IV**  
**(B.E. FOURTH SEMESTER – CIVIL & CIVIL STRUCTURE**  
**ENGINEERING)**

(For students admitted in 2017-2021 batch)

To provide a definite idea about complex functions and their applications. To solve series solution of differential equation, higher order partial differential equations and difference equation.

**Unit I: Analytic Functions**

Limit and continuity of a complex function - Derivative of a complex function: Cauchy Riemann equations – Analytic functions – Harmonic functions - Orthogonal system – Applications to flow problems – Geometric representation of a complex function - Standard transformations: Translation, Magnification and rotation, Inversion and reflection, Bilinear transformation - Conformal transformation – Special conformal transformations :  $e^z, z^2, z + \frac{1}{z}$  Outline of applications of analytic functions in engineering

**Unit II: Complex Integration**

Integration of complex functions – Cauchy's theorem (without proof) – Cauchy's integral formula (without proof) – Taylor's series (without proof)– Laurent's series (without proof) – Zeros and Singularities of an analytic function – Residues – Residue theorem (without proof) – Calculation of residues – Evaluation of real definite integrals: Integration around the unit circle, Integration around a small semi-circle, Integration around rectangular contours, Indenting the contours having poles on the real axis – Outline of applications of complex integration in engineering.

**Unit III: Calculus of Variations**

Functionals – Euler's Equation - Solutions of Euler's equation – Geodesics – Isoperimetric problems – Several dependant variables – Functionals involving higher order derivatives – Approximate solution of boundary value problems: Rayleigh-Ritz method.

**Unit IV: Partial Differential Equations**

Formation of partial differential equations – Solution of a partial differential equation – Equations solvable by direct integration – Linear equations of first order – Non-linear equations of the first order – Charpit's method - Homogeneous linear equations with constant coefficients – Rules for finding complementary functions – Rules for finding particular integral – Solution of homogeneous linear equation of any order.

## Unit V: Applications of Partial Differential Equations

Method of separation of variables – Vibration of a stretched string: Wave equation – Solution of Wave equation - D'Alembert's solution of wave equation – One dimensional heat flow – Solution of heat equation – Two dimensional heat flow – Solution of Laplace equation: temperature distribution in long plates, Temperature distribution in finite plates.

### **Prescribed Text Book:**

Grewal B.S, Higher Engineering Mathematics, 41st Edition, Khanna Publishers, New Delhi, 2011.

### **References**

1. Erwin Kreyszig, Advanced Engineering Mathematics, John Wiley & Sons, 9<sup>th</sup> Edition, 2006
2. N.P.Bali, Manish Goyal, A Text Book of Engineering Mathematics, Lakshmi Publications, 2010 reprint.
3. Ramana.B.V. Higher Engineering Mathematics, Tata McGraw Hill New Delhi, 11<sup>th</sup> reprint, 2010.

**SEMESTER V**  
**APPLIED MATHEMATICS FOR CIVIL ENGINEERS III**  
**(B.E. FIFTH SEMESTER – CIVIL AND STRUCTURAL ENGINEERING)**

(For students admitted from 2012-13)

UNIT I

**(COLLECTION AND ANALYSIS OF DATA)**

Classification and tabulation of data - Frequency tables - Graphical representation  
- Measures of central tendency : Averages, mean, median, mode, Geometric and harmonic means - Measures of dispersion : Range, quartile deviation, Mean deviation, Standard deviation - Relative distribution - Moments - Skewness - Kurtosis - Linear correlation - Coefficient of correlation - Grouped data : calculation of correlation coefficient - Rank correlation - Linear regression - Regression lines.

UNIT II

**(PROBABILITY THEORY)**

Random experiment – Mathematical, statistical and axiomatic definitions of probability – Conditional probability – Independent events - Theorem of total probability – Theorem of probability of causes: Bayes's theorem – Bernoulli's trials – De Moivre-Laplace approximation – Generalization of Bernoulli's theorem multinomial distribution – Outline of applications of probability theory in engineering.

UNIT – III

**(THEORETICAL DISTRIBUTIONS)**

Binomial distribution: Properties and constants of Binomial distribution – Fitting a Binomial distribution - The multinomial distribution – Negative Binomial distribution – Poisson distribution: Properties and constants of Poisson distribution – Fitting a Poisson distribution – Hyper-geometric distribution – Normal distribution: Properties and constants of Normal distribution – Fitting a normal curve – Outline of applications of theoretical distributions in engineering

## UNIT IV

### (ANALYSIS OF TIME SERIES)

Measurement of trend: Freehand method, Semi-average method, Moving average method, Method of least squares – Measuring trends by logarithms – Measurement of seasonal variations: Method of simple averages, Ratio-to-trend method, Ratio-to-moving average method, Link relative method – Measurement of cyclic variations: Residual method, Reference cycle analysis method, Direct method, Harmonic analysis method – Measurement of irregular variations – Outline of applications of analysis of time series in engineering.

## UNIT V

### (DESIGN OF EXPERIMENTS)

Parameters and statistics – Sampling distribution – Tests of hypothesis and tests of significance – Critical region and level of significance – Errors in testing of hypothesis – One tailed and two tailed tests – Procedure for testing of hypothesis – Design of experiments – Completely randomized design: Analysis of variance for one factor of classification – Randomized block design: Analysis of variance for two factors of classification – Latin square design: Analysis of variance for three factors of classification – Outline of applications of design of experiments in engineering.

**Note:** Questions are to be set on problem solving and not on the theoretical aspects.

### PRESCRIBED TEXT BOOK

Gupta S.P, Statistical Methods, 28<sup>th</sup> Edition, Sultan Chand and Sons., New Delhi, 1997.

### REFERENCES:

1. Montgomery Douglas C. and. Runger George C, Applied Statistics and Probability for Engineers, John Wiley & Sons, Inc,
2. Richard Isaac, The Pleasures of Probability, Springer Verlag, 1995.
3. Spiegel Murry R., Stephens Larry J. Statistics, (Schaum's Outline Series), McGraw Hill Company

**COMPUTER  
SCIENCE AND  
INFORMATION  
TECHNOLOGY**

## **SEMESTER – I**

### **MATHEMATICS I – CALCULUS & LINEAR ALGEBRA**

#### **(B.E. FIRST SEMESTER – COMPUTER SCIENCE ENGINEERING & INFORMATION TECHNOLOGY)**

**(For students admitted in 2018-2019 batch)**

The objective of this course is to familiarize the prospective engineers with techniques in calculus, Multi-variable calculus and sequence and series. It aims to equip the students with standard concepts and tools at an intermediate to advanced level that will serve them well towards tackling more advanced level of mathematics.

#### **Unit I: Calculus**

Evaluation of definite and improper integrals- Beta and Gamma functions and their properties - Applications of definite integrals to evaluate surface areas and volumes of revolutions.

#### **Unit II: Numerical Methods**

Solution of polynomial and transcendental equations – Bisection method-Newton-Raphson method-Regula-Falsi Method. Interpolation- Newton's forward and backward difference formulae- Interpolation with unequal intervals-Newton's divided difference and Lagrange's formulae-Numerical Differentiation.

#### **Unit III: Sequences and Series**

Convergence of sequence and series-tests for convergence- Comparison test- D'Ambert's ratio test- Raabe's test-Lagrange's test- Cauchy's root test- Fourier series: Half range sine and cosine series-Parseval's theorem.

#### Unit IV: Multivariable Calculus (Differentiation)

Limit-Continuity - Partial derivatives, total derivatives- Directional derivatives- Tangent plane and normal line- Maxima, minima and saddle points-Method of Lagrange multipliers-Gradient-Curl -Divergence.

#### Unit V: Matrices

Matrices: Rank of a matrix-rank-nullity theorem-System of linear equations- Symmetric matrices-Skew symmetric matrices- Orthogonal matrices; Eigen values and Eigenvectors- Cayley-Hamilton theorem-Diagonalization of matrices

#### **Suggested Books**

1. B.S. Grewal, "Higher Engineering Mathematics", Khanna Publishers, 2000.
2. G.B. Thomas and R.L. Finney, Calculus and Analytic geometry, Pearson, 2002.
3. T. Veerarajan, Engineering Mathematics, McGraw-Hill, New Delhi, 2008.
4. B. V. Ramana, Higher Engineering Mathematics, McGraw Hill, New Delhi, 2010.
5. N.P. Bali and M. Goyal, A text book of Engineering Mathematics, Laxmi Publications, 2010..
6. E. Kreyszig, Advanced Engineering Mathematics, John Wiley & Sons, 2006.

**SEMESTER – II**  
**MATHEMATICS II – PROBABILITY & STATISTICS**  
**(B.E. SECOND SEMESTER – COMPUTER SCIENCE**  
**ENGINEERING & INFORMATION TECHNOLOGY)**

**(For students admitted in 2018-2019 batch)**

The objective of this course is to familiarize the students with statistical techniques. It aims to equip the students with standard concepts and tools at an intermediate to advanced level that will serve them well towards tackling various problems in the discipline.

**Unit I: Basic Probability:**

Probability spaces, conditional probability, Independent random variables, sums of independent random variables, Bayes' Theorem, Discrete and Continuous one dimensional random variables - Expectations, Moments, Variance of a sum, Moment generating function, Tchebyshev's Inequality.

**Unit II: Probability Distributions:**

Discrete Distributions – Binomial, Poisson and Negative Binomial distributions, Continuous Distributions - Normal, Exponential and Gamma distributions.

**Unit III: Basic Statistics:**

Measures of Central tendency: Averages, mean, median, mode, Measures of dispersion – Range, Mean deviation, Quartile deviation and Standard deviation, Moments, skewness and Kurtosis, Correlation and regression – Rank correlation.

**Unit IV: Applied Statistics:**

Curve fitting by the method of least squares- fitting of straight lines, second degree parabolas and more general curves. Test of significance: Large sample test for single proportion, difference of proportions, single mean, difference of means, and difference of standard deviations.

**Unit V: Small samples:**

Test for single mean, difference of means and correlation coefficients, test for ratio of variances - Chi-square test for goodness of fit and independence of attributes.

**Suggested Text Books:**

1. T. Veerarajan, Probability, Statistics and Random Processes, Third edition, Tata McGraw-Hill, New Delhi, 2010.
2. S.P. Gupta, Statistical Methods, 31<sup>st</sup> edition, Sultan chand and sons, New Delhi, 2002.
3. Erwin Kreyszig, Advanced Engineering Mathematics, 9th Edition, John Wiley & Sons, 2006.
4. B.S. Grewal, Higher Engineering Mathematics, Khanna Publishers, 35th Edition, 2000.
5. S. Ross, A First Course in Probability, 6th Ed., Pearson Education India, 2002.
6. W. Feller, An Introduction to Probability Theory and its Applications, Vol. 1, 3rd Ed., Wiley, 1968.
7. N.P. Bali and Manish Goyal, A text book of Engineering Mathematics, Laxmi Publications, Reprint, 2010.

## **SEMESTER – III**

### **APPLIED MATHEMATICS FOR COMPUTERS - I**

#### **(B.E. THIRD SEMESTER – COMPUTER SCIENCE ENGINEERING & INFORMATION TECHNOLOGY)**

**(For students admitted in 2012-2013 batch)**

Any person can learn this Paper but before that the candidate can know the formula's of Differentiation and Integration.

To get knowledge about differential equations, Probability Theory, Distributions and Testing of Hypothesis.

#### **OBJECTIVES:**

1. To introduce the basic concepts of one dimensional and two dimensional Random Variables.
2. To provide information about Estimation theory, Correlation, Regression and Testing of hypothesis.
3. To enable the students to use the concepts of multivariate normal distribution and principle components analysis.

#### **OUTCOME:**

After completion of the course the students are expected to be able to:

The student will be able to acquire the basic concepts of Probability and Statistical techniques for solving mathematical problems which will be useful in solving Engineering Problems.

#### **UNIT – I**

##### **(INTERPOLATION AND NUMERICAL INTEGRATION)**

Interpolation with equal intervals – Newton's forward interpolation formula - Newton's backward interpolation formula - – Interpolation with unequal intervals: Lagrange's interpolation formula, Newton's divided difference formula – Numerical integration: Trapezoidal rule- Simpson's one-third rule – Simpson's three-eighth rule – Outline of applications of interpolation & Numerical integration in engineering.

## **UNIT – II**

### **(NUMERICAL SOLUTION OF ORDINARY DIFFERENTIAL EQUATIONS)**

Picard's method – Taylor's series method – Euler's method – Modified Euler's method – Runge's method – Runge-Kutta method – Predictor-corrector method :Milne's method, Adam's Bashforth method - Outline of applications of numerical solution of ordinary differential equations in Engineering.

## **UNIT – III**

### **(PROBABILITY THEORY)**

Random experiment – Mathematical, statistical and axiomatic definitions of probability – Conditional probability – Independent events - Theorem of total probability – Theorem of probability of causes: Bayes's theorem – Bernoulli's trials – De Moivre-Laplace approximation – Generalization of Bernoulli's theorem multinomial distribution – Outline of applications of probability theory in engineering.

## **UNIT – IV**

### **(THEORETICAL DISTRIBUTIONS)**

Binomial distribution: Properties and constants of Binomial distribution – Fitting a Binomial distribution - The multinomial distribution – Negative Binomial distribution – Poisson distribution: Properties and constants of Poisson distribution – Fitting a Poisson distribution – Hyper-geometric distribution – Normal distribution: Properties and constants of Normal distribution – Fitting a normal curve – Outline of applications of theoretical distributions in engineering

## **UNIT – V**

### **(TESTING OF HYPOTHESIS)**

Tests of Hypothesis- Sampling distribution-Estimation and testing of hypothesis- Tests of hypothesis and tests of significance- Critical region and level of significance- Errors in testing of hypothesis- One-tailed and Two-tailed tests- Critical values – procedure of testing of hypothesis-Tests of significance for large samples–Tests of significance for small samples- Student's t-Distribution- Snedecor's F-distribution-Chi-square distribution-Chi-square test of Goodness of fit.

## **TEXT BOOK**

1. Grewal B.S, Higher Engineering Mathematics, 41st Edition, Khanna Publishers, New Delhi, 2011.
2. Veerarajan. T., Probability, Statistics and Random Processes, Third Edition, Tata McGraw-Hill Publishers, New Delhi 2008.

## **REFERENCE BOOKS**

1. Erwin Kreyszig, Advanced Engineering Mathematics , 10th Edition, John Wiley & Sons, 2010
2. Gerald C.F and Wheatley P.O, Applied Numerical Analysis, 7th Edition , Pearson Education India, 2007
3. Gupta S.P, Statistical Methods, 28th Edition, Sultan Chand & Sons., New Delhi, 1997.

**SEMESTER – III**  
**APPLIED DISCRETE MATHEMATICS**  
**(B.E. THIRD SEMESTER – COMPUTER SCIENCE**  
**ENGINEERING & INFORMATION TECHNOLOGY)**

**(For Computer Science Engineering students admitted in 2012-2013 batch)**

Understanding of Math (in general Sets, Boolean Algebra, Graphs, State Machines, ideas of Algorithms)

Introduce the students to the foundational aspects of combinatorial mathematics via a selection of topics like graphs, relations, trees, state machine.

**OBJECTIVES:**

1. To introduce a number of discrete mathematical structures found to be serving as tools in the development of theoretical computer science.
2. To focus on how discrete structures actually helped computer engineers to solve problems occurred in the development of programming languages.
3. To know about the importance of discrete structures towards simulation of a problem to computer science & engineering.

**OUTCOME:**

After completion of the course the students are expected to be able to

1. Have knowledge on various discrete structures.
2. Define the key concepts of graph theory and use graph structures to represent data sets and relations on them.
3. Deal with problems which may arrive in computer science & engineering.
4. Prepare for entrance examinations involving placement opportunities.

**UNIT – I**

**(RELATIONS AND DIGRAPHS)**

Product sets and partitions – Relations and digraphs – Paths in relations and digraphs – Properties of relations – Equivalence relations – Computer representation of relations and digraphs – Operations on relations – Transitive closure and Warshall's algorithm – Outline of applications of digraphs in information technology.

## **UNIT – II**

### **(ORDER RELATIONS AND STRUCTURES)**

Partially ordered sets – External elements of partial ordered sets – Lattices – Finite Boolean algebras – Functions of Boolean algebras – Circuit designs – Outline of applications of Boolean algebras in information technology.

## **UNIT – III**

### **(TREES)**

Trees – Labelled trees – Tree searching – Undirected trees – Minimal spanning trees – Outline of applications of trees in information technology.

## **UNIT – VI**

### **(TOPICS IN GRAPH THEORY)**

Graphs – Euler paths and circuits – Hamiltonian paths and circuits – Transport networks – Matching problems – Coloring problems – Outline of applications of graph theory in information technology.

## **UNIT – V**

### **(LANGUAGES AND FINITE STATE MACHINES)**

Semi groups (Definition only) – Product and quotients and semi groups (Definition only) - Languages – Representations of special grammars and languages – Finite state machines – Semi groups, machines and languages – Machines and regular languages – Simplification of machines– Outline of applications of finite state machines in information technology.

Note: Questions are to be set on problem solving and not on the theoretical aspects.

### **TEXT BOOK:**

1. Kolman B., Busby R.C. and Ross S., Discrete Mathematical Structures for Computer Science, Fifth Edition, Prentice Hall of India, New Delhi, 2006.

### **REFERENCE BOOKS:**

1. Kenneth H. Rosen, Discrete Mathematics and its Applications, 7<sup>th</sup> Edition, Tata McGraw Hill, 2011
2. Susanna S. Epp, Discrete Mathematics with Applications, 4<sup>th</sup> Edition, Brookes/Cole Publishing Company, 2010
3. J.P.Trembley, R.Monahor, Discrete Mathematical Structures with Applications to Computer Science, Tata McGraw Hill, New Delhi

**SEMESTER – IV**  
**MATHEMATICAL LOGIC AND**  
**COMBINATORICS**

**(B.E. FOURTH SEMESTER – COMPUTER SCIENCE ENGINEERING &  
INFORMATION TECHNOLOGY)**

(For Computer Science Engineering students admitted in 2015 batch)

The person who can learn this Subject before that the candidate can know the basic Knowledge of normal forms (Conjunctive & Disjunctive).

To get more Knowledge about Normal forms, Combinations, Permutations, Binomial coefficients and Recurrence Relations.

**OBJECTIVES:**

1. To review sets, relations, functions, and other foundations
2. To understand propositional and predicate logics and their applications
3. To understand formal models of computations and Permutations.
4. To review the rules of Conjunctive normal forms and Disjunctive normal form.

**OUTCOME:**

After successfully completing this course a student should be able to

1. To explain sets, relations, functions.
2. To conduct proofs using normal forms and Duality Law.
3. To apply counting, permutations, combinations, and recurrence relations
4. To explain logic programming and functional programming principles

**UNIT – I**

Mathematical logic- Connectives-Negation-Conjunction-Disjunction-Statement formulas and truth tables-Conditional and Biconditional-Well formed formulas-Tautologies-Equivalence of formulas-Duality law-Tautological implications-Formulas with distinct truth tables-Functionally complete set of connectives.

**UNIT – II**

Normal forms-Disjunctive normal forms-Conjunctive normal forms- Principle of disjunctive normal forms-Principle of conjunctive normal forms-The theory of inference for statement calculus-validity using truth tables-Rules of inference-Consistency of premises and indirect method of proof.

### **UNIT – III**

Basics of counting-Sum rule-Product rule-Combinations and Permutations-Enumerating combinations and permutations with repetitions-Enumerating permutations with constrained repetitions.

### **UNIT – IV**

Binomial coefficients-Problems on multinomial theorem- Principle of inclusion and exclusion-Generating function models-Calculating coefficients of generating functions.

### **UNIT – V**

Recurrence relations- The Fibonacci relation-properties of Fibonacci numbers-Solving recurrence relations by substitutions and generating functions-Methods of characteristic roots-Solutions of In homogenous recurrence relations- methods of undetermined coefficients.

### **TEXT BOOKS**

1. Discrete Mathematical Structures with Applications to Computer Science- J.P.Tremblay and R. Manohar-McGraw-Hill International Editon ,1987(Units-I & Unit-II)
2. Discrete Mathematics for Computer Scientists & Mathematicians- JeoL.Mott, Abraham Kandel-Theodore P.Baker-Second Edition,Eastern Economy Edition(PHI),1986( Unit-III, Unit-V and Unit-V)

### **REFERENCES**

1. Fundamentals of Discrete Mathematical Structures, K.R. Chowdhary,Third Edition, PHI Learning,2015

SEMESTER – V  
AUTOMATA THEORY  
**(B.E. FOURTH SEMESTER – COMPUTER SCIENCE ENGINEERING &  
INFORMATION TECHNOLOGY)**

(For Computer Science Engineering students admitted from 2012-2013)

Basic knowledge of Mathematics, Set theory, Mathematical induction principles.

**AIM:**

To develop mathematical foundation to help in courses on compilerdesigner, digital circuits and software programming

**OBJECTIVES:**

The objective of the course is to impart knowledge on Automata Theory

**OUTCOME:**

1. After completion of the subject the students are expected to be able to
2. Design of digital circuits.
3. Design of Lexical analyzer
4. Designing software for identifying the words, phrases and other patterns in large bodies of text.
5. To write software for processing the natural language.
6. To apply in Artificial Intelligence and knowledge engineering, in game theory and games, computer graphics, linguistics etc.,

## **UNIT – I**

### **FINITE AUTOMATA**

An informal picture of finite automata - Deterministic finite automata – Non-deterministic finite automata – An application: Text search – Finite automata with epsilon transitions

## **UNIT II**

### **REGULAR EXPRESSIONS AND LANGUAGES**

Regular expressions – Finite automata and regular expressions – Applications of regular expressions: Regular expressions in UNIX, Lexical analysis, Finding patterns in a text – Algebraic laws for regular expressions

## **UNIT III**

### **CONTEXT FREE GRAMMARS AND LANGUAGES**

Context free grammars – Parse trees – Applications of context free grammars: Parsers, The YACC parser generator, Markup languages, XML and document type definitions – Ambiguity in grammars and languages.

## **UNIT IV**

### **PUSHDOWN AUTOMATA**

Pushdown automaton – The languages of a Pushdown automaton – Equivalence of Pushdown automaton and Context free grammars – Deterministic pushdown automata.

## **UNIT V**

### **INTRODUCTION TO TURING MACHINES**

Problems that computers cannot solve – The Turing machine – Programming techniques for Turing machines – Extensions to the basic Turing machine – Restricted Turing machines – Turing machines and computers

Note: The second edition of the prescribed text book differs drastically in treatment (Application oriented) from the first edition (Theory oriented). Hence the treatment of the second edition is to be followed. Questions are to be set on problem solving and not on the theoretical aspects.

## **TEXT BOOK**

1.Hopcroft E.John, Motwani Rajeev, Ullman D. Jeffrey, Introduction to Automata theory, Languages and Computation, Second Edition, PearsonEducation 2001

## **REFERENCE BOOKS**

1. Anderson, A.James, Automata theory with Modern Applications, Cambridge University Press, 2006
2. Carlos Martín-Vide, Victor Mitrana, Grammars and Automata for String Processing, Taylor & Francis, CRC Press, 2004
3. Linz Peter, An Introduction To Formal Languages And Automata, Jones & Bartlett Publishers, 2011

**SEMESTER – V**  
**RESOURCE MANAGEMENT TECHNIQUES**

**(B.E. FOURTH SEMESTER – COMPUTER SCIENCE ENGINEERING &  
INFORMATION TECHNOLOGY)**

**(For Computer Science Engineering students admitted from 2012-2013)**

Understanding of Programming, Sequencing, Graphs, State Machines, Algorithms  
Introduce the students to the foundational aspects of Mathematical  
Programming in Resource management techniques.

**OBJECTIVES:**

1. To introduce the Mathematical formulation of the problem to be serving as tools in the development of theoretical computer science.
2. To focus on Transportation and assignment model in computer engineers to solve problems occurred in the development of programming languages.
3. To know about the importance of Game theory in computer science & engineering.
4. To know the methods to solve replacement and sequencing problems in computer engineers.
5. To Solve problems in Resource allocation Scheduling.

**OUTCOME:**

After completion of the course the students are expected to be able to,

1. Have the knowledge of the Mathematical formulation of the problem which is a tools in the development of theoretical computer science.
2. Solve the problems on Transportation and assignment model in computer engineers.
3. Have the knowledge of Game theory in computer science & engineering.
4. Solve replacement and sequencing problems in computer engineers.
5. Solve problems in Resource allocation Scheduling.

## **UNIT – I**

### **LINEAR PROGRAMMING AND SIMPLEX METHOD**

Mathematical formulation of the problem - Graphical solution method - Exceptional cases - General linear programming problem - Canonical and standard forms of linear programming problem - The simplex method - Computational procedure : The simplex algorithm - Artificial variable techniques : Big M method - problem of degeneracy.

## **UNIT – II**

### **TRANSPORTATION, ASSIGNMENT AND ROUTING PROBLEMS**

Mathematical formulation of the transportation problem - Triangular basis - Loops in a transportation table - Finding initial basic feasible solution (NWC, LCM and VAM methods) - Moving towards optimality - Degeneracy in transportation problems- Transportation algorithm (MODI method) - Unbalanced transportation problems - Assignment algorithm : Hungarian assignment method - Routing problems : Travelling salesman problem.

## **UNIT – III**

### **GAME**

### **THEORY**

Two person zero sum games - Maximin Minimax principle - Games without saddle points (Mixed strategies) - Solution of 2 X 2 rectangular games - Graphical method - Dominance property - Algebraic method for  $m \times n$  games - Matrix oddments method for  $m \times n$  games.

## **UNIT – IV**

### **REPLACEMENT AND SEQUENCING PROBLEMS**

Replacement of equipment or asset that deteriorates gradually - Replacement of equipment that fails suddenly - Recruitment and promotion problem - Problem of sequencing - Problems with  $n$  jobs and 2 machines - Problems with  $n$  jobs and  $k$  machines - Problems 2 jobs and  $k$  machines.

## **UNIT – V**

### **NETWORK MODELS**

Network and basic components- Rules of network constructions- Time calculations in networks- Critical path method(CPM)-PERT- PERT calculations- Negative float and negative slack- Advantages of network(PERT/CPM) -Project Cost - Time Cost Optimization Algorithm – Linear Programming formulation - Precedence planning -Updating - Resource allocation Scheduling.

### **PRESCRIBED BOOK**

1. Kanti Swarup, P.K.Gupta and Man Mohan, Operations Research, Eighth Edition, Sultan Chand & Sons, New Delhi, 1999.

### **REFERENCE BOOKS**

1. H.A.Taha, Operations Research, Eighth Edition, Pearson Education India, 2008
2. Richard Bronson, Operations Research, (Schaum's Outline Series), Second Edition McGraw Hill Company, 2003.
3. S.Hillier and J.Liebermann, Operations Research, Sixth Edition, Mc Graw Hill Company, 1995.
4. J.K.Sharma, Operation Research (Theory and Applications), First Edition, Mac Millen Ltd., 1997.
5. Barry Render, Ralph M. Stair, Allynan Bacon, Quantitative Analysis for Management, Fifth Edition, Boston, 1994.

**SEMESTER – IV**  
**APPLIED MATHEMATICS TECHNOLOGY- II**  
**(B.TECH. FOURTH SEMESTER)**

(For Information Technology Engineering students admitted from 2012-2013)

**UNIT I**

(RELATIONS AND DIGRAPHS)

Product sets and partitions – Relations and digraphs – Paths in relations and digraphs  
– Properties of relations – Equivalence relations – Computer representation of  
relations and digraphs – Operations on relations – Transitive closure and Warshall's  
algorithm – Outline of applications of digraphs in information technology.

**UNIT II**

(ORDER RELATIONS AND STRUCTURES)

Partially ordered sets – Extremal elements of partial ordered sets – Lattices – Finite  
Boolean algebras – Functions of Boolean algebras – Circuit de signs – Outline of  
applications of Boolean algebras in information technology.

**UNIT III**

(TREES)

Trees – Labelled trees – Tree searching – Undirected trees – Minimal spanning trees  
– Outline of applications of trees in information technology.

**UNIT IV**

(TOPICS IN GRAPH THEORY)

Graphs – Euler paths and circuits – Hamiltonian paths and circuits – Transport  
networks – Matching problems – Coloring problems – Outline of applications of  
graph theory in information technology.

**UNIT V**

(LANGUAGES AND FINITE STATE MACHINES)

Semi groups (Definition only) – Product and quotients and semi groups (Definition  
only) - Languages – Representations of special grammars and languages  
– Finite state machines – Semi groups, machines and languages – Machines and  
regular languages – Simplification of machines – Outline of applications of finite

state machines in information technology.

**Note:** Questions are to be set on problem solving and not on the theoretical aspects.

### **PRESCRIBED TEXT BOOK**

Kolman B., Busby R.C. and Ross S., Discrete Mathematical Structures for Computer Science, Fifth Edition, Prentice Hall of India, New Delhi, 2006.

### **REFERENCES**

1. Kenneth H. Rosen, Discrete Mathematics and its Applications, Tata McGraw Hill
2. Susanna S. Epp, Discrete Mathematics with applications, Brookes/Cole Publishing Company
3. J.P.Trembley, R.Monahor, Discrete Mathematical Structures with Applications to Computer Science, Tata McGraw Hill, New Delhi

**SEMESTER – IV**  
**APPLIED MATHEMATICS TECHNOLOGY- III**  
**(B.TECH. FIFTH SEMESTER)**

(For Information Technology Engineering students admitted from 2012-2013)

**UNIT I**

**(COLLECTION AND ANALYSIS OF DATA)**

Classification and tabulation of data - Frequency tables - Graphical representation - Measures of central tendency : Averages, mean, median, mode, Geometric and harmonic means - Measures of dispersion : Range, quartile deviation, Mean deviation, Standard deviation - Relative distribution - Moments - Skewness - Kurtosis - Linear correlation - Coefficient of correlation - Grouped data : calculation of correlation coefficient - Rank correlation - Linear regression - Regression lines.

**UNIT II**

**(PROBABILITY THEORY)**

Random experiment – Mathematical, statistical and axiomatic definitions of probability – Conditional probability – Independent events - Theorem of total probability – Theorem of probability of causes: Bayes's theorem – Bernoulli's trials – De Moivre-Laplace approximation – Generalization of Bernoulli's theorem multinomial distribution – Outline of applications of probability theory in engineering.

**UNIT – III**

**(THEORETICAL DISTRIBUTIONS)**

Binomial distribution: Properties and constants of Binomial distribution – Fitting a Binomial distribution - The multinomial distribution – Negative Binomial distribution – Poisson distribution: Properties and constants of Poisson distribution – Fitting a Poisson distribution – Hyper-geometric distribution – Normal distribution: Properties and constants of Normal distribution – Fitting a normal curve – Outline of applications of theoretical distributions in engineering

## **UNIT IV**

### **(ANALYSIS OF TIME SERIES)**

Measurement of trend: Freehand method, Semi-average method, Moving average method, Method of least squares – Measuring trends by logarithms – Measurement of seasonal variations: Method of simple averages, Ratio-to-trend method, Ratio-to-moving average method, Link relative method – Measurement of cyclic variations: Residual method, Reference cycle analysis method, Direct method, Harmonic analysis method – Measurement of irregular variations – Outline of applications of analysis of time series in engineering.

## **UNIT V**

### **(DESIGN OF EXPERIMENTS)**

Parameters and statistics – Sampling distribution – Tests of hypothesis and tests of significance – Critical region and level of significance – Errors in testing of hypothesis – One tailed and two tailed tests – Procedure for testing of hypothesis – Design of experiments – Completely randomized design: Analysis of variance for one factor of classification – Randomized block design: Analysis of variance for two factors of classification – Latin square design: Analysis of variance for three factors of classification – Outline of applications of design of experiments in engineering.

**Note:** Questions are to be set on problem solving and not on the theoretical aspects.

### **PRESCRIBED TEXT BOOK**

Gupta S.P, Statistical Methods, 28<sup>th</sup> Edition, Sultan Chand and Sons., New Delhi, 1997.

### **REFERENCES:**

1. Montgomery Douglas C. and. Runger George C, Applied Statistics and Probability for Engineers, John Wiley & Sons, Inc,
2. Richard Isaac, The Pleasures of Probability, Springer Verlag, 1995.
3. Spiegel Murry R., Stephens Larry J. Statistics, (Schaum's Outline Series), McGraw Hill Company. ECE, EEE, EIE, Mechatronics

## **SEMESTER – I**

### **MATHEMATICS – I – CALCULUS AND DIFFERENTIAL EQUATION**

**(B.E. FIRST SEMESTER –ECE, EEE, EIE, Mechatronics)**

**(For the students admitted from 2018-19)**

The objective of this course is to familiarize the prospective engineers with techniques in calculus, differential equations and sequence and series. It aims to equip the students with standard concepts and tools at an intermediate to advanced level that will serve them well towards tackling more advanced level of mathematics.

#### **Unit-I** Sequences and Series

Convergence of sequence and series -Tests for convergence -Comparison,- Ratio-Cauchy's Root- Raabe's test-logarithmic test- Fourier series: Half range sine and cosine series- Parseval's theorem.

#### **Units-II** Differential Equations

Second order linear differential equations with constant coefficients – Cauchy\_ Euler equation, Legendre equation-Method of variation of parameters- First order partial differential equations: Formation of PDE - solutions of first order linear PDEs.

#### **Unit-III** Calculus

Evaluation of definite integral-Applications of definite integrals - To evaluate surface areas and volumes of revolutions; Beta and Gamma functions and their properties.

#### **Unit-IV** Multivariable Calculus

Multiple Integration- double and triple integrals (Cartesian and polar)-change of order of integration in double integrals- Change of variables (Cartesian to polar), Applications-areas and volumes by double integration- Center of mass and Gravity (constant and variable densities).

## Unit-V Numerical Methods

Solution of polynomial and transcendental equations – Bisection method- Newton-Raphson method- Regula-Falsi method- Finite differences- Interpolation using Newton's forward and backward difference formulae- Central difference interpolation- Gauss's forward and backward formulae

### Suggested Books:

1. B.S. Grewal, "Higher Engineering Mathematics", Khanna Publishers, 2000.
2. G.B. Thomas and R.L. Finney, Calculus and Analytic geometry, Pearson, 2002.
3. T. Veerarajan, Engineering Mathematics, McGraw-Hill, New Delhi, 2008.
4. B. V. Ramana, Higher Engineering Mathematics, McGraw Hill, NewDelhi, 2010.
5. N.P. Bali and M. Goyal, A text book of Engineering Mathematics, Laxmi Publications, 2010..
6. E. Kreyszig, Advanced Engineering Mathematics, John Wiley & Sons, 2006.

## **SEMESTER – II**

### **MATHEMATICS – II – LINEAR ALGEBRA, TRANSFORM CALCULUS & NUMERICAL METHODS**

(B.E. SECOND SEMESTER –ECE, EEE, EIE, Mechatronics)

**(For the students admitted from 2018-19)**

This course aims at familiarising the prospective engineers with techniques in Linear Algebra, Transform Calculus and Numerical Methods. To understand the fundamental concepts in the above said topics. To develop the ability to evaluate the problems in transform calculus and its application in various areas.

#### **Unit I : Matrices**

Rank of a matrix, System of linear equations; Symmetric, skew-symmetric and orthogonal matrices; Eigenvalues and eigenvectors; Diagonalization of matrices; Cayley-Hamilton theorem, Orthogonal transformation and quadratic to canonical forms.

#### **Unit II: Numerical Methods**

Ordinary differential equations: Taylor's series, Euler and modified Euler's methods. Runge-Kutta method of fourth order for solving first order equations. Milne's predictor corrector methods. Partial differential equations: Finite difference solution two dimensional Laplace equation and Poisson equation, Implicit and explicit methods for one dimensional heat equation (Bender-Schmidt and Crank-Nicholson methods), Finite difference explicit method for wave equation

#### **Unit III: Transform Calculus- I**

Laplace Transforms : Definition, Properties of Laplace transforms: Linearity Property, First shifting property, Change of scale property – Transforms of derivatives - Transforms of integrals - Multiplication by  $t^n$  - Division by  $t$  - Evaluation of integrals by Laplace transform - Inverse transforms: Method of partial fractions – Other methods of finding inverse - Convolution theorem (Without proof) Application to differential equations

#### **Unit IV: Transform Calculus- II**

Fourier integral theorem (without proof) - Fourier Sine and Cosine integrals  
– Complex form of Fourier integral - Fourier transform – Fourier sine and Cosine transforms – Properties of Fourier Transforms: Linear property, Change of scale property, Shifting property -Parseval's identity for Fourier transforms (without proof) – Application of transforms to boundary value problems: Heat conduction, Vibrations of a string, Transmission lines

#### **Unit V: Transform Calculus- III**

Standard z-transforms of  $1, a^n, n^p$  – Linearity property – Damping rule – Shifting rules – Multiplication by  $n$  - Initial and final value theorems (without proof) – inverse z –transforms – Convolution theorem (without proof) – Convergence of z-transforms – Two sided z- transform – Evaluation of inverse z-transforms: Power series method, Partial fraction method, inversion integral method.

Suggested Books:

1. Grewal B.S, Higher Engineering Mathematics, 41st Edition, Khanna Publishers, New Delhi, 2011.
2. Alan Jeffrey, Advanced Engineering Mathematics, Academic Press
3. Erwin Kreyszig, Advanced Engineering Mathematics, John Wiley & Sons
4. Gerald C.F and Wheatley P.O, Applied Numerical Analysis, Addison-Wesley Publishing Company

**SEMESTER – III**  
**ENGINEERING MATHEMATICS -III**  
**(B.E. SECOND SEMESTER –ECE, EEE, EIE, Mechatronics)**

(For students admitted in 2017-2021 batch)

To enable the students in applying mathematical methods in various engineering fields by making them to understand the method of Fourier series and Fourier Transform and Z-Transform.

**Unit I:** Interpolation and Numerical Solution of Ordinary Differential Equations

Interpolation with equal intervals – Newton’s forward interpolation formula – Newton’s backward interpolation formula - Interpolation with unequal intervals: Lagrange’s interpolation formula, Newton’s divided difference formula. Picard’s method – Taylor series method - Modified Euler’s method – Runge’s method – Runge-Kutta method – Predictor-corrector methods: Milne’s method, Outline of applications of numerical solutions of ordinary differential equations in engineering.

**Unit II:** Fourier Series

Euler’s Formulae (Without Proof) – Condition for Fourier expansion – Functions having points of discontinuity – Change of interval – Expansions of even and odd functions – Half Range series – Parseval’s formula (without proof) – Root mean square value (without proof) – Typical waveforms (Definition Only): Square wave form, Saw toothed waveform, Modified saw toothed waveform, Triangular waveform, Half wave rectifier, Full wave rectifier - Outline of applications of Fourier series in engineering

**Unit III:** Laplace Transforms and Its Applications

Transforms of elementary functions :  $1, t^n, e^{at}, \sin at, \cos at, \sinh at, \cosh at$  - Properties of Laplace transforms: Linearity Property, First shifting property, Change of scale property – Transforms of derivatives - Transforms of integrals - Multiplication by  $t^n$  - Division by  $t$  - Evaluation of integrals by Laplace transform - Inverse transforms: Method of partial

fractions – Other methods of finding inverse - Convolution theorem (Without proof) - Unit step function – Unit Impulse Function - Application to differential equations – Outline of applications of Laplace transforms in engineering.

#### **Unit IV: Z – Transform and Its Applications**

Standard z-transforms of  $1, a^n, n^p$  – Linearity property – Damping rule – Shifting rules – Multiplication by n - Initial and final value theorems (without proof) – inverse z – transforms – Convolution theorem (without proof) – Convergence of z-transforms – Two sided z-transform – Evaluation of inverse z-transforms: Power series method, Partial fraction method, inversion integral method – Application to difference equations – Outline of applications of z-transform in engineering

#### **Unit V: Fourier Transforms and Its Applications**

Fourier integral theorem (without proof) - Fourier Sine and Cosine integrals – Complex form of Fourier integral - Fourier integral representation of a function - Fourier transform – Fourier sine and Cosine transforms – Properties of Fourier Transforms: Linear property, Change of scale property, Shifting property - Parseval's identity for Fourier transforms (without proof) – Application of transforms to boundary value problems: Heat conduction, Vibrations of a string, Transmission lines.

**Note:** Questions are to be set on problem solving and not on the theoretical aspects.

#### **Prescribed Text Book:**

Grewal B.S, Higher Engineering Mathematics, 41st Edition, Khanna Publishers, New Delhi, 2011.

#### **References**

1. Erwin Kreyszig, Advanced Engineering Mathematics, John Wiley & Sons, 9<sup>th</sup> Edition, 2006
2. Gerald C.F and Wheatley P.O, Applied Numerical Analysis, Addison-Wesley Publishing Company, 7<sup>th</sup> Edition, 2003
3. Ramana.B.V. Higher Engineering Mathematics, Tata McGraw Hill New Delhi, 11<sup>th</sup> reprint, 2010.

**SEMESTER – IV**  
**ENGINEERING MATHEMATICS -IV**  
**(B.E. SECOND SEMESTER –ECE, EEE, EIE, Mechatronics)**

(For students admitted in 2017-2021 batch)

To provide a definite idea about complex functions and their applications. To solve series solution of differential equation, higher order partial differential equations and difference equation.

**Unit I: Analytic Functions**

Limit and continuity of a complex function - Derivative of a complex function: Cauchy Riemann equations – Analytic functions – Harmonic functions - Orthogonal system – Applications to flow problems – Geometric representation of a complex function - Standard transformations: Translation, Magnification and rotation, Inversion and reflection, Bilinear transformation - Conformal transformation – Special conformal transformations :  $e^z, z^2, z + \frac{1}{z}$  Outline of applications of analytic functions in engineering

**Unit II : Complex Integration**

Integration of complex functions – Cauchy's theorem (without proof) – Cauchy's integral formula (without proof) – Taylor's series (without proof)– Laurent's series (without proof) – Zeros and Singularities of an analytic function – Residues – Residue theorem (without proof) – Calculation of residues – Evaluation of real definite integrals: Integration around the unit circle, Integration around a small semi-circle, Integration around rectangular contours, Indenting the contours having poles on the real axis – Outline of applications of complex integration in engineering.

**Unit III: Series Solution of Differential Equations**

Validity of series solution - Series solution when  $x=0$  is an ordinary point - Frobenius method (Series solution when  $x=0$  is a regular singularity) - Bessel's equation (Bessels functions of the first and second kind) - Recurrence formulae for  $J_n(x)$  - Expansions for  $J_0$  and  $J_1$  : Value of  $J_{1/2}$  - Generating function for  $J_n(x)$  - Equations reducible to Bessel's equation – Orthogonality of Bessel functions – Outline of applications of Bessel's functions in engineering.

**Unit IV : Partial Differential Equations**

Formation of partial differential equations – Solution of a partial differential equation – Equations solvable by direct integration – Linear equations of first order – Non-linear equations of the first order – Charpit's method - Homogeneous linear equations with constant coefficients – Rules for finding complementary functions – Rules for finding particular integral – Solution of homogeneous linear equation of any order.

**Unit V: Difference Equations and Its Applications**

Formation of difference equations – Linear difference equations – Rules for finding the complementary function – Rules for finding the particular integral – Simultaneous difference equations with constant coefficients – Outline of other applications of difference equations in

**Prescribed Text Book:**

Grewal B.S, Higher Engineering Mathematics, 41st Edition, Khanna Publishers, New Delhi, 2011.

**References**

1. Erwin Kreyszig, Advanced Engineering Mathematics, John Wiley & Sons, 9<sup>th</sup> Edition, 2006
2. N.P.Bali, Manish Goyal, A Text Book of Engineering Mathematics, LaksmiPublications, 2010 reprint.
3. Ramana.B.V. Higher Engineering Mathematics, Tata McGraw Hill New Delhi, 11<sup>th</sup> reprint, 2010.

**SEMESTER – V**  
**APPLIED MATHEMATICS FOR ELECTRONIC ENGINEERS III**  
**(B.E. FIFTH SEMESTER – ELECTRONICS AND COMMUNICATIONS**  
**ENGINEERING)**

**(For students admitted from 2012-13)**

**UNIT I**

**(PROBABILITY THEORY)**

Random experiment – Mathematical, statistical and axiomatic definitions of probability – Conditional probability – Independent events - Theorem of total probability – Theorem of probability of causes: Bayes's theorem – Bernoulli's trials – De Moivre-Laplace approximation – Generalization of Bernoulli's theorem multinomial distribution – Outline of applications of probability theory in engineering.

**UNIT II**

**(ONE DIMENSIONAL RANDOM VARIABLES)**

Discrete random variable – Probability mass functions of Binomial, Poisson, Pascal and Geometric distributions - Continuous random variable – Probability density function of Uniform, Normal, Gamma, Erlang, Rayleigh, Maxwell and Laplace distributions - Cumulative distribution function – Outline of applications of one dimensional random variables in engineering.

**UNIT III**

**(TWO DIMENSIONAL RANDOM VARIABLES)**

Two dimensional random variables – Probability mass function – Joint probability density function – Cumulative distribution function – Marginal probability distribution – Conditional probability distribution – Independent random vectors – Function of random variable - Outline of applications of two dimensional random variables in engineering.

**UNIT IV**

**(STATISTICAL AVERAGES)**

Measures of central tendency – Mathematical expectation and moments – Measures of dispersion – Coefficient of variation – Skewness – Kurtosis – Pearson's shape coefficients– Expected values of a two dimensional random variables – Linear correlation – Correlation coefficient – Rank correlation coefficient – Regression – Equation of the regression line – Outline of applications of statistical averages in engineering.

## **UNIT V**

### **(STATISTICAL INEQUALITIES)**

Characteristic function – Moment generating function – Cumulative generating function – Bounds on probability: Tchebycheff, Bienayme's, Schwartz and Cauchy-Schwartz inequalities (without proof) – Convergence concepts and central limit theorem – Outline of applications of statistical inequalities in engineering.

**Note:** Questions are to be set on problem solving and not on the theoretical aspects.

### **PRESCRIBED TEXT BOOK:**

Veerarajan. T.,” Probability, Statistics and Random Processes, Third Edition, Tata McGraw-Hill Publishers, New Delhi 2008.

### **REFERENCES:**

1. Gubner, John, Probability and random process for electrical and computer engineers, Cambridge
2. Gupta S.P, Statistical methods, Sultan Chand & Sons
3. Papoulis, Probability, Random Variables and Stochastic Processes, McGraw Hill.

SEMESTER – VI  
APPLIED RANDOM PROCESSES  
**(B.E. SIXTH SEMESTER – ELECTRONICS AND COMMUNICATIONS  
ENGINEERING)**

(For students admitted from 2012-13)

**UNIT I**

**(SPECIAL PROBABILITY DISTRIBUTIONS)**

Special discrete distributions - Binomial distribution – Poisson distribution – Geometric distribution – Hyper geometric distribution – Special continuous distributions – Uniform distribution – Exponential distribution – Erlang distribution – Weibull distribution – Normal distribution – Outline of applications of special probability distributions in engineering.

**UNIT II**

**(RANDOM PROCESSES)**

Classification of random processes – Methods of description of a random process – Special classes of random processes – Average values of random processes – Analytical representation of a random processes – Autocorrelation function and its properties – Cross correlation function and its properties – Outline of applications of random processes in engineering

**UNIT III**

**(ERGODIC PROCESS)**

Ergodicity – Mean Ergodic process – Correlation Ergodic process – Distribution Ergodic process – Power spectral density function and its properties – System in the form of convolution – Unit impulse response of the system – Outline of applications of ergodic process in engineering.

**UNIT IV**

**(SPECIAL RANDOM PROCESSES I)**

Poisson process – Probability law for the Poisson Process – Second order probability function of a homogeneous Poisson process – Mean and autocorrelation of the Poisson process – Properties of Poisson process - Markov process – Markov chain – Chapman Kolmogorov theorem (without proof) – Classification of states of a Markov chain - Outline of applications of Poisson and Markov processes in engineering.

## **UNIT V**

### **(SPECIAL RANDOM PROCESSES II)**

Gaussian process – Processes depending on stationary Gaussian process: Square law detector process, Full wave linear detector process, Half wave linear detector process, Hard limiter process – Band pass process (Signal) - Narrow band Gaussian process - Quadrature representation of a WSS process - Noise in communication systems – Thermal noise – Filters – Outline of applications of Gaussian process in engineering.

**Note:** Questions are to be set on problem solving and not on the theoretical aspects.

### **PRESCRIBED TEXT BOOK:**

Veerarajan. T.,” Probability, Statistics and Random Processes, Third Edition, Tata McGraw-Hill Publishers, New Delhi 2008.

### **REFERENCES:**

1. Gubner, John, Probability and random process for electrical and computer engineers, Cambridge
2. Gupta S.P, Statistical methods, Sultan Chand & Sons
3. Papoulis, Probability, Random Variables and Stochastic Processes, McGraw Hill.

## **SEMESTER – V**

### **APPLIED MATHEMATICS FOR INSTRUMENTATION ENGINEERS III**

(B.E. FIFTH SEMESTER – ELECTRONICS AND INSTRUMENTATION  
ENGINEERING)

(For students admitted from 2012-13)

#### **UNIT I**

##### **(PROBABILITY THEORY)**

Random experiment – Mathematical, statistical and axiomatic definitions of probability – Conditional probability – Independent events - Theorem of total probability – Theorem of probability of causes: Bayes's theorem – Bernoulli's trials – De Moivre-Laplace approximation – Generalization of Bernoulli's theorem multinomial distribution – Outline of applications of probability theory in engineering.

#### **UNIT II**

##### **(ONE DIMENSIONAL RANDOM VARIABLES)**

Discrete random variable – Probability mass functions of Binomial, Poisson, Pascal and Geometric distributions - Continuous random variable – Probability density function of Uniform, Normal, Gamma, Erlang, Rayleigh, Maxwell and Laplace distributions - Cumulative distribution function – Outline of applications of one dimensional random variables in engineering.

#### **UNIT III**

##### **(TWO DIMENSIONAL RANDOM VARIABLES)**

Two dimensional random variables – Probability mass function – Joint probability density function – Cumulative distribution function – Marginal probability distribution – Conditional probability distribution – Independent random vectors – Function of random variable - Outline of applications of two dimensional random variables in engineering.

## **UNIT IV**

### **(STATISTICAL AVERAGES)**

Measures of central tendency – Mathematical expectation and moments – Measures of dispersion – Coefficient of variation – Skewness– Kurtosis – Pearson's shape coefficients – Expected values of a two dimensional random variables – Linear correlation – Correlation coefficient – Rank correlation coefficient – Regression – Equation of the regression line – Outline of applications of statistical averages in engineering.

## **UNIT V**

### **(STATISTICAL INEQUALITIES)**

Characteristic function – Moment generating function – Cumulative generating function – Bounds on probability: Tchebycheff, Bienayme's, Schwartz and Cauchy-Schwartz inequalities (without proof) – Convergence concepts and central limit theorem – Outline of applications of statistical inequalities in engineering.

**Note:** Questions are to be set on problem solving and not on the theoretical aspects.

### **PRESCRIBED TEXT BOOK:**

Veerarajan. T.,” Probability, Statistics and Random Processes, Third Edition, Tata McGraw-Hill Publishers, New Delhi 2008.

### **REFERENCES:**

1. Gubner, John, Probability and random process for electrical and computer engineers, Cambridge
2. Gupta S.P, Statistical methods, Sultan Chand & Sons
3. Papoulis, Probability, Random Variables and Stochastic Processes, McGraw Hill.

**SEMESTER – VI**  
**OPERATION RESEARCH**  
**(B.E. SIXTH SEMESTER – ELECTRONICS AND INSTRUMENTATION**  
**ENGINEERING)**

**(For students admitted from 2012-13)**

**UNIT I**

**(LINEAR PROGRAMMING AND SIMPLEX METHOD)**

Mathematical formulation of the problem - Graphical solution method - Exceptional cases - General linear programming problem - Canonical and standard forms of linear programming problem - The simplex method - Computational procedure : The simplex algorithm - Artificial variable techniques : Big M method, Two phase method - problem of degeneracy.

**UNIT II**

**(TRANSPORTATION, ASSIGNMENT AND ROUTING PROBLEMS)**

Mathematical formulation of the transportation problem - Triangular basis - Loops in a transportation table - Finding initial basic feasible solution (NWC, IBM and VAM methods) - Moving towards optimality - Degeneracy in transportation problems - Transportation algorithm (MODI method) - Unbalanced transportation problems - Mathematical formulation of the assignment problem - Assignment algorithm : Hungarian assignment method - Routing problems : Travelling salesman problem.

**UNIT III**

**(GAME THEORY AND SEQUENCING PROBLEMS)**

Two person zero sum games - Maxmin Minmax principle - Games without saddle points (Mixed strategies) - Solution of 2 X 2 rectangular games - Graphical method - Dominance property - Algebraic method for  $m \times n$  games - Matrix oddments method for  $m \times n$  games - Problem of sequencing - Problems with  $n$  jobs and 2 machines - Problems with  $n$  jobs and  $k$  machines - Problems with 2 jobs and  $k$  machines.

**UNIT IV**

## **(INTEGER PROGRAMMING AND INVENTORY CONTROL)**

Gomory's All I.P.P method - Gomory's mixed integer method - Branch and bound method - Reasons for carrying inventory - Types of inventory - Inventory decisions - Economic order quantity - Deterministic inventory problem - EOQ problem with pricebreaks - Multi item deterministic problem.

## **UNIT V**

### **(REPLACEMENT PROBLEMS AND PERT/CPM)**

Replacement of equipment or asset that deteriorates gradually - Replacement of equipment that fails suddenly - Recruitment and promotion problem - Network and basic components - Rules of network construction - Time calculations in networks - Critical path method (CPM) - PERT - PERT calculations - Negative float and negative Slack - Advantages of network (PERT/CPM).

### **TEXT BOOK**

1. Kanti Swarup, P.K.Gupta and Man Mohan, Operations Research, Eighth Edition, Sultan Chand & Sons, New Delhi, 1999.

### **REFERENCES**

1. H. A.Taha, Operations Research, Sixth Edition, MacMillen.
2. Richard Bronson, Operations Research, (Schaum's Outline Series, McGraw Hill Company, 1982.
3. J .K.Sharma, Operation Research (Theory and Applications), Mac Millen Ltd.,1997.

**BACHALOR OF COMPUTER APPLICATION  
SEMESTER – I**

**MATHEMATICAL FOUNDATION TO COMPUTER SCIENCE  
(COMMON TO B.C.A. AND B.Sc COMPUTER SCIENCE)**

- Study basic Discrete mathematics required for computer science
- To learn the concepts of matrices, set theory and graph theory.
- To learn mathematical logic and relations.

**OUTCOMES**

- Understand the basic discrete mathematics principles.
- Understand the basics of matrices, set theory and graph theory.
- Understand Mathematical logic and relations.

**UNIT I : Matrices:** – Introduction – Determination – Inverse of a matrix – Rank of a Matrix - Eigen value Problems

**UNIT II : Set theory:**-Introduction-Set & its Elements-Set Description-Types of sets-Venn-Euler Diagrams- Set operations & Laws of set theory-Fundamental products-partitions of setsminsets- Algebra of sets and Duality-Inclusion and Exclusion principle

**UNIT III : Mathematical logic:** Introduction- propositional calculus –Basic logical operations- Tautologies-Contradiction-Argument-Method of proof- Predicate calculus.

**UNIT IV : Relations:**Binary Relations – Set operation on relations-Types of Relations – Partial order relation – Equivalence relation – Composition of relations –Functions – Types of functions – Invertible functions – Composition of functions.

**UNIT V : Graph Theory :**Basic terminology – paths, cycle & Connectivity – Sub graphs - Types of graphs – Representation of graphs in computer memory - Trees – Properties of trees – Binary trees – traversing Binary trees – Computer Representation of general trees.

**TEXT BOOKS**

1. Engineering Mathematics Volume II – Dr M.K. Venkataraman – NPC (Unit I)
2. Kenneth H. Rosen, Discrete Mathematics and its Applications, 6<sup>th</sup> Edition,

TataMcGraw Hill, New Delhi. (2007).

### **REFERENCE BOOKS**

1. Discrete Mathematics Structures with Applications to computer science - J. P Tremblay R Manohar – McGraw Hill International Edition.
2. Discrete Mathematics – Dr M. K. Venketaramen, DrN.Sridharan, N.Chandarasekaran –The National publishing Company Chennai.

**BACHALOR OF COMPUTER APPLICATION**  
**SEMESTER – II**  
**COMPUTER ASSOCIATED NUMERICAL METHOD**  
**(COMMON TO B.C.A. AND B.Sc COMPUTER SCIENCE)**

**UNIT I: Iterative methods** - Introduction – Beginning an Iterative Method – The Method of Successive Bisection – The Method of False Position – Newton Raphson Iterative Method - Secant Method – The Method of Successive Approximation.

**Unit II: Solution of Simultaneous Algebraic Equation** – Introduction – Direct Method Of Solution – Gauss Elimination Method, Gauss – Jordan Method, Crout's Method – Iterative Method of Solution – Jacobi's Method, Gauss Seidal Method – Solution of Non-Linear Simultaneous Equations – Newton-Raphson Method – Determination of Eigen value by Iteration.

**Unit III: Interplation, Numerical Differentiation And Integration** – Finite Differences – Newton's Interpolation Formulae – Interpolation Withequal Interval – Lagranges Formula; Newtons Divided Difference Formula – Inverse Interpolation – Numerical Differentiation – Maxima And Minima of Tabulated Functions – NumericalIntegration – Trapezoidal Rule; Simpson's 1/3<sup>rd</sup> Rule; Simpson's 3/8<sup>th</sup> Rule

**Unit IV: Numerical Solution of Ordinary Differential Equations** – Introduction – Picard's Method – Taylors Series Method – Eulers Method Modified Eulers Method-Runiges Method – Runge-Kutta Method – Predicator-Corrector Method; Milnes Method

**Unit V: Numerical Solution of Partial Dfferential Equations** – Introduction – Classification of Second Order Equation – Finite Difference Approximation to Derivatives – Elliptical Equation – Solution of Laplaces Equation – Solution of Poissons Equation – Parabolic Equation – Solution of Heat Equation – Hyperbolic Equation – Solution of Wave Equation.

**Text Book:**

1. V.Rajaraman, Computer Oriented Numerical Method, Prentice Hall Of India PvtLtd.
2. B.S. Grewal , Higher Engineering Mathematics, Khanna Publishers, New Delhi.

**Reference Books**

1. Ward Chenny, David Kincaid, Numerical Mathematics And Computing, BrokersAnd Cole Publishing Company
2. C.Xavier, C Language And Numerical Methods, New Age InternationalPublication.

**B.Sc PHYSICS AND B.Sc CHEMISTRY**  
**ALLIED MATHEMATICS – I**  
**(COMMON TO B.Sc PHYSICS AND B.Sc CHEMISTRY)**

**UNIT-I**

Symmetric - Skew Symmetric - Orthogonal and Unitary matrices - Rank of a matrix – Consistency of equations – Eigen roots and eigen vectors- Cayley- Hamilton theorem (without proof) – Verification and computation of inverse matrix.

**UNIT-II**

Expansions of  $\sin x, \cos x, \tan x$  in terms of  $x$ ;  $\sin kx, \cos kx, \tan kx, \sin^n x, \cos^n x, \tan^n x$ , hyperbolic and inverse hyperbolic functions- Simple problems.

**UNIT-III**

Solution of algebraic and transcendental equations- Bisection Method – Method of false position- Newton-Raphson method- Solution of linear simultaneous equations- Gauss elimination method- Gauss Jordan method- Gauss Seidal method.

**UNIT-IV**

Successive Differentiation- nth order derivatives of standard functions- Leibnitz theorem (without proof)- simple problems- Partial differentiation- Euler's theorem- Problems on Euler's theorem.

**UNIT-V**

Evaluation of definite and indefinite integrals of types

$$1. \int \frac{pS+q}{aS^2+bS+c} dx \quad \square \square \quad 2. \int \frac{pS+q}{\sqrt{aS^2+bS+c}} dx$$

$$3. \int \frac{1}{(pS+q)\sqrt{aS^2+bS+c}} dx \quad 4. \int \frac{1}{a+b \cos S} dx$$

$$5. \int \frac{1}{a+b \sin S} dx \quad 6. \int \frac{1}{a+b \cos S} dx$$

$$\int (\cos S + m \sin S + n) dx$$

∫ \_\_\_\_\_

$$7. \int_0^{\frac{\pi}{2}} \sin^m x dx, \quad \int_0^{\frac{\pi}{2}} \cos^n x dx$$

**Reference books:**

1. Trigonometry : P. Duraipandian.
2. Matrices : A.R. Vasishtha, A.K. Vasishtha.
3. Numerical Methods, Problems and Solutions: M.K. Jain, S.r.K. Iyengar, R.K.Jain
4. S. Narayanan and T. K. ManicavachagomPillay (2004) Calculus. S. ViswanathanPrinters & Publishers Pvt. Ltd. Chennai.
5. A. Singaravelu (2003) Algebra and Trigonometry, Vol.-I & II Meenakshi Agency. Chennai.

# **CHOICE BASED CREDIT SYSTEM**

**Choice Based Credit System for U.G and P.G(Mathematics)**  
**Programme**

Credits

Each course is normally assigned one credit per lecture / tutorial per week and one credit for two periods or part thereof for laboratory or practical per week. Each semester curriculum shall normally have a blend of theory and practical course.

Duration of the Programme

A student is normally expected to complete M.Sc., (Mathematics) Programme in two years but in any case not more than seven years from the time of admission.

Registration for Courses

A newly admitted student will automatically be registered for the entire course prescribed for the first year without any option.

Every other student should submit a completed registration form indicating the list of course intended to be credited during the next semester. This registration will be done a week before the last working day of the current semester. Late registration with the approval of the department along recommendation of the head of the department along with a late fee will be done up to the last working day. Registration for the project work shall be done only for the final semester.

Assessment

The break – up of assessment and examination marks for the theory subjects is as follows:

First Assessment	: 15 Marks	Final
Assessment	: 15	Marks
Assignment/Attendance	: 10	Marks
Examination	: 60	Marks

The break – up of assessment and examination marks for the Practical subjects is as follows:

First Assessment	: 15 Marks
Final Assessment	: 15 Marks
Marks Examination	: 60 Marks
Maintenance of Record Book	: 10

The project work will be assessed for 80 marks by the committee, consisting of the guide and a minimum of two members nominated by the head of the department.

One of the committee members will be nominated as the chairman by the head of the department. The head of the department may himself be a member or the chairman. 120 marks are allotted for the project work and viva voice examination at the end of the semester.

#### Student Counsellor

To help the students in planning the course of study and for general advice on the academic programme, the head of the department will attach a certain number of students to a member of faculty who shall function as student counsellor for those students throughout their period of study, Such student counsellor shall advise the student, preliminary approval for the courses to be taken by the students during each semester and obtain the final approval of the head of the department.

#### Class Committee

For all the branches of study during the first year, a common class committee will be constituted by the dean of the faculty from among the various teachers teaching the same common subject to different classes during the first year, the dean shall appoint one of them as course coordinator.

All heads of the departments, among whom one may be nominated as chairman by the dean. The Dean may opt to be a member or the chairman.

For each of the higher semester, separate class committees will be constituted by the head of the department. The composition of the class committees from first to eighth semesters will be follows.

Course co-coordinators are appointed by the head of the department from among the staff members teaching the course.

A project co-ordinator (in the eighth semester committee only) who shall be appointed by the head of the department from among the project supervisors.

All the student counsellors of the class and the head of the department (if not already a member) or any staff member nominated by the head of the

department may opt to be special invitees.

The meeting will be held within a week after the completion the first assessment to review the performance and for follow – up action.

The second meeting will be held within a week after the final assessment is completed to review the performance and for the follow – up action.

The third meeting will be held after all the assessments are completed for all the courses, and at least one week before on the commencement of the examinations. During the meeting assessment in a maximum, of 40 marks will be finalized for every student and tabulated and submitted to the head of the department for approval and transmission to the controller of examinations.

#### Withdrawal from a Course

A student can withdraw from a course at any time before a date fixed by the head of the department prior to the final assessment, with the approval of the dean of the faculty on the recommendation of the head of the department.

#### **Temporary Break of Study**

A student can take a one – time temporary break of study covering the current year/ semester and /or the next semester with the approval of the head of the department, not later than after completion of the mid – semester test. However, the student must complete the entire programme within the maximum period of years.

#### Substitute Arrangement

A student, who has missed, for genuine reasons accepted by the head of the department, one or more of assessments of a course other than the examination, may take a substitute

Assessment for any one of the missed assessments. The substitute assessment must be completed before the date of the fourth meeting of the respective class committees.

A student who wishes to have a substitute assessment for a missed assessment must apply to the head of the department within a week from the date of the missed assessment.

#### Attendance Requirements

To be eligible to appear for the examination in a particular course, a student must get minimum of 80% in the course. However, if the attendance is 70% or above but less than 80% in any course, the authorities can permit the

student to appear for the examination in the course on payment of the prescribed condition fees.

A student who withdraws from or does not meet the minimum attendance requirement in course must re-register for and repeat the course.

#### Passing and Declaration of Examination Results

All assessments of all the courses on absolute marks basis will be considered and passing by the results passing board in accordance with the rules of the university. Thereafter, the controller of examinations shall convert marks for each course to the corresponding letter grade as follows to compute the grade point average and cumulative grade point average, and prepare the grade cards.

90-100 Marks	: S Grade
80-89 Marks	: A Grade
70-79 Marks	: B Grade
60-69 Marks	: C Grade
55-59 Marks	: D Grade
50-54 Marks	: E Grade
Less than 50 Marks	: F Grade
Insufficient Attendance	: I Grade
Withdrawn from Course	: W Grade

A student who obtains less than 24 marks out of 60 in the examination or is absent for the examination will be awarded grade „F“.

A student who earns a grade of S, A, B, C, D, or E for a course is declared to have successfully completed that course and earned credits for that course. Such a course cannot repeat by the student.

A student who obtains letter grade F in a course has to reappear for the examinations in that course.

A student who obtains letter grade I or W in a course has to re-register for and repeat the course.

The following grade points are associated with each letter grade for and repeat the point average and cumulative grade point average.

S - 10; A - 09; B - 08; C - 07; D - 06; E - 05; F - 0.

Course with grades I and W is not considered for calculation of grade point average or cumulative grade point average. F grade will be considered for computing GPA and CGPA.

A student can apply for re - totalling for one or more of his examination answer papers within a week from the date of issue of the grade sheet to the students on payment of prescribed fee per paper. The application must be made to the controller of Examinations with the recommendation of the head of the department.

After results are declared, grade cards will be issued to the students. The grade cards will contain the list of courses registered during the year / semester, the grades scored and the grade point average (GPA) for the year / semester.

GPA is the sum of the products of the number of credits of a course with the grade point scored in that course, taken over all the courses for the year/ semester, divided by the sum of the number of credits for all courses taken in that year / semester. CGPA is similarly calculated considering all the courses taken from the time of admission.

After successful completion of the programme, the degree will be awarded with the following classification based on CGPA.

For First Class with Distinction the student must earn a minimum of 200 credits within four years from the time of admission, pass all the courses in the first attempt and obtain a CGPA of 8.25 or above.

For First Class the student must earn a minimum of 200 credits within five years from the time of admission and obtain a CGPA of 6.5 or above.

For Second Class the student must earn a minimum of 200 credits within seven years from the time of admission.

Electives

Apart from the various elective courses offered in the curriculum of the branch of specification, a student can choose a maximum of three electives from any specialization under the faculty during the entire period of study, with the approval of the head of the department offering the course.

**BOOK  
PUBLICATIONS**

1. **Dr.T.N. Kavitha** has a contribution of Book chapter in “Philosophical reflections about the virtual world, CSI Publications November 2020, Springer.
2. **Dr.J.Sengamalaselvi** has a contribution of Book chapter in “ Application of Fuzzy Soft Matrix” for the Book of Physics and Statics with ISBN NO:978-81-950305-3-8 in the Record Event (Maximum Authors Contributing For a Book On Covid 19 And Its Impact) held in January 2021 at Chennai, India Organized by ESN Publications. Chennai.
3. **Dr.V.K.Radhakrishnan** has a contribution of Book chapter in Physics & Statistics – Mathematical Analysis on the Queueing Model of Temples – A Case Study – ISBN: 978-81-950305-3-8, Jan 2021.
4. **Dr.A.Dhanalakshmi** has a contribution of Book chapter in “Weiner Index of Hexagonal Chain by Cut Method” for the Book of Physics and Statics with ISBN NO:978-81-950305-3-8 in the Record Event (Maximum Authors Contributing for a Book On Covid 19 And Its Impact) held in January 2021 at Chennai, India Organized by ESN Publications, Chennai.
5. **Dr.K.Bharathi** has a contribution of Book chapter in “ Model of Project Networks and Critical Path Analyses” for the Book Physics and Statistics, Maximum Authors Contributing for Book on Covid 19 and its Impact , ESN Publications , ISBN : 78 – 81 – 950305 – 3 – 8, Jan 2021.
6. **Dr.T.N. Kavitha** has a contribution of Book chapter in ‘Physics and statistics’ with the topic of “My experience in COVID-19- PANDEMIC with Kanitham Vasappadum”, in the record event (Maximum authors contributing for a book on covid- 19 and its impact) held in January 2021 at Chennai, organised by ESN Publication. ISBN: 978-81-947019-4-1.
7. **Dr.T.N Kavitha** has a contribution of Book chapter in ‘Physics and statistics’ with the topic of “ A Statistical Analysis Of Covid -19 Using Data From WHO” , in the record event (Maximum authors contributing for a book on covid- 19 and its impact) held in January 2021 at Chennai, organised by ESN Publication. ISBN: 978-81-947019-4-1.
8. **Dr.T.N. Kavitha** has a contribution of Book chapter in ‘Physics and statistics’ with the topic of “ Lockdown Impact In India” , in the record event (Maximum authors contributing for a book on covid- 19 and its impact) held in January 2021 at Chennai, organised by ESN Publication. ISBN: 978-81-947019-4-1.
9. **Dr.T.N. Kavitha** has a contribution of Book chapter in ‘Physics and statistics’ with the topic of “Collecting and scrutinizing our experimental paired data using R”, in the record event (Maximum authors contributing for a book on covid- 19 and its impact) held in January 2021 at Chennai, organised by ESN Publication. ISBN:978-81-947019-4-1.

# **ADDITIONAL RESPONSIBILITIES**

**Dr.K.Srinivasa rao**

1. Nodal Officer, UGC/AICTE
2. Chairman-Statistics and Information Cell
3. Co-Coordinator, National Institute Ranking Framework (NIRF-201 , 2018 & 2019)
4. Co-coordinator-Curricular Aspects, Task Force Committee (TFC) in order to prepare of Self Study Report (SSR) for re-appraisal to NAAC.
5. Member of Students' Cabinet Advisory Committee from 2015 to till date
6. Member of Students Counseling System from 2016 to till date
7. Chairman- Board of Studies, Department of Mathematics, SCSVMV
8. Member of Hygiene committee

**Dr.N.Saradha**

1. Member Hostel Committee
2. Class In-Charge for I Bsc(Maths) in odd semester 20-21
3. Member Board of Studies

**Dr.R..Malathy**

1. Member Hostel committee
2. Class In-Charge for IJI Bsc(Maths) in even semester 20-21
3. Member Board of Studies

**Dr.D.Vijayalakshmi**

1. Online Exam coordinator for ODD SEMESTER UNIVERSITY THEORY EXAMONATIONS
1. Member Hostel Committee
2. Class In-Charge for IJ Bsc(Maths) in even semester 20-21
3. Member Board of Studies

**Dr.E.Geetha**

1. Online Exam coordinator for EVEN SEMESTER UNIVERSITY THEORY EXAMONATIONS
2. Member Board of Studies

**Dr.R.Mageswari**

1. Member Women's cell
2. Member green cel
3. NSS Program Officer
4. Class In-Charge for Ii Msc(Maths) in odd semester 20-21
5. Member Board of Studies

**Dr.P,Nagarajan**

1. NSS Program Officer
2. Member green cell
3. Member Board of Studies

**Dr.P.Balaji**

1. Prepared Department Profile for 2019-2020
2. Member Board of studies, Sri Manakula Vinayagar college of Engg,Pondicherry

**Dr.J.Sengamalaselvi**

1. Class In-Charge for II Bsc(Maths) in odd semester 20-21

**Dr.K.Pramila**

2. Class In-Charge for II Bsc(Maths) in odd semester 20-21

**Dr.A.Gayathri**

1. Class In-Charge for III Bsc (Maths) in odd semester 20-21

**Dr.T.N.Lavitha**

2. Class In-Charge for I Msc (Maths) in odd semester 20-21
3. Internal Examination Co-ordinator

**Dr.K.Bharathi**

1. Class In-Charge for I Bsc(Maths) in even semester 20-21
2. Member ,IQAC ,Maths department 20-21.

**Dr. V.K.Radhakrishnan**

1.Dr V K Radhakrishnan, Assistant Professor of Mathematics, designed/developed an attendance management system, "Ganitha Upasthiti Prabandan", using Google Forms to maintain the attendance record of Mathematics Department course during this lockdown/online classes period which also calculates the attendance percentage of all the students

- 2.Online Class Co\_Ordinator,Mathematics department

**Dr.A.Dhanalakshmi**

1. Class In-Charge for I Msc (Maths) in even semester 20-21
2. Member ,IQAC ,Maths department 20-21

**DEPARTMENT  
COLLOQUIUM**

## **Research Colloquium**

**(July2020 to june 2021)**

Sl. No.	Name	Colloquium Date
1	Dr. K. Srinivasa Rao	02/04/2021
2	Dr. N. Saradha	
3	Dr. R. Malathi	09/04/2021
4	Dr. D. Vijayalakshmi	
5	Dr. E. Geetha	16/04/2021
6	Dr. R. Mageswari	
7	Dr. P. Nagarajan	23/04/2021
8	Dr. P. Balaji	
9	Dr. S. Vijayabarathi	30/04/2021
10	Dr. K. Pramila	
11	Dr. J. Sengamalaselvi	07/05/2021
12	Dr. V.K. Radhakrishnan	
13	Dr. A. Dhanalakshmi	14/05/2021
14	Dr. K. Bharathi	
15	Dr. T.N. Kavitha	21/05/2021
16	Dr. A. Gayathri	
17	Ms. B. Amudha	28/05/2021
18	Mr. K. Saravanan	

# **AWARDS**

### Awards/ Recognition

1. R.Malathi, Received Best Teacher Award, International Level Lions Club, Kanchipuram held on 20.10.2020.
2. R.Malathi, Received WOMEN RESEARCHER AWARD in the 8th International Scientist Awards on Engineering, Science and Medicine, held on 21 & 22 – August- 2020, Madurai, India, Organized by VDGGOOD Professional Association.
3. A.Dhanalakshmi, Received Young Women Mathematician Award from Infinity Awards 2020 Organized by Rathinam College of Arts & Science, Coimbatore held on 22.12.2020.
4. .Dr. K. **Bharathi**, Asst. Professor of Mathematics has received the “Honour & Recognition on constant support and outstanding performance in record event Award“, Maximum Authors Contributing for Book on Covid 19 and its Impact , ESN Publications.

# **OUTREACH ACTIVITIES**

## **Outreach Programmes & Extension Activities**

### **OUTREACH PROGRAMMES**

1. Dr.K.Srinivasa Rao delivered an Invited talk in National Webinar on MATLAB and Its Applications, Organized by the Department of Mathematics, Aurora's Degree and PG College, Hyderabad, on 5th July 2020.
2. Dr.K.Srinivasa Rao delivered a talk on Getting Started with MATLAB in Aacharaya's International Webinar Series, organized by Aacharya.net (The Hub of Qualified Teachers), on 26 th July, 2020.
3. Dr.K.Srinivasa Rao delivered a talk in One-Week International Online International Faculty Development Program on Mathematical Prototypes and their Applications in Engineering and Science, organized by S.R.K.R. Engineering College, Bhimavaram, Andhra Pradesh, during 26th July -1st August, 2020.
4. Dr.K.Srinivasa Rao delivered a talk in the International Conference on Mathematical Advances & Applications 2020 on the topic Maximum Degree Extra Index, organized by REd Talks Daily International, Vijayawada, AndhraPradesh, India, during August 07-08, 2020
5. Dr.K.Srinivasa Rao acted as a Chair Person in the International Conference on Mathematical Advances & Applications 2020, organized by REd Talks Daily International, Vijayawada, Andhra Pradesh, India, during August 07-08, 2020
6. Dr.K.Srinivasa Rao acted as a resource person for Online One Week Short Term Course on MATLAB Applications for Applied Science and Engineering Problemsheld from 12-10-2020 to 19-10-2020 at UGC-Human Resource Development Centre, JNT University, Hyderabad.
7. Dr.K.Srinivasa Rao delivered a talk in the Institute of Mathematics and Management On-line Conference on Mathematical & Biological Sciences 2020 on thetopic MATLAB and Applications, held at Melbourne, Australia on29th and 30th October 2020, organized by Institute of Mathematics and Management, Sri Lanka.

# **MSC PROJECT DETAILS**

Profile 2018-2019



**Sri Chandrasekharendra Saraswathi Viswa Mahavidyalaya  
(SCSVMV)**

**(Deemed to be University U/S 3 of the UGC Act 1956)**

**Accredited with "A" Grade by NAAC**

**Enathur, Kanchipuram – 631 561**

**Department of Mathematics**

**II M.Sc.,**

S. N O	Registration No.	Name of the student	Project Title	Name of the guide
1	111944001	CHARUMATHI V	A STUDY ON DISTANCE 2-DOMINATION NUMBER OF A GRAPH	Saradha
2	111944002	HARIPRIYA S	FINDING THE CHROMATIC NUMBER AND MAXIMUM DEGREE FOR MONGOLIAN TENT GRAPH OF $M_{R,V}$ .	Malathy
3	111944003	KEERTHIKA .N	SIMILARITY/DISSIMILARITY ANALYSIS OF PROTEIN SEQUENCES BY USING MEASURES BASED ON CMS AND UNION OF GRAPHS	Dr.D.Vijayalakshmi
4	111944004	MATHUMITHRA P	ANALYSING THE EFFECTS OF THERMAL RADIATION, POROSITY, HEAT AND MASS TRANSFER OF COPPER WATER NANO FLUID ON AN INFINITE VERTICAL PLATE WITH VARIABLE TEMPERATURE	Dr.E.Geetha
5	111944005	RAMYA D	APPLYING RANDIC MOLECULAR CONNECTIVITY INDEX IN THE STUDY OF STRUCTURAL SIMILARITY/DISSIMILARITY OF PROTEINS	.Dr.R.Mageswari
6	111944006	ROJA R	A STUDY ON $M^X /G1,G2/1$ QUEUE WITH SETUP TIME, BERNOULLI VACATION, BREAKDOWN AND DELAYED REPAIR...	Dr.P.Nagarajan

7	111944007	SRINITHI G	PETRI NET : MARKED GRAPH OF FOUR WORK STATION AMS AND ITS CONVERSION INTO EULER DIGRAPH	Dr.P.Balaji
8	111944008	SWEDHA S	NILPOTENT MATRIX	Dr.S.Vijayabharathi
9	111944009	VIDHYA R	FINDING MINIMUM TASK COMPLETION TIME USING FUZZY GRAPH CONCEPTS	Dr.pramila
10	111944010	VERONICA JANSY J	APPLICATIONS OF INTUITIONISTIC FUZZY SOFT MATRICES	Dr.J.Sengamalaselvi

**DEPARTMENT**  
**MINUTES**

## **Profile 2020-21**

1. *First Doctoral Committee Meeting* has conducted for *Mrs. B. Amudha*, Research Scholar on 26.02.2021 through online mode.
2. *First Doctoral Committee Meeting* has conducted for *Mr. K.Saravanan*, Research Scholar on 07-04-2021 through online mode.