

Nanjil Catholic College of Arts and Science Kaliyakkavilai



DEPARTMENT OF MATHEMATICS

NAAC QUALITATIVE MATRICES REPORT

2017 - 2022

Criterion - I

Curriculum Aspects

Curriculum is an essential ingredient of any education system regardless of the education level. All other aspects whether teaching, learning and evaluation or research and development, infrastructure and learning resources, student activities and support system revolve around it. Therefore, curricular aspects and the best practices connected to curriculum design and development play a very significant dimension in the quality of higher education since the curriculum has a decisive role in steering the other elements of quality.

1.1 Curriculum Planning and Implementation

(I) Curriculum Planning-Off line

Our college office handed over the syllabus of the university to the head of our department. A Staff meeting was conducted for the syllabus review and subject allocation to the concerned staff as per the specialization of the staff. Department of Mathematics frame an effective timetable based on the hours and work load of each staff. Department also maintained timetable and work load as soft copy and hard copy. The evaluation of the students is carried out periodically as per the norms of the NAAC.

Our department ensures effective curriculum delivery through its consistent efforts. The department of Mathematics prepares the Academic calendar at the commencement of the Academic year. While the teachers prepare their individual Academic and Teaching plan which is included in the Academic calendar.

(a) Work allotment:

Our department ensures a fair distribution of the subjects to the staff members teaching for under graduates, post graduates and M. Phil scholars, based on the approval by the Department meeting. Sometimes University will introduce new subjects, that time head of the department usually check the faculty member's subject interest and allocate them accordingly. Faculty members will not be allowed the same subject more than 3 times continuously. Head of the department take the decision based on the student's feedback from previously handled classes. If a staff member is a particular subject expert that staff will be allowed teaching the same subject again. Experienced faculties with adequate teaching knowledge on subject are frequently used for taking PG and M.Phil classes. According to University syllabus, 75 hours paper allotted 5 hours and 90 hours paper allotted 6 hours weekly. Head of the department allotted 18 hours to each and every staff weekly.

(b).Curriculum Planning by an individual

Individual faculty member prepare their own curriculum of each subjects allocated by our department. Before the first internal exam, faculty planned to complete one and the half unit of each subject. In the Second internal and Model exam, faculty members completes the rest of the portions accordingly. After the second internal staff starts to give unit wise revision for each subject. Hence the students are able to face their model exam and semester exam confidently.

(c).Unit wise preparation:

Faculty members analyse the syllabus unit wise and find out the difficulty level. Based on it making the plans to handle the classes and allotting time for each topic.

(d)Method of delivery:

We have followed the method of delivery through

- chalk and talk,
- PowerPoint,
- Tutorial classes.
- Seminars for PG students
- Learning Aids – Models

The Department of Mathematics is using various teaching methods. Even though students prepare the chalk and talk method. Students feel that chalk and talk method is useful and easy to understand their mathematical calculations.

(e).Individual Delivery plan:

For each semester every staff handling 210hours. A staff has allotted 45hours for power points only for teaching, 45 hours for tutorial session,14 hours allotted for Seminars for PG Students and remaining136hours for chalk and talk method. This method is used to explain to solve the problems step by step. Based on this for an individual class we have the following table

Programme	Power point	Seminars	Chalk and talk method
UG	15(hrs)	–	55(hrs)
PG	15(hrs)	14(hrs)	41(hrs)

(f)Implementation

Staff members go to their classes according to the time table. They revise the previous day lesson within 5 minutes. Then they will start taking the class for 45 minutes and they will use last 5-10 minutes to clarify the doubts of the students regarding on that portions.

(II).Curriculum planning –Online

Our college received the syllabus from Manonmaniam Sundaranar University and it was sent through WhatsApp group to the head of the department. A staff meeting were held through Google meet for the syllabus review and subject allocation to the concerned staff as per the area of specialization. Department creates Google class room for each class. Teachers who handling the subjects for the particular class were added in that Google class room. The Department of mathematics frame an effective online time table. For both UG and PG, a day consists of 5 hrs,2 hrs for live classes 1 hour for material uploading and remaining 2 hrs for assignment/seminar and discussions.

(a).Method of delivery:

For online classes we used to do the method of delivery through

- Google meet/zoom meet for live classes.

- Google class room for material uploading and test conducting.
- Whatapp group.
- YouTube.

(b) Individual plan:

Semester wise individual plan for online class of each class, is given in the following table

Programme	Live class(total hours)	Assignment/seminars	Material uploading	Discussion
UG	144	72	72	72
PG	144	72	72	72

(c).Implementation

Faculty members sent message through whatsapp group about the online class. Each staff sent their Google meet link in their class group. On time each faculty entered in the link and act as a host. The host can allow all the students to enter into the class link. First five minutes spent for attendance then next 45 minutes , class can be taken by the faculty using study material or PPT. After the class 5-10 minutes for doubt clarification and discussion section, staff members instruct the students to leave the class and they can join in the next class using the link sent by the other faculty member.

III. Continuous internal Evaluation:

Our department follows internal evaluation system continuously

- Unit test
- Class test
- Quiz
- Online Quiz
- Assignment and seminars
- Internal Examination
- Model exam

➤ The department of Mathematics conducts continuous internal assessment using various test forms like class test, unit test and quiz. Class test are conducted weekly once. One hour test is allotted for class test. Unit test are conducting after the completion of each unit. Department staff members conducted quiz after the completion of each unit. Various test forms helps to assess the students progress. And also which helps identify the difficulties of students and able to clear their doubts.

➤ Online quiz was conducted during the pandemic period. In order to identify the progress of student's staff members conducted online quiz by using Google forms.

➤ Assignment and seminars are given to the students as a part of their curriculum. Assignment given to UG students. Assignment and seminars are given to PG students.

➤ Internal exams are conducted thrice in a semester. Exams were conducted based on the academic calendar.

- Model exam conducted at the end of the semester covers the entire syllabus. Students get their knowledge of how to write their semester exam.

Various tests conducted in a semester, which helps the students to score high marks in their semester exam. The department of Mathematics produces 100% of results in a university exam. Also produces university ranks.

IV. Documentation:

According to our curriculum Department of Mathematics maintain the following documents via files and register:

- ✓ Syllabus for both UG, PG and M.Phil semester wise
- ✓ Work load and work allocation for both UG, PG and M.Phil Semester wise
- ✓ Class Time Table for each class.
- ✓ Students profile
- ✓ Time tables for external exam
- ✓ Previous years question papers

1.3. Curriculum Enrichment

Holistic development of students is the main purpose of our curriculum. Our Department have a strong sense of commitment to matters that concern social principles and sustainable practices. Hence, our curriculum not only lay emphasis on knowledge acquisition, but also focuses on promoting women empowerment, Gender quality, environment sustainability, Human values of environment. Our Curriculum offers Environmental studies and Professional English for first semester, Value based education and Professional English for second semester, Yoga on third semester, and Personality development as the part of the syllabus on fifth semester. Student's ethics are mentioned in the

college diary and it is informed to the students to follow the rules and regulations. The following points are mentioned in the college diary

- when students meet any of the staff members, they must greet them.
- no student is allowed to wander inside the campus during the class time.
- Students shall maintain strict silence while attending lectures in the classroom.
- All the students are advised to wear uniform and the college identity card everywhere in the campus.
- Ragging and eve teasing of students in any form is strictly prohibited.

1. *Environmental Studies:*

Students are studying environmental studies in their first semester. Students are getting awareness about environmental pollution and other issues related to eco system. This Knowledge helps the students to achieve sustainable development. They will try to protect the environment because they had studied about the harmful things and how it destroy the nature. Also it includes food chain food webs, ecological pyramids, values of biodiversity, biodiversity at global, national, local, treats of biodiversity, soil waste management, and disaster management.

2. *Value Based education:* Value based education give the awareness about social justices, human rights, social issues, media education, globalised world scenario, values and ethics. It also includes rights of marginal people, principles of human rights, Indian constitution, Rights of women and children, communal harmony, professional values, cultural values, family values and social values. Value based education to enable the students to

understand the social realities and to inculcate an essential value system towards building a health society.

3. **Yoga:** Yoga prevents the health problems, promoting positive health and personality development of students in department of mathematics. Yoga gives the awareness of human body, principle of yoga practice, balanced diet, mental health, pranayama and meditation to the students. The theory classes of Yoga conduct by the faculty member of Mathematics of duration 10 hours. The Physical Director of college will train the centralised Yoga practicals through ICT at the college auditorium in a full day from 10 am to 2 pm.
4. **Personality Development:** Final year UG students are studying personality Development in the fifth semester. The subject gives knowledge about goal settings, self monitoring, team building, leader ship quality, conflict management, stress management, table manners, dress code for an interview, group discussions ability. It helps the students to improve their self confidence and management skills..
5. **Professional English:** Professional English develop the language skills of every student by offering adequate practice in professional contexts and develop strategic competence, that will help in efficient communication. Also helps to sharpen student's critical thinking skills and makes students culturally aware of the target situation.

Due to curriculum our department integrates cross cutting issues like students ethics, gender, human values, environment and sustainability in to our

curriculum. Through the curriculum enrichment, the students knows about all the issues and to promote sustainability.

**NANJIL CATHOLIC COLLEGE OF ARTS AND SCIENCE,
KALIYAKKAVILAI**

Department of Mathematics

Workload – (2020 – 2021 Even Semester)

Class	Paper	No. of Hours
I B.Sc Maths	Differential Equations and Analytical Geometry of 3D	6
	Professional English	5
	Statistics II	6
	SVE	2
II B.Sc Maths	Abstract Algebra - I	6
	Skilled	4
	NME	2
III B.Sc Maths	Complex Analysis	5
	Number Theory	4
	Graph Theory	5
	Dynamics	4
	Numerical Methods	4
	Fuzzy Mathematics	4
	Operations Research II	4
I B.Sc. Physics	Allied Maths	6
II BCom	Business Mathematics	5
I M.Sc(Physics)	Mathematical Physics	5
II B.Sc. Chemistry	Allied Maths	6

I M.Sc Maths	Algebra II	5
	Analysis II	5
	Classical Mechanics	5
	Differential Geometry	5
	Graph Theory	5
	Discrete Mathematics	5
II M.Sc Maths	Functional Analysis	6
	Complex Analysis	6
	Advanced Algebra- II	5
	Topolgy-II	5
	Project	8

Work Allotment

Dr.A.Ajitha

Paper	Class	No. of hours
Differential Equations and Analytical Geometry of 3D	IB.Sc Maths	3
Abstract Algebra-I	II B.Sc Maths	6
Functional Analysis	II M.Sc Maths	6
Graph Theory	III B.Sc Maths	1
		16

Mrs. S. Jerlin Mary

Paper	Class	No. of hours
Complex Analysis	III B.Sc Maths	5
Complex Analysis	II M.Sc Maths	6
Analysis-II	I M.Sc Maths	5
Skilled	II B.Sc Maths	2
		18

Mrs. R. Abila

Paper	Class	No. of hours
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Differential Equations and Analytical Geometry of 3D	IB.Sc Maths	3
Number Theory	III B.Sc. Maths	4
Graph Theory	I M.Sc. Maths	5
Allied Maths	II B.Sc(Chemistry)	2
Skilled	II B.Sc(Maths)	2
Project	II MSc(Maths)	2

Dr. N. K. Abitha Gladis

Paper	Class	No. of hours
Graph Theory	III B.Sc. Maths	4
Statistics- II	I B.Sc (Maths)	6
Advanced Algebra-II	II M.Sc(Maths)	5
Project	II M.Sc(Maths)	1
SVE	I B.Sc(Maths)	2

Mrs. I. Mary Bexy

Paper	Class	No. of hours
Dynamics	III B.Sc. Maths	4
Algebra-II	I M.Sc. Maths	5
Topolgy-II	II M.Sc. Maths	5
Business Mathematics	II B.Com	2
Project	II M.Sc. Maths	2

Dr. S. Kavitha

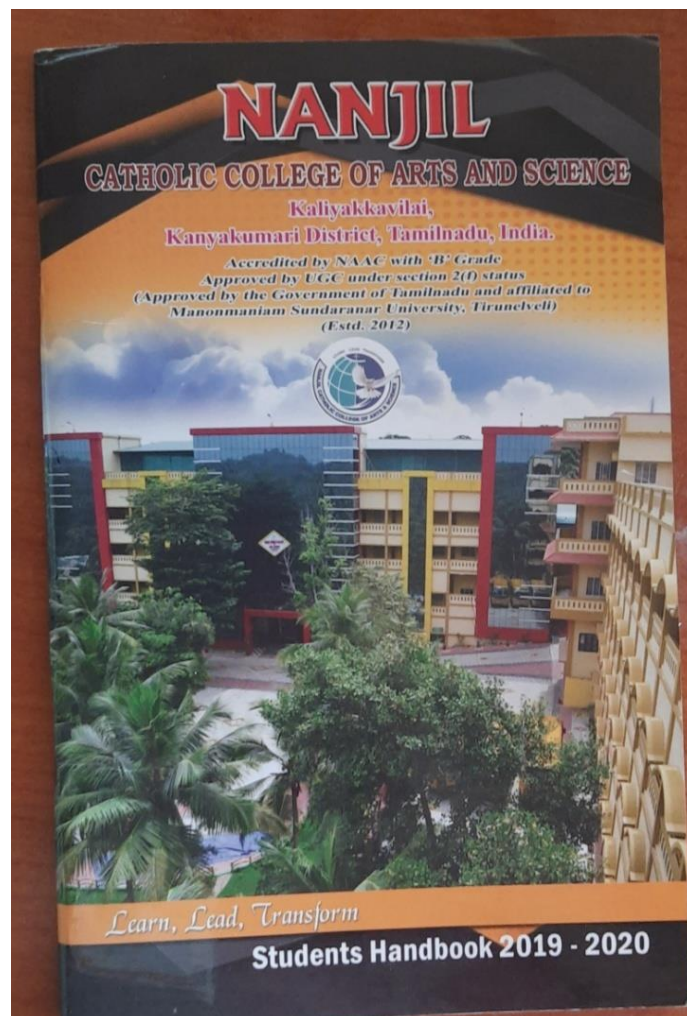
Paper	Class	No. of hours
Fuzzy Mathematics	III B.Sc. Maths	4
Classical Mechanics	I M.Sc. Maths	5
Allied-Maths	I B.Sc(Physics)	6
NME	II B.Sc Comp.Sci	2

Project	II M.Sc(Maths)	1
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Mr. T. Iwin Joel

Paper	Class	No. of hours
Professional English	I B.Sc. Maths	4
Numerical Methods	III B.Sc(Maths)	4
Differential Geometry	I M.Sc(Maths)	5
Mathematical Physics	I M.Sc(Physics)	5

Academic calendar



Method of delivery

Chalk and talk method



Power point method



Continuous evaluation

Internal Exam and Model exam



Class test and unit test



Seminar for PG students



Quiz

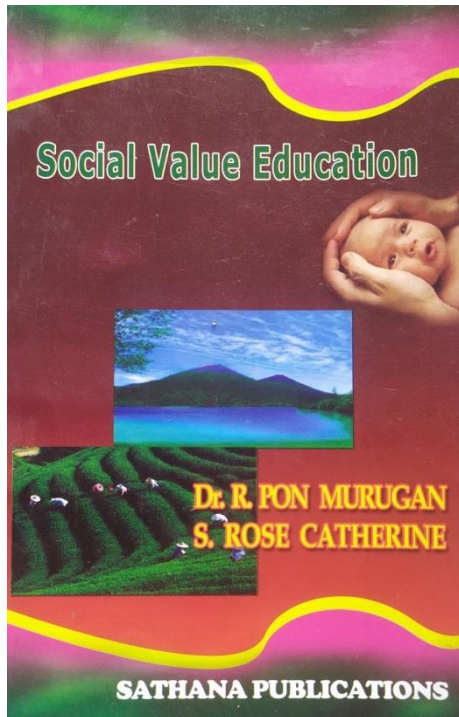


Power point presentation

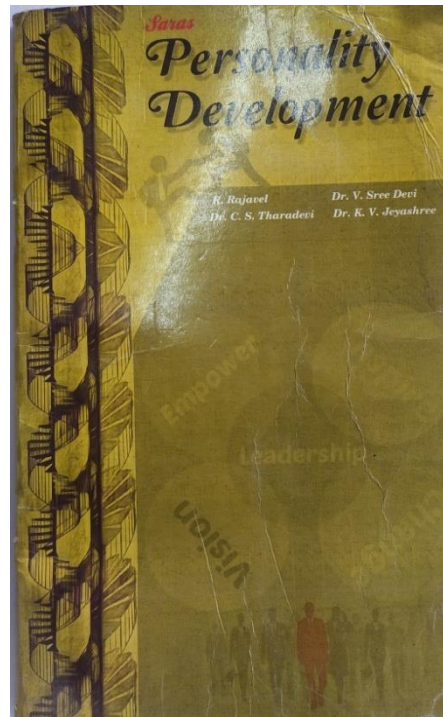


Curriculum Enrichment

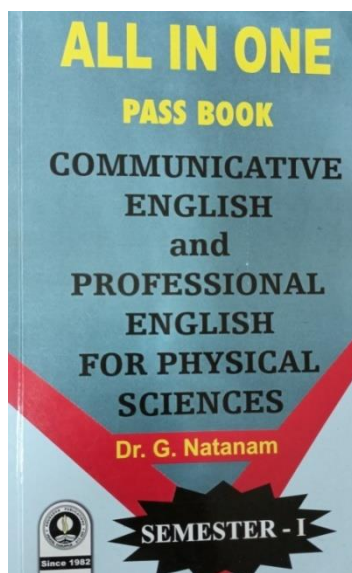
Social value education



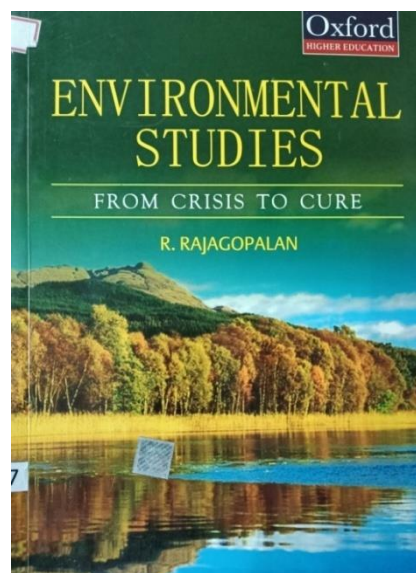
Personality Development



Professional English



Environmental studies



Criterion-II

Teaching, Learning and Evaluation

Teaching

After the allotment of subject papers teachers prepare their portions according to the Manonmanium Sundaranar University syllabus using various reference books. Faculties teach the portions using different teaching methods.

Teaching Methods

- The teacher teach all the lesson and the students listen attentively. The teacher use the blackboard to teach..
- Lecture method is useful in introducing new topics. Mathematics is based on previous knowledge of facts. This method can be used to teach a topic requiring some previous knowledge of facts.
- The teacher use chalk and talk method and explains the topics.
- To explain problems, teachers use formula method and derivation method.
- Faculties first explain the problem using formula then the teacher give one or two problems for the students to practice.
- Analysis papers have theorems. Faculties use mathematical Induction Method and direct method to prove the theorems.

Online teaching

Online teaching is the process of educating the students via internet. On the pandemic situation the staff members follow online teaching for both UG and PG during the academic year 2019 to 2020(even semester), 2020 to 2021(full academic year), 2021 to 2022(odd semester) using the following apps and social media. UG has 2 hours class per day

- Google meeting / Zoom meeting

For the online class Google meet / Zoom app link are already created by respective faculties and the link is shared to the students to attend the class. Once the students enter the class, teacher starts to teach by using PPT.

Learning

The department adopts student centric methods to make the teaching learning process more effective. In this process experimental learning, participative learning and problem solving methodologies are used for enhancing learning experiences.

Experimental learning:

- Student can learn mathematics easily by solving problems at blackboard by the students under the guidance of faculty members after completion of each section in each unit.

- Through conferences, seminars organized by department of Mathematics, students can learn new ideas in research in Mathematics through the presentation of research papers.
- PG students can learn their research projects using power point presentation easily.
- Our department motivates PG students to handle UG classes regularly.
- Students can learn Mathematics by poster presentation

Participating Learning

- We motivate the students to promote their competition skill through participating various programmes and competitions organized by universities and colleges.
- Students can learn through group discussion which helps them to understand tough concepts present in the theory papers. Faculty members divide the class students into two groups and then they give a particular topic to discuss. Group leaders can present the concepts that they discussed in the class room with the proper guidance of the faculty members.
- Students can learn through quiz which is conducted by the faculty members at the time of revision using section A type questions in old University question papers.
- Students can learn important topics in the syllabus by writing unit wise assignments.

Problem solving

- Every day students are trained to solve many problems present in their prescribed and reference text books and also the questions available in the old university question papers.
- When M.Sc, M.Phil students are doing their project work, problems are given in accordance with the project work and they are encouraged to solve the problems.
- Students are given regular home work for their development.

Online Learning

- Due to Covid-19 pandemic, online classes were conducted based on the online time table. Students can learn their portion using Zoom App/ Google meet App. Also faculty members upload the corresponding materials / videos / audios through the respective class room .Based on the time table, faculty members send the subject wise link in advance. At the time of class, student can enter in to the class by using the link.

Identification of advanced learners and slow learners

Slow Learners

- Faculties identify the slow learner's through their +2 marks.
- After the bridge course the Department of Mathematics conduct a test to identify the slow learners.
- Faculties identify it difficult to understand the lessons and may have difficulties in their comprehension, retention, reproduction and integration.
- Faculties ask questions related to the learning topics some students struggle to answer the question, from this Faculties identify the slow learners.
- In the classroom interaction helps the faculty members to identify slow learners.

- A systematic evaluation method like internal assessment is used to assess the learning levels of the students
- If the performance score of the student is below 40% in Internal Assessment and unit test then the student is considered as slow learners.

Advanced Learners

- Higher secondary marks of students help the faculties to identify the advanced learners.
- After the bridge course Department of Mathematics conduct a test which helps the Faculties to identify the advanced learners.
- In the classroom interaction helps the faculty members to identify advanced learners.
- During the class, teachers ask questions in the topic some students answers immediately, from this faculties identify the advanced learners.
- If the performance score of the student in Internal Assessment is above 70% then the student is considered as advanced learners.
- They are more potential with their comprehension, retention, memory, critical thinking, creativity and contextualization practices.
- Students through hard working behaviors help them to achieve more than the majority of the classmates.
- In the classroom interaction helps the faculty members to identify advanced learners.

Remedial for Slow Learners:

Slow learners are improved to get good marks in the university examinations by giving proper counseling and coaching.

- Department provides remedial classes for the slow learners.
- Remedial Classes are conducted with an aim to improve the academic performance of the slow learners.
- Counseling and coaching are given to those students.
- Motivation are given to the parents to improve leaning capabilities of slow learners.

Time table

- A special time table has been prepared to give extra coaching for the slow learners.
- Remedial classes are held from 2.00pm to 4.00pm. For four hours in a week.

Teaching Method for slow learners:

- The students are given opportunities to clear their doubts and gives assignments on significant topics to improve them in their subject areas.
- This practice helps the struggling learners to improve subject knowledge and helps them catch up with their peers.
- Group Study System is also encouraged with the help of the advanced learners.
- Academic and personal counseling is given to the slow learners by the mentor.
- Bilingual explanation and discussions are imparted to the slow learners after the class hours for better understanding.
- Provision of simple and standard lecture notes/course materials.

Step by step improvement in slow learners:

Remedial class tests are given to asses the improvements of students by giving internal exam and Unit test.

Sl.No	Academic Year	No of Slow learners	No of Slow learners passed University exam
1	2017-2018	24	22
2	2018-2019	27	25
3	2019-2020	23	23
4	2020-2021	24	24
5	2021-2022	22	22

Advanced Learners

- Special coaching classes offers to advanced learners in U.G and P.G classes. Additional assignments, writing practice and extra coaching classes are given to them.
- College provides coaching classes for the toppers in order to secure University ranks.

Time table

- A special time table has been prepared to give extra coaching for the advanced learners.
- Weekly four hours are allotted to advanced learners and classes held from 2.00pm to 4.00pm.

Teaching methods for advanced learners

Faculty members of the department of mathematics motivate the advanced learners to participate in various on and off campus activities. The activities are as follows.

- The Department of Mathematics encourages the students to publish research articles in various conferences and seminars.
- Advanced learners are encouraged in participating seminars, conference and workshops
- Special Coaching classes for toppers are given after the internal test. It is conducted regularly to secure University Ranks.
- Provision of additional learning and reference materials.
- Additional Assignment are given to the advanced learners.
- Participation by the students in the college competitions such as Debate, Group Discussion, Problem Solving – Decision Making Exercises and Quiz Programmes are also encouraged.
- Talented students are motivated to participate in extra-curricular activities, exhibitions and cultural competitions.

- The academic achievements of the students are extremely motivated and highly praised by the College by celebrating Annual Day every year.
- Students, who secured Ranks in the University Examination, are honored with Medals on the Annual Day.
- In the College day class toppers are honored by the college management by giving awards.

Step by step progress in advanced learners

Sl.No	Academic Year	No of advanced learners	No of students get O+ grade	No of students University Rank
1	2017-2018	22	20	1
2	2018-2019	25	24	-
3	2019-2020	23	23	1
4	2020-2021	24	24	8
5	2021-2022	22	22	

Effective teaching using ICT

All teachers in Mathematics department extensively use ICT enabled tools for interactive teaching to optimally employ student centric methods such as presentations.

year	Number of Teachers on Roll	Number of teachers using ICT (LMS,e-resources	ICT Tools and resources available	Number of ICT enabled Classrooms	Number of smart classrooms	E-resources and techniques used
2017-18	8	8	yes	5	5	PPTs, videos
2018-19	7	7	yes	5	5	PPTs,, videos
2019-20	8	8	yes	5	5	Moodle, You tube Video Lectures Lectures, PPTs, PDFs, Word, Online sessions on ciscowebx
2020-21	8	8	yes	5	5	Moodle, You tube Video Lectures Lectures, PPTs, PDFs, Word, Online sessions on ciscowebx
2021-2022	8	8	yes	5	5	Moodle, You tube Video Lectures Lectures, PPTs, PDFs, Word, Online sessions on ciscowebx

Mathematics department have five ICT enabled Classrooms. Power-point presentations, holding quizzes (Microsoft Forms), mind- maps are few methods adopted by teachers to blend ICT-enabled methods in the traditional classroom set-up. Seminars/ webinars, talks, workshops, trainings and other such are organized. Students likes blackboard teaching better than ICT teaching. So

teachers almost choose blackboard teaching. During the past 2 years due to 'Covid 19' pandemic situation class were conducted through Google meet and zoom app. Notes are given directly in class room in Whatsapps.

ICT learning

Apart from chalk and talk learning, students can learn using ICT in mathematics.

- 1 YouTube videos help the students to learn abstract ideas in mathematics through many examples with pictures using ICT.
2. Students can learn various graphs of functions in Mathematics using ICT.
- 2 Students can learn Asana in Yoga by ICT very easily.
3. Student can learn current affairs through ICT.
- 4 Student can understand social values through short films and documentary movies using ICT.

Mechanism of internal assessment

Unit tests

- Unit tests are conducted by all faculties at the end of each unit.
- Faculty members of the department of Mathematics prepare question papers for the unit test which contains 20 mark questions of section A and section B of University question pattern.
- The duration of unit test is one hour.

Internal examinations

- Staff council can fix the schedule of the centralized internal assessment.
- The duration of each internal examination is two hours.
- Faculty members can get the timetable of internal assessment from the exam cell and then give it to all the classes in the department.
- Internal examination schedule is display on notice board in advance.
- Faculty members send the question papers to college office through the mail at the stipulated time.

- A proper seating plan is followed for internal assessment tests and it is displayed on the notice board.
- Faculty members can get question papers and answer sheets from exam cell to supervise the allotted duties.
- After completion of each internal assessment faculties can submit the answer scripts in to the exam cell.

Model exam

- Staff council can fix the schedule of the centralized model examination.
- The duration of each model examination is three hours.
- Faculty members can get the timetable of model examination from the exam cell and then give it to all the classes in the department.
- Model examination schedule is display on notice board in advance.
- Faculty members can send the question papers to college office through the mail at the stipulated time.
- A proper seating plan is followed for internal assessment tests and it is displayed on the notice board.
- Faculty members can get question papers and answer sheets from exam cell to supervise the allotted duties.
- After completion of each model examination faculties can submit the answer scripts in to the exam cell.

Mechanism of external assessment

University examination

- Faculty members allocate the respective subject codes for the allotted subjects using University portal.
- University announces the date for the fee payment of University examinations. Students can pay the exam fee through university website.

- Since our college is an examination centre, University can send the exam schedule to college office, and students can write their university examinations in the college
- Faculty members can give the schedule of examination to the department students.
- Changes in schedules, patterns, methods if any, are immediately notified to the students through notice boards.
- Superintendent of college can allot the supervisors for each examination.
- The allotted supervisors can get the question papers and answer sheets from the exam cell before 30 minutes of the examination.
- After the completion of examination, supervisor can collect the written answer sheets from the students and then submit to the exam cell.
- After the exam college will send all the answer scripts to the University.

Online Exam

Internal

During the Pandemic period internal assessment is conducted through online. Timetable was prepared according to the resolvment at staff council meeting and it was given to the students by faculty members. Online internal exam was conducted based on the time table. Question papers were send to through Google Class room accordingly. After the completion of every internal examination, answer papers were uploaded to the respective subject teachers through email within one hour.

University examination

- Faculty members allocate the respective subject codes for the allotted subjects using University portal.
- University announces the date for the fee payment of online University examinations. Students can pay the exam fee through university website.
- University can send the exam schedule through college office mail.

- Faculty members can give the schedule of online examination to the department students through students Whatsapp groups.
- Students can register their names along with the register numbers in the University website and then they go for the mock test.
- University assigns the nodal officers to supervise the online examination.
- At the time of every online examination students downloaded the question papers from University website.
- After the completion of examination, students uploaded the written answer sheets to the University web portal within one hour. After uploading students are asked to submit their hard copies of the answer scripts to the college.
- College send all the answer scripts to the University.

Evaluation

Offline

Unit test

- After valuing the answer paper, the students one encourage to go through their papers and evaluate their status in the class room.
 - If there is any difference or discrepancy in their marks, it was corrected immediately by the faculty member.
 - All the answer papers are given to the parents to know their children's performance on P.T.A meetings.

Internal examinations

- After valuing the answer paper, it is shown to the students in the class room by subject teachers.
- Students grievances are encouraged in the valuation of answer paper, students can clarify their doubts with the faculty.

- Students are not satisfied with the clarification of marks given by faculty members valuation of papers, they students can inform to the exam grievance cell. It will be rectify with the help of the grievance cell.
- Answer papers was given to the parents to know their children's performance in the P.T.A. meeting.

University examination

- University can allot valuation centers for paper valuation and therefore the eligible faculty members can evaluate the allotted answer scripts at the allotted valuation center.
- After evaluation of all answer scripts, the faculty members submit the hard copy of OMR sheets which consists consolidated marks of students to the allotted chief evaluator.
- If students have any grievances related to the University result, they apply for
 - (i) re-totaling
 - (ii) getting Xerox copies of the answer scripts
 - (iii) revaluation and
 - (iv) conducting supplementary examinations for final years those who are failed in only one subject in their programme.

Online Valuation

Unit test

- Faculty members download unit test answer papers from the students Google class room.
- After valuing the answer paper, it is upload to the students in the Google class room.
- If there is any difference or discrepancy in their marks, it can immediately be corrected.

Internal examinations

- All the students are well informed about the transparency of internal assessment.
- After valuing the answer paper, it is given to the students in the Google class room.
- Students grievances are engaged in the valuation of answer paper; students clarify their doubts with the faculty members.

University examination

- Eligible faculty members are register their names along with their desired subjects.
- Answer scripts are allotted by the board chairman.
- Allotted Faculty members value the answer scripts through University website.
- Answer papers were given to the parents to know their children's performance in the P.T.A. meeting.

Grievances

The queries related to university examination results,

- (i) Corrections in mark sheets, other certificates issued by university are handled at university examination section after forwarding such queries through the college.
- (ii) Students are allowed to apply for revaluation, recounting and challenged evaluation by paying necessary processing fee to university.
- (iii) If students are not satisfied with the university evaluation they are asked to mail their grievances through principal.

Program Outcomes

- Program Outcomes (POs) are broad statements that describe the professional accomplishments which the program aims at, and these are to be attained by the students by the time they complete the program.

- Program Outcomes incorporate many areas of inter-related knowledge, skills and personality traits that are to be acquired by the students during their graduation.

Course outcomes

- Course outcomes (COs) are direct statements that describe the essential and enduring disciplinary knowledge, abilities that students should possess and the depth of learning that is expected upon completion of a course.
- They are clearly specified and communicated.

Program Outcomes

Sl.NO	Academic year	No of students appeared			UG			PG			University rank produced
		UG	PG	M.Phil	O	A+	A	O+	O	A+	
1	2017-2018	48	25	2	15	15	3	15	5	5	1
2	2018-2019	45	25	3	20	15	10	15	5	5	1
3	2019-2020	47	25	3	30	10	5	17	5	3	1
4	2020-2021	45	28	-	35	10	3	25	2	1	6

In 2018, 51% of UG students were passed with distinction and 72% of PG students were passed with distinction. In 2019, 64% of UG students were passed with distinction and 74% of PG students are passed with distinction. In 2020, 74% of UG students were passed with distinction and 76% of PG students were passed with distinction. In 2020, 100% of UG students were passed with distinction and 96% of PG students were passed with distinction. Also nine of our students secured university ranks.

Courses outcome

B.Sc Mathematics have 34 papers. M.Sc Mathematics have 22 papers.

Academic year	Subject Name	No of A grad	No of A+ grade	No of B grade	No of O grade	No of O+ grade
2017-2018	Tamil	3	5	7	28	
ODD	Malayalam			2	4	
	Hindi					
	Calculus and Classical Algebra	5	3	4	37	
	Statistics 1	4	13	10	24	
	Environmental Studies		2	7	40	
	Pothu Tamil	1	2	10	30	
	Malayalam				2	
	Hindi					
	General English		2	5	38	
	Real analysis 1	6	5	9	25	
	Allied Physics 1		3	3	39	
	Vector Calculus	6	5	9	25	
	Linear Algebra	2	3	6	36	
	Real analysis 2	5	2	2	38	
	Statics	2	2	5	38	
	Transforms and their Applications	4	5	7	31	
	Discrete Mathematics	2	2	5	38	
	Personality Development	5	4	3	35	
	Algebra 1	6	5		7	7
	Analysis 1	8	3		10	4
	Analytical Number Theory	3	4		9	9
	Ordinary Differential equation	6	4		5	12
	Numerical analysis	9	2		7	7
	Measure and Integration	9	2		7	7
	Topology 1	6	4		5	12
	Advanced algebra	6	5		7	7

	1					
	Operation Research 1	8	3		10	4
	Research methodology					
	Calculus of variation	8	3		10	4
2017-2018	Tamil	3	4	6	30	
Even	Malayalam			2	4	
	Hindi					
	English	4	3	3	39	
	Differential Equations and Analytical geometry of three Dimension	4	13	12	20	
	Statistics 2	4	13	12	20	
	Valued based education	4	3	3	39	
	Pothu Tamil IV		7	5	35	
	Malayalam				3	
	Hindi					
	General English IV	2	3	2	38	
	Abstract Algebra 1	2	9	10	24	
	Allied Physics 2	2	3	2	38	
	Trigonometry Fourier Series and Laplace Transform	1	1	10	33	
	Computer for digital Era			5	40	
	Complex Analysis	2	2	5	38	
	Graph Theory	5	4	3	35	
	Number Theory	2	2	5	38	
	Dynamics	4	5	7	31	
	Numerical Methods	2	2	5	38	
	Fuzzy mathematics	5	4	3	35	

	Operation Research	5	4	3	35	
	Algebra 2	4	5		7	9
	Analysis 2	8	3		8	6
	Classical Mechanics	11	3		4	7
	Differential Geometry	1	3		8	13
	Graph theory	6	8		10	1
	Discrete mathematics	11	14			
	Functional Analysis	4	5		7	9
	Complex Analysis	8	3		8	6
	Advanced algebra 2	11	3		4	7
	Topology 2	1	3		8	13
2018-2019	Tamil	2	5	3	37	
ODD	Malayalam			1	1	
	Hindi					
	Calculus and Classical Algebra			3	44	
	Statistics 1	3	4	5	35	
	Environmental Studies			3	44	
	Pothu Tamil		3	3	35	
	Malayalam			4	2	
	Hindi					
	General English	5	2	5	35	5
	Real analysis 1	7	3	4	33	7
	Allied Physics 1		5	2	40	
	Vector Calculus		5	2	40	
	Linear Algebra	2	3	2	38	
	Real analysis 2	1	3	1	40	
	Statics	2	1	5	37	
	Transforms and their Applications			5	40	
	Discrete Mathematics	3	2	3	37	
	Personality Development			5	40	

	Algebra 1	2	15		4	4
	Analysis 1	3	17		3	2
	Analytical Number Theory	2	9		4	10
	Ordinary Differential equation					
	Numerical analysis					
	Measure and Integration	2	9		4	10
	Topology 1	2	15		4	4
	Advanced algebra 1	3	17		3	2
	Operation Research 1	3	8		10	4
	Research methodology	3	3		14	5
	Calculus of variation	3	8		10	4
2018-2019	Tamil			5	40	
Even	Malayalam				2	
	Hindi					
	English	5	5	2	35	
	Differential Equations and Analytical geometry of three Dimension	5	2	7	33	
	Statistics 2	5	5	2	35	
	Valued based education					
	Pothu Tamil IV		3	3	35	
	Malayalam			4	2	
	Hindi					
	General English IV	5	2	5	35	
	Abstract Algebra 1	7	3	4	33	
	Allied Physics 2		5	2	40	

	Trigonometry Fourier Series and Laplace Transform		5	2	40	
	Computer for digital Era		5	2	40	
	Complex Analysis	2	3	2	38	
	Graph Theory	1	3	1	40	
	Number Theory	2	1	5	37	
	Dynamics			5	40	
	Numerical Methods	3	2	3	37	
	Fuzzy mathematics	5	2	5	33	
	Operation Research	5	2	5	33	
	Algebra 2	4	5		7	9
	Analysis 2	8	3		8	6
	Classical Mechanics	11	3		4	7
	Differential Geometry	1	3		8	13
	Graph theory	6	8		10	1
	Discrete mathematics	11	14			
	Functional Analysis	4	5		7	9
	Complex Analysis	8	3		8	6
	Advanced algebra 2	11	3		4	7
	Topology 2	1	3		8	13
2019-2020	Tamil	2	2	2	30	
Odd	Malayalam			2	2	
	Hindi				2	
	Calculus and Classical Algebra	3	2	1	30	
	Statistics 1		2	2	32	
	Environmental Studies				36	
	Professional					

	English					
	Pothu Tamil	2	1	2	38	
	Malayalam			2		
	Hindi			1		
	General English	5	2	3	36	
	Real analysis 1	2	2	2	40	
	Allied Physics 1	2	2	2	40	
	Vector Calculus	2	2	2	40	
	Linear Algebra	2	3	3	39	
	Real analysis 2	3	4	2	35	
	Statics					
	Transforms and their Applications	4	5	2	36	
	Discrete Mathematics	4	2	1	40	
	Personality Development		1	2	44	
	Algebra 1	2	10		1	9
	Analysis 1	12	6		4	3
	Analytical Number Theory	6	5			10
	Ordinary Differential equation	2	2		11	10
	Numerical analysis	1	1		3	20
	Measure and Integrayion	2	10		1	9
	Topology 1	12	6		4	3
	Advanced algebra 1	6	5			10
	Operation Research 1	2	2		11	10
	Research methodology	1	1		3	20
	Calculus of variation	2	10		1	9
2019-2020	Tamil			2	34	
Even	Malayalam				2	
	Hindi				2	

	English					
	Differential Equations and Analytical geometry of three Dimension			2	40	
	Statistics 2			3	39	
	Valued based education				42	
	Professional English for physical Science				42	
	Pothu Tamil IV			3	40	
	Malayalam			2		
	Hindi				1	
	General English IV			4	42	
	Abstract Algebra 1			6	40	
	Allied Physics 2			2	44	
	Trigonometry Fourier Series and Laplace Transform				46	
	Computer for digital Era				46	
	Complex Analysis			1	46	
	Graph Theory			2	45	
	Number Theory			3	44	
	Dynamics			2	45	
	Numerical Methods			1	46	
	Fuzzy mathematics			4	43	
	Operation Research			2	45	
	Algebra 2					28
	Analysis 2					28
	Classical Mechanics					28
	Differential					28

	Geometry					
	Graph theory				2	26
	Discrete mathematics					28
	Functional Analysis				1	27
	Complex Analysis					28
	Advanced algebra 2				2	26
	Topology 2					28
2020-2021	Tamil			2	30	
ODD	Malayalam				3	
	Hindi				1	
	Calculus and Classical Algebra			2	34	
	Statistics 1			2	34	
	Environmental Studies				36	
	Professional English				36	
	Pothu Tamil	1	2		33	
	Malayalam				4	
	Hindi				2	
	General English			6	40	
	Real analysis 1	1	2		43	
	Allied Physics 1				46	
	Vector Calculus				46	
	Linear Algebra		17		30	
	Real analysis 2	1	1		45	
	Statics		10		37	
	Transforms and their Applications		2		45	
	Discrete Mathematics	3	25		19	
	Personality Development		1		46	
	Algebra 1					28
	Analysis 1					28
	Analytical Number Theory					28
	Ordinary					28

	Differential equation					
	Numerical analysis				2	26
	Measure and Integrayion				1	27
	Topology 1					28
	Advanced algebra 1					28
	Operation Research 1					28
	Research methodology					28
	Calculus of variation					28
2020-2021	Tamil				1	31
Even	Malayalam					3
	Hindi					1
	English					
	Differential Equations and Analytical geometry of three Dimension				3	33
	Statistics 2				3	33
	Valued based education					36
	Professional English for physical Science					36
	Pothu Tamil IV				6	30
	Malayalam				1	3
	Hindi					2
	General English IV				2	40
	Abstract Algebra 1				1	41
	Allied Physics 2					42
	Trigonometry Fourier Series				3	39

	and Laplace Transform					
	Computer for digital Era					42
	Complex Analysis		1			46
	Graph Theory		5		1	41
	Number Theory		18		1	28
	Dynamics		0			47
	Numerical Methods		2			45
	Fuzzy mathematics		4			43
	Operation Research		9			28
	Algebra 2					28
	Analysis 2					28
	Classical Mechanics					28
	Differential Geometry					28
	Graph theory					28
	Discrete mathematics				1	27
	Functional Analysis					28
	Complex Analysis					28
	Advanced algebra 2					28
	Topology 2					28

2021- 2022	Tamil				23	
ODD	Malayalam				1	
	Hindi					
	Calculus and Classical Algebra			2	22	
	Statistics 1			4	20	
	Environmental				24	

Studies					
Professional English				24	
Pothu Tamil	1	2		36	
Malayalam					
Hindi					
General English			6	40	
Real analysis 1	1	2		43	
Allied Physics 1				46	
Vector Calculus				46	
Linear Algebra		17		30	
Real analysis 2	1	1		45	
Statics		10		37	
Transforms and their Applications		2		45	
Discrete Mathematics	3	25		19	
Personality Development		1		46	
Algebra 1					28
Analysis 1					28
Analytical Number Theory				2	26
Ordinary Differential equation				1	27
Numerical analysis					28
Measure and Integrayion					28
Topology 1					28
Advanced algebra 1				1	27
Operation Research 1					28
Research methodology					28
Calculus of variation				1	27

Interpretation

As per the above table, our department has produced 100% results most of the subjects for the last five years. Our department is not only producing 100% results but also produced 9 university holders; passed with distinction 189 and passed with first class with high marks 85.

Hence our department is one of the best departments in our college. Not only produced best results but also maintaining good discipline.

Students can get admissions easily for their higher degrees along their wonderful University examination results and they were eligible to appoint in good positions as they were wish and hence this is the uniqueness of the department of mathematics.

Bridge course

Nanjil Catholic College of Arts and Science Kaliyakkavilai

Department of Mathematics

BRIDGE COURSE 2020-2021

Department of Mathematics conducted bride course for the academic Year 2020-2021 for the first year UG students in online mode. It was held on 20-8-2020 to 22-8-2020. Class were conducted from 10 am to 12 pm. It is a too to help students to bridge the gap between school and college. Bride course proves to be the best opportunity for the student to adapt themselves to the new course. The Bride course include the subject like Trigonometry, Differentiation Integration, basic concepts in Probability, Basic concepts in Real Analysis, Basic results in Complex numbers. Syllabus was farmed in a way, which help the students grasp basic knowledge in their subject.

7:21

← xsu-ucmw-non

12. $\{ \sin n : n \in \mathbb{N} \}$ $\inf \sup$
 $-1, 1$

13. $\{ \cos n, n \in \mathbb{N} \}$

14. $\{ \frac{m}{n} + \frac{4n}{m}, m, n \in \mathbb{N} \}$
 $5, \infty$

15. $\{ \frac{m}{m+n} ; m, n \in \mathbb{N} \}$ $\frac{m}{2n} = \frac{1}{2}$
 $\inf = 0$ $\sup = 1$ $\frac{m}{m+1} = \frac{1}{1+\frac{1}{m}} = \frac{1}{2}$

Saranya Subbaly

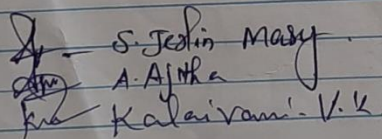
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Remedial for slow learners

72

Year : (2017 - 2018) (odd)
 Class : P. B.3c Maths.
 Subject Given : 1. calculus (Mrs. A. Ajitha)
 2. Algebra (Mrs. S. Jeslin Mary)
 3. Statistics (Mrs. V. K. Kalaiyari)

Sl. No	Students Name	18/8/17	19/8/17	30/8/17	6/9/17	13/9/17	27/9/17	4/10/17	9/10/17	10/10/17	11/10/17	12/10/17	13/10/17
		/	/	/	/	/	/	/	/	/	/	/	/
1.	Devika . R.S	/	/	/	/	/	/	/	/	/	/	/	/
2.	Anisba . R.S	/	/	/	/	/	/	/	/	/	/	/	/
3.	Gopika . B	/	/	/	/	/	/	/	/	/	/	/	/
4.	Pradeesh . R.C	/	/	/	/	/	/	/	/	/	/	/	/
5.	Ajai Moov . V.V	/	/	/	/	/	/	/	/	/	/	/	/
6.	Roshna S.R	/	/	/	/	/	/	/	/	/	/	/	/
7.	Hasafia N.V	/	/	/	/	/	/	/	/	/	/	/	/
8.	Greshma M.M	/	/	/	/	/	/	/	/	/	/	/	/
9.	Fomila . S	/	/	/	/	/	/	/	/	/	/	/	/
10.	Bibin . C	/	/	/	/	/	/	/	/	/	/	/	/
11.	Jarbin Raj	/	/	/	/	/	/	/	/	/	/	/	/


 S. Jeslin Mary
 A. Ajitha
 Kalaiyari - V. K.



Special coaching for advanced learners

23

Measures taken for Advanced Learners (2020-2021) (odd)

We choose the following students as the advanced learners and we motivate these students to get university rank. Also we motivate these students to attend various competitive exams like TNPSC, Bank, Railway exams... We also motivate these students to join TNPSC, Bank Coaching classes. Also our management provide career guidance to these students through Rev. Fr. S. Jose Robinson. Also we motivate these students to prepare question bank for each subject. The selected advanced learners list are as follows.

I Bsc Maths

- 1) Suhin. S.M
- 2) Jenifer. J.P
- 3) Tasheka. N.J
- 4) Athira. K.S
- 5) Christal Rani. C.M

II Bsc maths



Kaliyakkavilai, Tamil Nadu, India

85QC+57M, Nedungode, Kaliyakkavilai, Tamil Nadu

695502, India

Lat 8.338067°

Long 77.170653°

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GPS Map Camera

Head,
Department of Mathematics
(Arts & Science)

Internal Mark entry

Subject Title: Post II English		Subject Code: SPEN-1				
ASSESSMENT						
Sl. No.	Reg. No.	Name of the Student	Text - I		Text - II	
			Marks (Max: 10)	Attendance (Max. Session: 18)	Marks (Max: 10)	Attendance (Max. Session: 18)
1	20172101517201	V. Abhinav Laksh	10	15	83	12
2	20172101517202	P. S. Abhis	13	13	70	18
3	20172101517203	T. S. Abhis	14	14	78	16
4	20172101517204	T. P. Abhis	13	18	100	14
5	20172101517205	A. N. Abhis	10	14	78	16
6	20172101517206	V. V. Ajay Nam	10	17	94	14
7	20172101517207	T. Ajisha	17	18	100	16
8	20172101517208	F. C. Akhila	10	15	83	10
9	20172101517209	M. V. Akhila	10	15	83	13
10	20172101517210	K. A. Anchu Ruman	16	18	100	13
11	20172101517211	T. G. Anny	13	17	94	17
12	20172101517212	J. H. Angelina Binu	15	17	94	17
13	20172101517213	R. S. Anisha	15	16	89	11
14	20172101517214	C. N. Anu Priya	15	18	100	17
15	20172101517215	C. Ashin Binu	15	16	89	17
16	20172101517216	M. Ashin Tej	10	18	100	16
17	20172101517217	A. Ashini	15	16	89	15
18	20172101517218	J. K. Ashini	15	17	94	10
19	20172101517219	L. K. Ashritha	10	17	94	17
20	20172101517220	S. S. Aswathi	10	16	89	16
21	20172101517221	B. R. Athira Binu	10	16	89	17
22	20172101517222	M. Avula Jaha	15	18	100	19
23	20172101517223	C. Babu	40	16	89	13
24	20172101517224	R. Deepthi Ratchippu	15	17	94	16
25	20172101517225	R. S. Divya	11	15	83	18
26	20172101517226	S. V. Divya	13	14	78	18
27	20172101517227	T. P. Divya	13	18	100	16
28	20172101517228	J. B. F. Jay	10	18	100	18
29	20172101517229	S. Janika	13	18	100	18
30	20172101517230	B. Jyoti	10	15	83	18
31	20172101517231	P. M. Jyoti	16	16	89	16
32	20172101517232	M. M. Jyoti	16	18	100	19
33	20172101517233	M. T. Haritha	14	17	94	16
34	20172101517234	N. V. Haritha	16	17	94	17

Staff Name: B. K. S. J.		Mobile Number: 9790230989						
ASSESSMENT								
Sl. No.	Marks (Max: 20)	Text - III		Test Average (Best Two)	Assignment	Seminar	Total	Overall Attendance %
		Attendance (Max. Session: 45)	% of Attendance					
14	40	88	8	12	5		18	
17	43	95	5	18	5		23	
18	43	95	5	15	5		20	
15	42	93	3	15	5		20	
13	42	93	3	15	5		20	
11	45	100	0	13	5		19	
16	42	93	3	13	5		22	
26	45	100	0	10	5		15	
15	40	87	3	14	5		19	
16	44	98	2	14	5		20	
9	38	84	6	15	5		20	
17	43	96	4	14	5		22	
15	41	91	9	15	5		22	
17	43	96	4	14	5		22	
17	43	96	4	14	5		22	
13	42	93	3	15	5		21	
17	44	98	2	16	5		20	
13	39	87	6	14	5		22	
17	42	93	3	14	5		21	
15	41	91	5	16	5		21	
13	41	91	5	15	5		20	
15	43	96	4	14	5		22	
10	41	91	5	12	5		17	
18	43	96	4	14	5		22	
15	42	93	3	14	5		22	
18	39	87	6	18	5		22	
17	41	91	5	14	5		19	
26	40	87	6	14	5		21	
13	45	100	0	16	5		20	18
14	42	93	3	13	5		21	
16	44	98	2	16	5		24	
19	45	100	0	19	5		22	
17	37	82	8	14	5		22	
15	42	93	3	14	5		22	

Subject Title:		Subject Code:				
ASSESSMENT						
Sl. No.	Reg. No.	Name of the Student	Text - I		Text - II	
			Marks (Max: 10)	Attendance (Max. Session: 18)	Marks (Max: 10)	Attendance (Max. Session: 18)
26	20172101517235	J. Jashin Roy	30	13	72	11
27	20172101517236	T. Jashin Ramesha	16	17	94	17
28	20172101517237	H. Jha Sreya	10	18	83	17
29	20172101517238	T. Jyoti	10	18	100	16
30	20172101517239	S. Jyoti	15	18	100	16
31	20172101517240	V. P. Jyoti	10	17	94	17
32	20172101517241	T. R. Jyoti	10	17	94	15
33	20172101517242	M. S. Kalyani Binu	15	17	94	16
34	20172101517243	J. Lakshmi Sany	18	17	94	18
35	20172101517244	R. C. Pradnya	10	17	94	10
36	20172101517245	K. M. Pradnya	14	18	100	12
37	20172101517246	R. L. Pradnya	11	18	100	13
38	20172101517247	S. R. Pradnya	13	18	100	17
39	20172101517248	S. Pradnya	14	17	94	15
40	20172101517249	T. Sany	10	13	72	18
41	20172101517250	V. S. Varsha	14	18	100	14
42	20172101517251	V. V. Varsha	10	17	94	10

Staff Name:		Mobile Number:						
ASSESSMENT								
Sl. No.	Marks (Max: 20)	Text - III		Test Average (Best Two)	Assignment	Seminar	Total	Overall Attendance %
		Attendance (Max. Session: 45)	% of Attendance					
8	26	80	11	11	5		16	
19	45	100	0	19	5		23	
18	42	93	3	18	5		23	
17	45	100	0	17	5		23	
13	43	96	4	16	5		21	
14	43	96	4	16	5		21	
17	42	93	3	17	5		22	
16	43	96	4	16	5		21	
18	43	96	4	18	5		23	
11	41	91	5	11	5		16	
15	45	100	0	15	5		20	
14	45	100	0	14	5		19	
16	45	100	0	17	5		23	
13	42	93	3	15	5		20	
16	37	82	8	14	5		20	
16	44	98	2	15	5		20	
19	43	96	4	15	5		20	

Triple Camera

Galaxy
hi9hfq1qku

Online University Exam Evaluation

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மணோன்மணியம் சுந்தரணார் பல்கலைக்கழகம்
Manonmaniam Sundaranar University
Reaccredited with 'A' Grade (CGPA 3.13 Out of 4.0) by NAAC (3rd Cycle)
Tirunelveli - 627 012, Tamilnadu, India

November 2020 Examination
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Evaluator Name: I MARY BEXY
Evaluator Working College: 310-NANJIL CATHOLIC COLLEGE OF ARTS & SCIENCE
Evaluator Department: MATHEMATICS
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Result Analysis

NANJIL CATHOLIC COLLEGE OF ARTS AND SCIENCE KALIACKAVILAI
UNIVERSITY EXAMINATION

UG / PG RESULT ANALYSIS

Department: Mathematics
Semester: III - B.Sc. Maths Vth sem

S.No	Class	Subject with code	No. of Students		Percentage of Pass	Subject Handled by	Signature
			Appeared	Pass			
1	III B.Sc Maths	Linear Algebra	47	47	100%	Mrs. R. Abila	<i>Rabita</i>
2	"	Real Analysis - II	47	47	100%	Dr. A. Ajitha	<i>Ajitha</i>
3	"	Statistics	47	47	100%	Mrs. J. Mary Bezy	<i>Bezy</i>
4	"	Transforms and their Application	47	47	100%	Mrs. Bestilla Jaushal	<i>Jaushal</i>
5	"	Discrete Mathematics	47	47	100%	Dr. Abitha Gracies	<i>Gracies</i>
6	"	Personality Development	47	47	100%	Dr. Kavitha	<i>Kavitha</i>
7							

Signature of HOD: *[Signature]*

Am
PRINCIPAL
Nanjil Catholic College of Arts & Science
Kaliyakkavilai - 629 153

All Pass Percentage: 100%

Quiz

21

Quiz Competition - 2018

The department of Maths conducted Quiz programme in current affairs and general knowledge on 05/09/2018. The students from our department participated in this competition interestingly around 40 students participated in the preliminary test. In this top 15 students were selected and they were selected into four teams for the quiz programme.

The programme begins with the prayer song. Mrs. A. Ajitha, Head of the Department Mathematics served as a resource person. She encouraged the students and the staff to grasp the current affairs to meet this competitive world.

The quiz began with the introduction of the quiz master Mrs. R. Abila, Assistant professor, Department of Mathematics and Mrs. Jeslin Mary, Assistant professor, Department of Mathematics. There are 4 teams in the quiz competition. The rule of the quiz competition was announced by the quiz master. They conducted the programme in interactive way. All 4 teams participated in enthusiastic manner, namely

Team A :

Gopika. G. G (I M.Sc Maths)
Gayathri Devi. G. V (III B.Sc Maths)
Asshika Febi. A. B (II M.Sc Maths)
Abira. D. S. (II B.Sc Maths)

Team B : Saranya. S. S. (II M.Sc Maths)
Liji Jose. Y. A (I M.Sc Maths)
Jaslin Jisha. J (III B.Sc Maths)
Sumitha. T. X (VII B.Sc Maths)

Quiz Competition - 2018

The department of Maths conducted Quiz programme in current affairs and general knowledge on 05/09/2018. The students from our department participated in this competition interestingly around 40 students participated in the preliminary test. In this top 16 students were selected and they were selected into four teams for the quiz programme.

The programme begins with the prayer song. Mrs. A. Ajitha, Head of the Department Mathematics served as a resource person. She encouraged the students and the students and the staff to grasp the current affairs to meet this competitive world.

The quiz began with the introduction of the quiz master Mrs. R. Abila, Assistant professor, Department of Mathematics and Mrs. Jeslin Mary, Assistant professor, Department of Mathematics. There are 4 teams in the quiz competition. The rule of the quiz competition was announced by the quiz master. They conducted the programme in interactive way. All 4 teams participated in enthusiastic manner, namely

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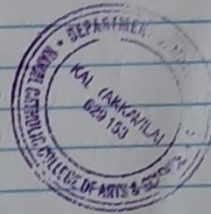
Team B : Saranya. S. S. (II M.Sc Maths)
 Liji Jose. Y. A (I M.Sc Maths)
 Jaslin Jisha. J (III B.Sc Maths)
 Sumitha. T. X (VII B.Sc Maths)

Team C :
Shajini . S . N . (II M.Sc Maths)
Stalin . S . J (I M.Sc Maths)
Dhanya . S . V (III B.Sc Maths)
Blessy . A (I B.Sc Maths)

Team D :
Jeba Steffi (II B.Sc Maths)
Joshika . J (II B.Sc Maths)
Mattina . k (III B.Sc Maths)
Shaami . S (III B.Sc Maths)

The audience also get chance to answer whenever the teams answered incorrectly.

At end Team D wins the first prize , team A wins the second prize and Team C wins the third prize . The event come to an end with the vote of thanks by Melbha . J . M of II M.Sc Mathematics .



Seminar

S.No.	Register No.	Name	Topic	Remarks	Mark	Staff Signature
1	20183102515201	Abila R	Uniform closure	Good	5	Jeba
2	20183102515202	Abitha Angel R N	Weierstrass thm	Good	5	Jeba
3	20183102515203	Adline K	Power series	Good	5	Jeba
4	20183102515204	Alvinocha Begam A H	Radius of convergence	Good	5	Jeba
5	20183102515205	Anvika S C	Taylor's thm	Good	5	Jeba
6	20183102515206	Annie Beullet Mary G T	Theorem 8.5	Good	5	Jeba
7	20183102515207	Arpika G C	Bessel inequality	Good	5	Jeba
8	20183102515208	Honeya Steffy S	Localization thm	Good	5	Jeba
9	20183102515209	Jasmine Reni T T	Gamma function	Good	5	Jeba
10	20183102515210	Liji Rose Y A	Limit of the integral	Good	5	Jeba
11	20183102515211	Misha Jennifer P	It is a real cts fun on the real line which is uniformly differentiable	Good	5	Jeba
12	20183102515212	Monisha R	Equicontinuous fns	Good	5	Jeba
13	20183102515214	Praveena P V	Continuous and disc	Good	5	Jeba
14	20183102515216	Romya R	Uniformly cts fns & Riemann integral	Good	5	Jeba
15	20183102515218	Raji P	Abel's limit thm	Good	5	Jeba
16	20183102515217	Sheeja F	Cts fns and Uniform cts fns difference	Good	5	Jeba
17	20183102515218	Sheeja K	Riemann Stieltjes Integral	Good	5	Jeba
18	20183102515219	Sheela D	Rectifiable curve	Good	5	Jeba
19	20183102515220	Shreya Bomha S P	Zeros of an analytic fn	Good	5	Jeba
20	20183102515221	Srima T K	Analytic fns	Good	5	Jeba
21	20183102515222	Sindhuja T	Differentiable and analytic fns difference	Good	5	Jeba
22	20183102515223	Starlin S T	Abel's thm part i	Good	5	Jeba
23	20183102515224	Steffi D	Abel's thm part ii	Good	5	Jeba
24	20183102515226	Viji T	Abel's thm part iii	Good	5	Jeba
25	20183102515227	Vinola Rani T				

Criterion - III

RESEARCH, INNOVATIONS AND EXTENSION

Research

Research helps us to develop the knowledge, skills and attitudes necessary to pursue further studies in Mathematics. Department of Mathematics is not a research department but our college is offering the pre Ph.D Programme. The M. Phil Programme in Department of Mathematics is established in the year 2017 and each year 3 students have been admitted in this programme. The research activities of Department of Mathematics are:

- Motivating the PG students to do their research projects and participating in seminars and conferences.
- Encouraging the M.Phil students to participate and present research papers in seminars and conferences.
- All faculty members in the department of mathematics present research papers in the conferences and also publish their research articles in the reputed journals.

Steps in Research

Project

In every academic year, PG and M. Phil students have to submit their research projects under the allotted supervisors within the stipulated time. All the staff in the department is allotted with minimum 3 students for supervising the research project of PG students.

a) PG Projects

The PG students plan the projects based on their goals and objectives. After the completion of the third semester students are eligible to commence the individual project work under the supervision of the staff members in the department. As per the curriculum framed by the university, the PG students are allotted 8 hours per week to do their Projects. The Guide / Supervisor of the Project work for the students are to be allotted by the Head of the Department. The students are asked to submit their projects chapter wise to the concerned supervisor for evaluation once in two weeks.

Role of Supervisor

The supervisor helps the students for the selection of the project topic with the usage of library and journal references. It is informed to the students the Project Report should not be less than 25 pages. After the completion of their project and the corrections made by the supervisor they have to present their research work through power point presentation at the time of pre – viva. The Project Report should be certified by the Approved Guide with Self Declaration of the Candidate for assuring the Quality and Originality of the work. There is an internal Viva-Voce examination for the students those who submitted the Project Report. A copy of the approved project report after the successful completion of viva-voice examinations shall be kept in the general library/ Department library of the college.

b) M. Phil Projects

M.Phil is a pre Ph.D programme and its objective is to train the students for future research and to improve the research skills. In the first semester, M.Phil students have to learn three core papers and in the second semester they have to do M.Phil dissertation. The project work shall be carried out under the

supervision of a qualified staff under the guidelines of the university. The students are asked to submit their dissertation chapter wise to the concerned supervisor for evaluation once in three weeks. The student shall be instructed to meet the supervisor periodically for evaluating the progress.

Assessment for Project Work

The evaluation of Project Work for M. Phil. shall be done independently and marks shall be allotted as per the curriculum framed by the university. As per the guidelines, each M.Phil candidate must present two research papers from their dissertation in a National Conference organized by institution/universities. The student shall make presentation on the progress made before the committee. The Head of the Department shall constitute the review committee consisting of supervisor, project coordinator and another faculty member in the Department. If the student fails to submit the project work beyond the time then the student is deemed to have failed in the Project Work. The failed students shall register for the same in the subsequent semester, when offered next, and repeat the project work again. A copy of the approved project report after the successful completion of viva-voice examinations shall be kept in the library of the college / institution.

Evaluation

Internal Evaluation

Before the commencement of semester examination, students are asked to submit their PG project/ M. Phil dissertation. For the purpose of internal assessment, students have to present the project/ dissertation through power point for the pre- viva conducted by the Department in the presence of the Head of the department and the supervisor.

External Evaluation

By the end of the semester, university schedules a time table for the viva voce examination and appoints an external examiner to conduct the viva voce. The students are asked to present their project work/dissertation in front of the external examiner. The internal/ external marks for project/ dissertation assigned by the university for PG and M.Phil are illustrated in the table:

Programme	Marks (100)	
	Internal	External
PG	50	50
M.Phil	25	75

Online

During the COVID 19 pandemic, students are asked to come to college once in a month to meet their supervisor for the correction of projects. After completing the project/dissertation students have to submit it to college.

For internal evaluation Pre-viva for PG project/ M.Phil dissertation is conducted through online using ZOOM app and for the external evaluation, an external examiner appointed from the university has conducted the viva-voce examination through online using ZOOM or Google meet with the Head of the department and the supervisor.

Number of PG Projects / M.Phil dissertation submitted/ ongoing in department during 2017-2022

Sl. No.	Academic Year	Number of Projects	
		PG	M.Phil
1	2017-2018	25	2
2	2018-2019	27	3
3	2019-2020	26	3
4	2020-2021	25	-
5	2021-2022	28	-

Innovation

The projects submitted by the students of Department of Mathematics in post graduate and M. Phil programmes are further used for their future research work.

Innovative Findings of the Projects

- Have presented some results and properties of circulant graphs and domination in circulant graphs.
- Explained the concepts of graceful Labeling
- Implementation of coding theory in algebra
- Collected some results and properties and derived theorems on geodetic concepts in graphs
- Derived some theorems and results on Non split Geodetic Domination and Restrained Non split Geodetic Domination concepts in Graphs
- A Study on Square sum & difference labeling of Graphs
- Decision Theory in Operations Research

Extension Activities

- ✓ Extended the concepts of circulant graphs in edge domination in circulant graphs.
- ✓ Applications of labeling are used in X-ray, communication design and network design
- ✓ Algebraic Coding theory is an area of discrete applied mathematics concerned with developing error-control codes and encoding/decoding procedures.
- ✓ Geodetic concepts in graph theory are extended to Geodetic Domination Concepts in M.Phil project.

- ✓ Non- split geodetic domination concepts is extended for the Ph.d research work.
- ✓ The knowledge gained from the research works can be transferred to implement the junior research.

Staff Contribution to Research

The staff members of Department of Mathematics are specialized in Graph Theory. Every year the faculty members in the Department of Mathematics presented research papers in International/ National Conferences organized by esteemed institutions/Universities. Also the faculty members published various research papers in UGC list of journals. The faculty members of Department of Mathematics published 21 research papers in the reputed journals.

Publications

- A.Ajitha, Total Outer Independent Geodetic Domination Number of a Graph, JETIR, Vol(7), 2020,3392-3399, 2349-5162. **Impact factor: 5.87**
- A.Ajitha, Independent Geodetic Domination Number and Outer Independent Geodetic Domination Number of a Graph, IJRAR, vol (7), Issue(4), 2020, 137-145, 2348-1269. **Impact factor: 7.17**
- Bertilla Jaushal, AJ & Arul Paul Sudhahar, P 2018,'The Connected Total Monophonic Domination Number of a Graph', International Journal of Applied Engineering Research, vol.13,no.15, pp.12272-12276. ISSN 0973-9769. **Impact factor: 8.10**
- Bertilla Jaushal, AJ & Arul Paul Sudhahar, P 2019, 'The Forcing Total Monophonic Domination and Forcing Total Edge Monophonic Domination Number of Graphs', International Journal of Scientific Research and Review, vol.8, no.7, pp.167-185. ISSN 2279-0543. **Impact factor: 6.946**

- Bertilla Jaushal & Arul Paul Sudhahar, P , AJ 2019, 'Total Outer Independent Monophonic Number of a Graph', Journal of Computer and Mathematical Sciences, vol. 10, no. 7, pp. 1482-1487. ISSN 1482-1487. **Impact factor: 4.655**
- Bertilla Jaushal & Arul Paul Sudhahar, P, AJ 2019,'The Total Outer Independent Monophonic Dominating Parameters in Graphs', Asian Research Journal of Mathematics, vol.14, no.1, pp.1-8. ISSN 2456-477X. **Impact factor: 1.13**
- Bertilla Jaushal & Arul Paul Sudhahar, P , AJ 2019,' 2- outer Independent Monophonic Domination Number of a Graph', Global Journal of Mathematics and Mathematical Sciences, vol.9, no.1, pp.1-9. ISSN 0972-9836. **Impact factor: 1.20**
- Iwin Joel.T and Ebin Raja Merly.E “Geodetic Decomposition of Graphs”, Journal of Computer and Mathematical Sciences, Vol.9(7), July 2018. ISSN No: 2319-8133, **Impact factor: 4.665**
- Iwin Joel.T and Ebin Raja Merly.E “Double Geodetic Decomposition of Graphs”, International Journal of Scientific Research and Review, Volume 7, Issue 8, 19-22, 2018. ISSN No: 2279-543X, **Impact factor: 6.1**
- Iwin Joel. T and Ebin Raja Merly.E “Connected Geodetic Decomposition of Graphs”, Journal of Applied Science and Computations,Volume VI, Issue III, 2833-2837, 2019. ISSN No: 1076-5131, **Impact Factor: 5.8**
- Iwin Joel.T and Ebin Raja Merly.E “Connected Double Geodetic Decomposition of Graphs”, International Journal of Scientific Research and Review,Volume 8, Issue 4, 13-17, 2019. ISSN No: 2279-543X, **Impact Factor-6.1**

- Selestin Lina, S & Asha, S 2019, ‘ Bitopological Labeling on Simple Graphs’, International Journal of Scientific Research and Review, vol. 4, pp.50-61, ISSN 2279-543X, **Impact factor: 6.946, (UGC Care).**
- Selestin Lina, S & Asha, S 2020, ‘Bitopological Star Labeling Graphs’, Adalya Journal, vol. 2, pp. 657-667, ISSN 1301 2746, **Impact factor: 0.150**
- Selestin Lina, S & Asha, S 2020, ‘On Topological Cordial Graphs’, Journal of Science and Technology, vol. 1, pp. 25-28, ISSN 2456-5660, **Impact factor:. 0.73.**
- Selestin Lina, S & Asha, S 2020, ‘Odd Triangular Graceful Labeling on Simple Graphs’, Malaya Journal of Matematik, vol. 9, pp. 1571576, ISSN 2315666, **Impact factor: 4.529, (UGC Care)**
- Selestin Lina, S & Asha, S 2022, ‘Bitopological Labeling of Tree related Graphs’ AIP conference Proceedings’ pp. 130016-1-130016-5, ISSN 0094-243X, **Impact factor: 0.40.**
- S. Jerlin Mary and Y.S Irine Sheela, Characterizations of Onto Minus Dominating Functions in Graphs, The International Journal of Analytical and Experimental Modal Analysis, Vol XIII, Issue V, May/ 2021, ISSN: 0886-9367, **Impact factor: 6.3.(UGC Care)**
- S. Jerlin Mary and Y.S. Irine Sheela, Onto minus domination number of paths and cycles, Malaya Journal of Matematik, Vol. 9, No. 1, 681-683, 2021, ISSN: 2319-3786, Doi: 10.26637, **Impact factor: 4.529. (Scopus)**
- R. Abila and Dr.T.Binu Selin, “Realization Results on Non Split Geodetic Number”, The International Journal of Analytical and Experimental Modal Analysis, Vol XIII,2021 P. No. 1234-1239, ISSN: 0886-9367, **Impact factor: 6.3.**
- J.John, S.Robinson Chellathurai, S.Kavitha, On the Forcing Connected Domination Number of a Graph, Journal of Discrete Mathematical Science And Cryptography, Vol 20,2017,No.3. **(UGC Care)**

- N.K. Abitha Gladis, S.Kavitha`Cordial Labeling of Bull and Germ Graph and its duplication, NOVI MIR research Journal, Vol 6, 2021, No 5, pp 71 -82. (UGC Care)

Paper presentation

Paper Presentation plays an extravagant role and it will give a lot of significance to the resume and also helps in developing various skills. To present a paper an abstract must be submitted on a predefined topic. The staff members of department of mathematics presented / participated in 7 National Conferences and 10 International Conferences.

- A.Ajitha, “Perfect Geodetic Domination Number of a Graph “, National Conference on NCETMA-2019 at Noorul Islam Center for Higher Education, Kumaracoil on October 30,31 of 2019. ISBN: 978-81-937463-5-6.
- A.Ajitha, “Split Geodetic Domination Number of a Graph” , National Conference on Recent Trends in Algebra and Topology, Rani Anna Govt. college (W), Tirunelveli on 27-01-2020, ISBN:978-81-907459-7-3.
- A.Ajitha, “Independent Geodetic Domination Number of a Graph, “National Conference on Recent Trends in Algebra and Graph Theory at NACCAS, Kaliyakkavilai on Feb 20, 2020.
- A.Ajitha, “Isolate Geodetic Domination Number of a Graph“, International Conference on Algebra and Discrete Mathematics (online mode) at MKU-DDE on June 24-26, 2020, ISBN: 978-81-944843-2-5.
- A.Ajitha, “Total Geodetic Domination Number of a Graph “, National Conference on Recent Concepts in Algebraic Graph Theory at NACCAS, Kaliyakkavilai on October 4th,2021. ISBN: 978-81-908388-2-5.

- Mrs. S. Jerlin Mary “Onto Minus Domination Number of a Complete Graph and a Wheel Graph” in the National Seminar on Recent Trends in Pure and Applied Mathematics, organized by PG and Research Department of Mathematics, Rani Anna Government College for Women, Tirunelveli on 9th and 10th March 2020, ISBN:978-81-907459-7-6
- Mrs. S. Jerlin Mary “Total Onto minus Domination Number of Graphs” in the International Conference on Advanced Mathematical Modeling and Computational Techniques, organized by department of Mathematics, AMET Deemed to be University, Chennai from 28th to 30th June 2021, ISBN: 978-93-85434-84-6.
- Mrs. S. Jerlin Mary “Onto Minus Domination Number of Some Familiar Small Graphs” in the International Conference on Mathematical Modeling, Analysis and Computing, organized by Department of Mathematics, Thiruvalluvar University, Vellore on 8th and 9th July, 2021.
- Mrs. S. Jerlin Mary “Onto Minus Domination Number of Complete Bi Partite Graph” In the International Virtual Conference on Recent Trends and Techniques in Mathematical and Computer Science, Jointly organized by Government Degree College, Darhal, Jammu and Kashmir, India & Cape Comorin Trust, India & Lavender Literary Club, India & Cape Comorin Publisher, Tamil Nadu, India on 28th and 29th July 2021, ISBN: 978-93-915532-7-2.
- Mrs. S. Jerlin Mary “Onto Minus Domination Number of Some Small Graphs” in the National Conference on Recent Concepts in Algebraic Graph Theory, organized by Department of Mathematics, Nanjil Catholic College of Arts and Science Kaliyakkavilai on 4th October 2021, ISBN: 978-81-908388-2-5.
- R.Abila, “Non split Geodetic Number of Fuzzy Graph”, International

Conference on Advanced Mathematical Modeling and Computational Techniques organized by AMET University, Chennai during 28th to 30th June 2021, ISBN:978-93-85434-84-6.

- R.Abila, “Non split Geodetic Polynomial of a Graph”, International Conference on Recent Advancements in Mathematics organized by Sacred Heart College, Tirupattur on 9th to 10th April 2021
- R.Abila, “Non split Geodetic Parameters of Some Special Graphs”, International Virtual Conference on Recent Trends and Techniques in Mathematical and Computer Science, organized by Government Degree College, Darhal, Jammu and Kashmir, Chennai during 28&29 July 2021, ISBN: 978-93-915532-7-2.
- R.Abila, “Non split Geodetic Sets and Non split Geodetic Polynomial of a Spider Graph”, National Conference on Recent concepts in Algebraic Graph Theory, organized by Nanjil Catholic college of Arts and Science, Kaliyakkavilai on 4th October 2021, ISBN:978-81-908388-2-5.
- Bertilla Jaushal, AJ 2018, November 16 & 17, ‘The Total detour Monophonic Domination Number of a Graph’, Proceedings of the International Conference on Computing Sciences, pp.131.
- Iwin Joel .T, “Geodetic and Double Geodetic Decomposition on Ladder Graphs” International Conference on Advances in Pure & Applied Mathematics at Madurai Kamaraj University, Madurai on 8/9/2018 to 10/9/2018. ISBN: 978-93-86435-53-8
- Iwin Joel .T, “Geodetic Decomposition of Umbrella and Fan Graphs” International Conference on Novel Trends in Pure and Applied Mathematics at University of Kerala, Kariavattom on 22/1/2019 to 24/1/2019.

Projects guided by the faculty members

Sl. No.	Name	M.Sc		M.Phil.	
		Completed	Doing	Completed	Doing
1	Dr.A.Ajitha	14	5	8	
2	Mrs.S.Jerlin Mary	14	4	-	
3	Mrs.R.Abila	11	4	-	
4	Mrs.A.J.Bertilla Jaushal	11	4	-	
5	Mrs.S.Selestin Lina	10	-	-	
6	Mrs.M.Little Flower	7	-	-	
5	Mrs.V.K.Kalaivani	7	-	-	
6	Dr.S.Kavitha	6		-	
7	Dr.N.K.Abitha Gladis	5	-	-	
8	Dr.T.Iwin Joel	7	-	-	
9	Mrs.I.Mary Bexy	4	3	-	
10	Mrs.R.Ajitha	-	3	-	

Department Contribution to Research

Department of Mathematics conducts various workshops, Conferences and seminars in every academic year. By attending seminars and conferences students can expand their learning, skills and professionals can update latest information about their research field. Two days workshop on Latex is given to PG and M. Phil students for the purpose of their research work. Latex, software is used for typesetting documents. Department of Mathematics proudly selected best projects from M.Sc dissertation for the year to present in a national seminar 2018-2020 entitled as “National Conference on Recent Trends in Algebra & Graph Theory” which held on 20/02/2020. Two students of M.Sc Mathematics

could able to present in a very good manner. The details of the presentation are given below:

- Gopika G C, II M.Sc Mathematics presented a paper on “Operations On Signed Graphs”
- Abila R, II M.Sc Mathematics presented a paper on “A Brief Study on Linear Coding”.

Workshops / Training programs conducted by the Department during 2017-2022

Year	Name of the workshop/ seminar/ conference	Number of Participants		Date From – To
		Internal	External	
2017-2018	National Conference on Applicable Mathematics (NCAM 17)	170	25	18-07-2017
2018-2019	National Seminar on Recent Trends in Applicable Mathematics	141	35	20-02-2019
2019-2020	Two Days Workshop on Latex	47	-	06-08-2019 to 07-08-2019
2019-2020	National Conference on Recent Trends in Algebra and Graph Theory	150	80	20-02-2020
2019-2020	Webinar on coaching of NET/SET/CSIR	100	-	26-02-2020
2020-2021	Webinar on Dimension of Vector Spaces	61		01-02-2021
2020-2021	Webinar on Application of Signed Graph Transformation	49	-	10-04-2021
2021-2022	National Conference on Algebraic Graph Theory (NCAGT)	202	79	04-10-2021
2021-2022	Three Days Workshop on CSIR UGC NET/SET Challenges	52	43	27-04-2022 to 28-04-2022

For the workshops, seminars and Conferences conducted by the department of mathematics, the internal and external participants are invited. Over all 65% of the internal participants, 30% of external participants and 5% of internal and external staffs are participated. For the National Conferences, the percentage of paper presentation by external participants is 70%.

PG & M.Phil Project

**A STUDY ON SPLIT DOMINATION NUMBER OF
GRAPHS**

*Dissertation submitted in partial fulfilment
of the requirements for the award of the Degree of*

**MASTER OF SCIENCE
IN
MATHEMATICS**

By

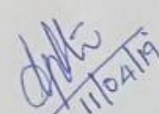
SOWMIA.P.A

Reg. No: 20173102515225

Under the Supervision of

**Mrs. S. JERLIN MARY, M.Sc., M.Phil.,
Assistant Professor, Department of Mathematics.**

EXAMINERS


Signature of the

Head of the Department

1. *S. Vrindha*
18/4/2019

2.

INDEPENDENT GEODETIC NUMBER OF A GRAPH

A THESIS

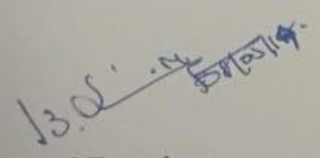
Submitted by

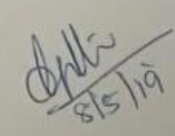
S. SHARJINI

Reg.No : 20183103545202

In partial fulfillment for the award of the degree of

**MASTER OF PHILOSOPHY IN
MATHEMATICS**


External Examiner


Internal Examiner

Pre - viva



TOTAL OUTER INDEPENDENT GEODETIC DOMINATION NUMBER OF A GRAPH

Dr. A. Ajitha,
Head and Assistant Professor,
Dept. of Mathematics,
Nanjil Catholic College of Arts and Science,
Kaliyakkavilai.

Abstract. In this paper the concept of the *total outer independent geodetic domination number* of a graph G is introduced. An outer independent geodetic dominating set $S \subseteq V(G)$ is said to be a total outer independent geodetic dominating set of G if the subgraph $\langle S \rangle$ has no isolated vertices. The minimum cardinality of a total outer independent geodetic dominating set is called the total outer independent geodetic domination number and is denoted by $\gamma_{gt}^{oi}(G)$. Some general properties satisfied by this concept are studied. The total outer *independent geodetic domination number* of certain classes of graphs are determined. It is shown that for every pair m, n of integers with $3 \leq m \leq n$, there exist a connected graph G of order n such that $\gamma_{gt}^{oi}(G) = m$. Also, it is shown that for any three integers p, q and r such that $2 \leq p \leq q \leq r$ there exists a connected graph G with $g(G) = p, \gamma_g(G) = q$ and $\gamma_{gt}^{oi}(G) = r$.

Key Words: independent geodetic domination number, outer independent geodetic domination number.

2010 Mathematics Subject Classification: 05C12.

Introduction

By a graph $G = (V, E)$, we mean a simple graph of order at least two. The order and size of G are denoted by p and q respectively. For basic theoretic terminology, (see [1]). The neighborhood of a vertex v is the set $N(v)$ consisting of all vertices u which are adjacent with v . The closed neighborhood of a vertex v is the set $N[v] = N(v) \cup \{v\}$. A vertex v is an extreme vertex if the subgraph induced by its neighbors is complete. A vertex v is a semi-extreme vertex of G if the subgraph induced by its neighbors has a full degree vertex in $N(v)$. In particular, every extreme vertex is a semi-extreme vertex and a semi-extreme vertex need not be an extreme vertex (see [2]).

For vertices u and v in a connected graph G , the distance $d(u, v)$ is the length of a shortest $u - v$ path in G . A $u - v$ path of length $d(u, v)$ is called a $u - v$ geodesic. A geodetic set of G is a set $S \subseteq V$ such that every vertex of G is contained in a geodesic joining some pair of vertices in S . The geodetic number $g(G)$ of G is the minimum order of its geodetic sets(see [3]).

A dominating set in a graph G is a subset of vertices of G such that every vertex outside the subset has neighbor in it. The size of a minimum dominating set in a graph G is called the domination number of G

BITOPOLOGICAL LABELING ON SIMPLE GRAPHS

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Abstract

B.D.Acharya [3] introduced the notation of set-valuation as set analogue of number valuation as introduced by A. Rosa [5]. For a (p, q) graph $G = (V, E)$ and a non-empty set X of cardinality n , Acharya defined set indexer of G as an injective set-valued function $f: V(G) \rightarrow 2^X$ such that the function $f^*: E(G) \rightarrow 2^X - \{\phi\}$ defined by for every $f^*(v_1v_2) = f^*(v_1)\Delta f^*(v_2)$ for every $v_1v_2 \in E(G)$ is also injective, where 2^X is the set of all subsets of X and Δ is the symmetric difference of sets. For a graph G , there exist a set-indexer $f: V(G) \rightarrow 2^X$ such that the family $f(V)$ is a topology on X . A graph $G = (V, E)$ is said to be a bitopological graph if there exist a set indexer $f: V(G) \rightarrow 2^X$ such that $f(V)$ and $f^*(E) \cup \{\phi\}$ are both topologies on the corresponding ground set.

Key words: Topologically set-graceful graphs, bitopological set – indexer, bitopological graphs, Fork graph , Diamond graph.

Introduction :

The graphs treated in this paper are simple. For standard terminology and notations we follow F.Harary [4]. Given a graph $G = (V, E)$, we can relate it to different topological structures. The relation between topology and graph theory is undergone many investigations. In 1983 Acharya [3] established another link between graph theory and point-set topology. He defined a set-indexer, Let $G = (V, E)$ be a graph, X be any non-empty set and 2^X denote the set of all subsets of X . A set-indexer of G is an injective set valued function $f: V(G) \rightarrow 2^X$ such that the induced function $f^*: E(G) \rightarrow 2^X - \{\phi\}$ defined by $f^*(v_1v_2) = f^*(v_1)\Delta f^*(v_2)$ for every $v_1v_2 \in E(G)$ is also injective , where Δ denotes the symmetric difference of sets. In this



Onto minus domination number of paths and cycles

S. Jerlin Mary ^{1*} and Y.S. Irine Sheela²

Abstract

Let $G = (V, E)$ be a graph with n vertices. An onto minus dominating function of a graph G is a minus dominating function of G which is onto. The onto minus domination number of a graph G is a minimum weight of a set of onto minus dominating functions of G . In this paper we discuss the onto minus domination number of a path P_n , cycle C_n .

Keywords

Onto Minus Dominating Function, Onto Minus Domination Number, Paths, Cycles.

AMS Subject Classification

05C69.

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3	Onto Minus Domination Number of P_n	682
4	Onto Minus Domination Number of C_n	683
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1. Introduction

Domination theory is one of the most interesting and application oriented branch in Graph theory. Oystein Ore [9] introduces the terms dominating set and domination number. Later Cockayne and Hedetniemi used the notation $\gamma(G)$ for the domination number of a graph G . The minus dominating function was introduced by Dunbar et al.[1] Zelinka [3] gave a lower bound of a minus domination number for a cubic graph and Dunbar et al.[4] did the same work for regular graphs[5].

The closed neighborhood of a vertex $v \in V(G)$ denoted by $N[v]$ consists of the vertex v and all the vertices which are adjacent to v in G . For a real valued function f defined on V we denote the weight of the function to be $f(V)$ and is defined by $f(V) = \sum_{v \in V} f(v)$. Also for $S \subseteq V$, we define $f(S) = \sum_{v \in S} f(v)$. A minus dominating function of a graph G [4] is a function $f: V(G) \rightarrow \{-1, 0, 1\}$ such that $f(N[v]) \geq 1$ for all $v \in V(G)$. The minus domination number[4] of a graph

G denoted by $\gamma^-(G)$ is the minimum weight of a set of minus dominating functions of G . A function $f: A \rightarrow B$ is said to be onto if every element in B has a pre-image in A . That is a function $f: A \rightarrow B$ is said to be onto if the range of f is equal to B . A vertex of degree zero is called an isolated vertex. A vertex of degree one is called an end vertex. A vertex which is adjacent to an end vertex is called a remote vertex [6].

2. Main Results

An onto dominating function is a dominating function which is onto. The onto domination number denoted by $\gamma_o(G)$ is the minimum weight of a set of onto dominating functions of G . The function $f: V(G) \rightarrow \{0, 1\}$ defined by $f(v) = 1$ for all $v \in V(G)$ is a dominating function of G , which is not onto. We call the function defined above as the trivial dominating function. Every dominating function other than the trivial dominating function is onto. Since the trivial dominating function is the only dominating function of \bar{K}_n , we conclude that onto dominating function do not exist only for the graph \bar{K}_n . Thus except the graph \bar{K}_n we have $\gamma_o(G) = \gamma(G)$. An onto minus dominating function is a minus dominating function which is onto. An onto minus domination number denoted by $\gamma_o^-(G)$ is the minimum weight of a set of onto minus dominating functions of G . By the definition, every onto minus dominating function of G is a minus dominating function of G . Hence $\gamma^-(G) \leq \gamma_o^-(G)$. Thus if there exists an onto minus dominating function of weight $\gamma^-(G)$ then $\gamma_o^-(G) = \gamma^-(G)$.

Workshop on Latex



National conference on Recent Trends in Algebra & Graph Theory- Feb 20, 2020



National conference on Algebraic Graph Theory- 2021



Three Days Workshop on CSIR UGC NET/SET Challenges



Criterion-IV

Infrastructure and Learning Resources

In order to implement the plans and achieve desired goal, our department has created adequate infrastructure in terms of state of well structured class rooms with PPT, spacious library, spacious staff rooms and class rooms with PPT. Our department has Internet facility with dedicated lease line. Our department is maintaining conducive environment for the students to achieve their dreams.

Infrastructure for department:

- Our mathematics department has six classrooms. The classrooms are quite spacious, well light and ventilated. The seating capacity of 3 class room is of 60 students and 3 classroom is of 30 students.
- Each classrooms in our mathematics department have,
 - LCD projector
 - Wi-Fi connection
 - White screen
 - Black board
- Our department have faculty rooms with computer facility and internet connection.

(a) Infrastructure for Teaching

- Classroom teaching inculcates conflict resolving skills, presentation skills when it comes to present their ideas confidently in front of peers.
- In our department UG, PG and M.Phil Classes of black board teachings are followed and Power point presentation well done with LCD projector.
- LCD Projector is worked with Wi-Fi connection or Hardware devices. Faculty members of the department of mathematics, 3-D

problems, using diagrams, problems in mechanics can teach LCD projectors.

- Wi-Fi connection is using for download the curriculum aspects.
- White screen is a classroom tool that allows images from a computer screen to be displayed onto a classroom board using a LCD projector.
- Black board is a course management system that allows you to provide content to students quickly, and provide grades in an electronic format to the students.
- Our department teachers are used to our department library books for preparing the teaching portion.

(b) Infrastructure for learning

- Classroom learning is a traditional mode of learning in which the learning environment is created within the physical walls of a classroom. Both the teacher and student need to be present physically inside the classroom.
- Students can obtain knowledge within the particular subject.
- During class hours students come to know the methods of solving problems and to know how to write the proof a theorem with creative thinking.
- Power point presentation gives interest to the students to know more about the particular subject and structural analysis. M.sc students in our mathematics department can present their research project at the time of pre viva through power point.
- The effective utilization of the black board learning system depends on learner readiness, organizational culture and system adoption as the literature supports.
- Our department students are used to our department library books for refer the project and the reading.

Department computer system

Our mathematics department have one computer for the need of staff members with fully internet connection, our students and staff members are utilize computer. A computer is well supported with latest software version and strong anti-virus software support to invasion of viruses. A computer is operating on the Lease line internet connection.

The faculty members of the department of mathematics can utilize the department computer for the following purposes.

- For preparing Power point presentation
- Invitation design for department various programs
- For ICT teaching
- For the purpose of preparing internal question and model question paper.
- To enter internal marks and the students attendance for office automation.

The students of our department of mathematics can utilize the department computer for the following purposes.

- They can choose the project title,
- They prepare the question bank,
- Prepare MC for various programs in our mathematics department.

Class rooms	6
Library	1
Seminar hall	1
Class room with LCD facilities	5
Class room with Wi-Fi / LAN	5

Department library

- ❖ Our mathematics department has a library.
- ❖ Our department library is established in the year 2014.
- ❖ The library has collection of 131 books, old question papers, PG / MPhil students projects / dissertations.
- ❖ First of all, they identify the books they want.
- ❖ Then they registered the date, book serial number, name of the book and their name with signature.
- ❖ The student allowed to have the books for two weeks.
- ❖ The department library is computerized. All the books are entered in our computer.

List of available books in our department library.

SL No.	Subject	Number of books
1	Mathematics	92
2	Tamil	30
3	General Knowledge	7
4	Malayalam	2

Infrastructure for cultural activities

Our department students are actively participate cultural programs during Women's day celebration, pongal day celebration, Christmas day celebration and college day celebration with dance, drama, music and mime etc. Cultural activities not only help students to identify themselves with their culture, but also assist students to develop themselves in a desired field and also improve skills such as organizational, presentation, leadership and interpersonal

communication. Our department cultural programs, seminars, workshops and conferences would conduct in college seminar hall.

Sports

- ❖ The college has a department of physical education with a permanent faculty.
- ❖ The college has arranged the facility of a part time coach to train and guide the students in various sports activities.
- ❖ Forty students in the department of mathematics could participate in various sports events and 37 students won prizes and certificate in the college sports day.
- ❖ Our college has a indoor games equipment for engaging the students in various indoor games like caroms, chess and table tennis. 10 students in the department of mathematics could participate in various sports events.
- ❖ The college also has ample infrastructure facilities for engaging the students in various outdoor sports. 20 students in the department of mathematics could participate in various sports events.
- ❖ It includes cricket, kho-kho, badminton, kabadi, hockey and volley ball court, basket ball court and a playground for athletics and foot ball.

Yoga

Our department student studied the subject yoga. It can prepare the students physically and mentally for the integration of their physical and mental wellness. Yoga education helps in self-discipline and self-control, leading to immense amount of awareness, concentration and higher level of consciousness.

Institution frequently updates its IT facilities including Wi-Fi

Our department uses two internet connections for uninterrupted and unlimited internet usage from BSNL (up to 40MB/s) and Shine plus (up to 100MB/s). Data transfer via internet is protected by Firewall which is updated and backed up based on availability and working experience with new updates. Students and staffs can access internet by logging in into their account by user Id and password.

Wi-Fi facility:

Wi-Fi facility extend the complete support to the students. It is made available by setting and installing the Wi-Fi zones at various locations such as Reading halls, Department corridors and at the Green lawn area. Staff and Students can access this facility on their Laptops by registering themselves. Our college has currently Wi-Fi access points to provide the Wi-Fi internet access through Wi-Fi zones.

Intercom Facility

Our department is well connected with a Telecom Network with intercom facilities is provided.

CCTV surveillance

Our mathematics department floor is under CCTV surveillance which is supervised by the principal and the correspondent.

Maintenance for infrastructure

- Our department class rooms, floor steps, faculty room, rest room, wash basin were cleaned regularly.
- In the department, the maintenance of existing stocks like electric and electronic items, computer, intercom, tap, bathroom and Latin, bench, desks, fan, light, wash basin, drinking water and all by the college office

based on the registered complains through the college maintenance register.

- Also the problem will be solved within two days after registration by the proper guidelines and by the corresponding main power.

Documentation

In the department of mathematics the following registers are maintaining.

(a) Stock register

It helps to maintain the department stocks like light, fan, table, chair, bench, cupboard, beuro, desktop, speaker and all.

(b) Computer usage register

It helps to maintain the usage of computer by staff and student with required particulars.

(c) Department Library register

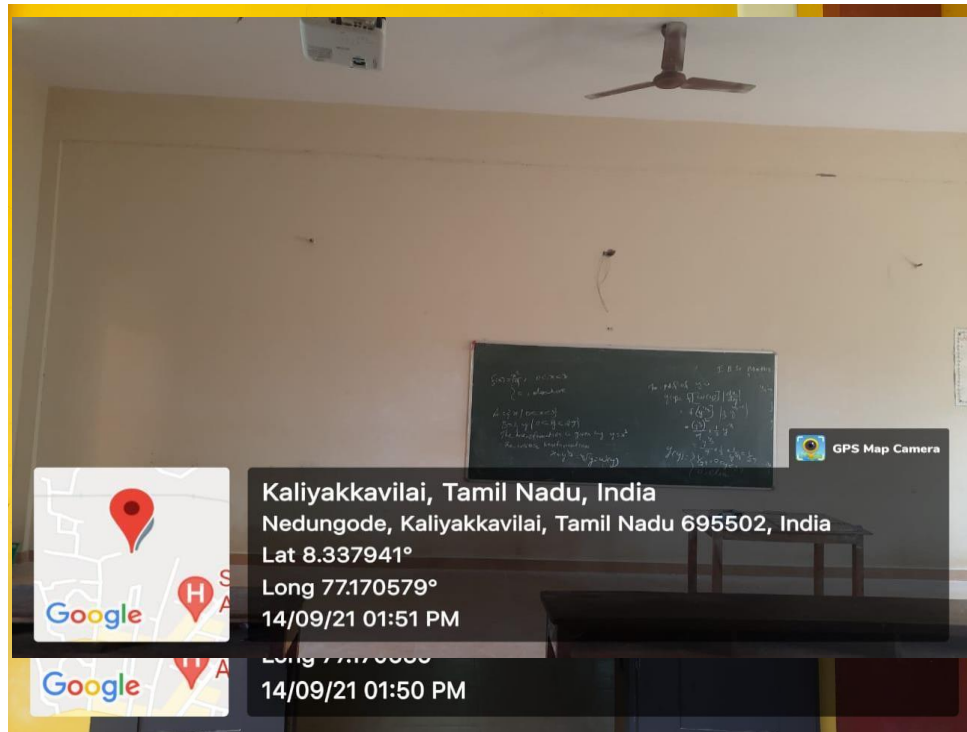
It helps to maintain the list of department library books and date of issue, date of return and signature of department librarian.

(d) Complaint register

It helps to maintain the complaints against the available facilities of department mathematics.

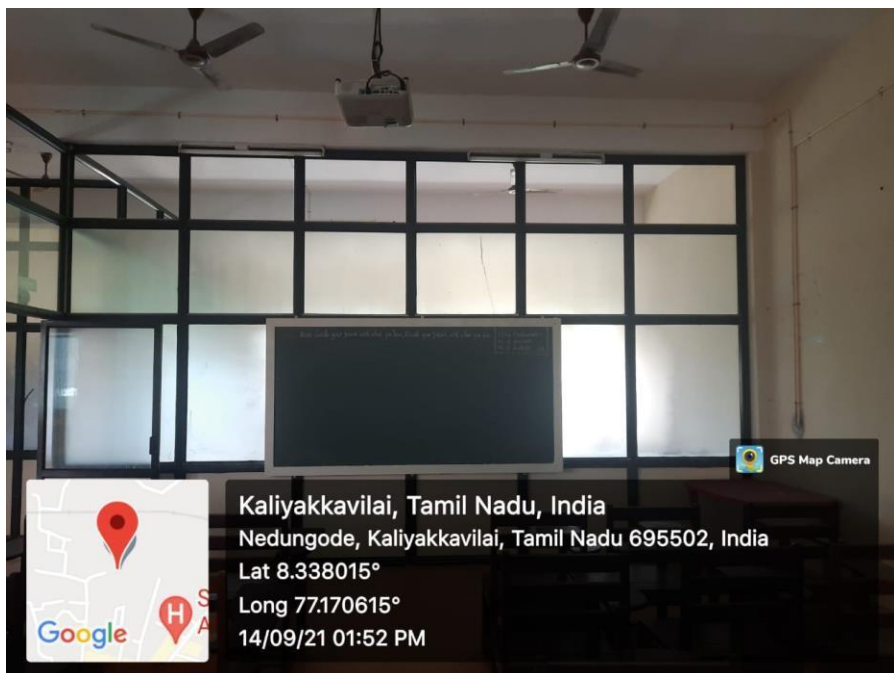
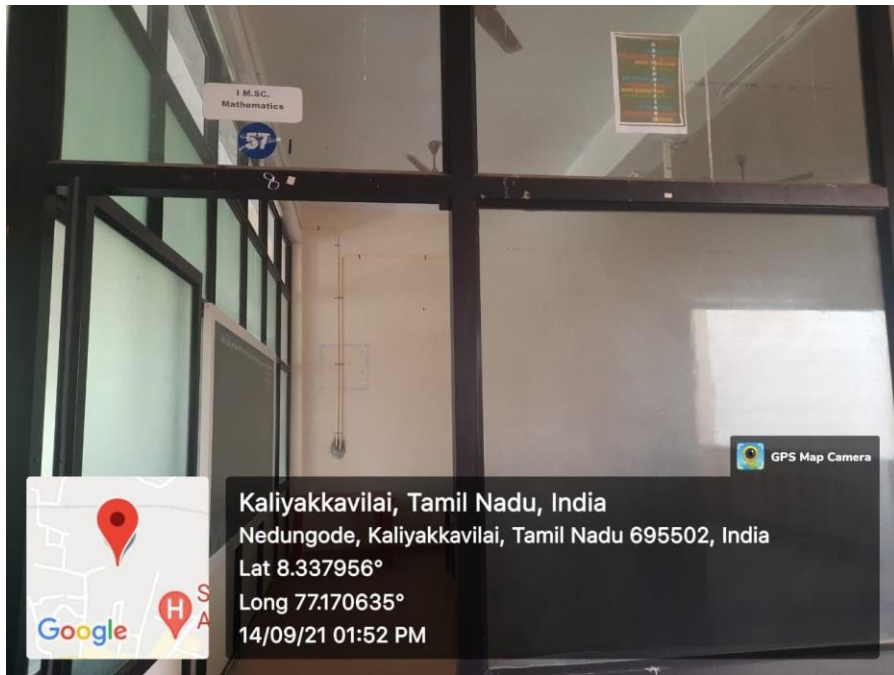
IB Sc Mathematics

Classroom No: 3



I M Sc mathematics

Classroom No: 57



M Phil Mathematics

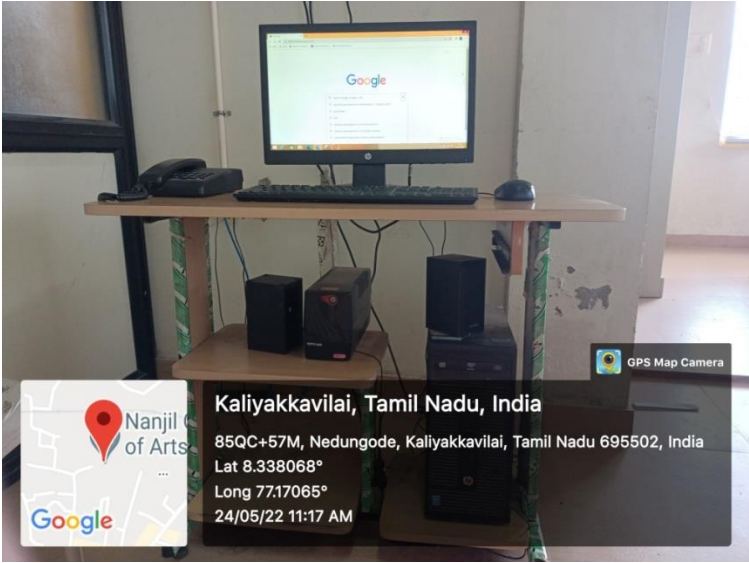
Room No 129



Department faculty room



Department computer



Department Library



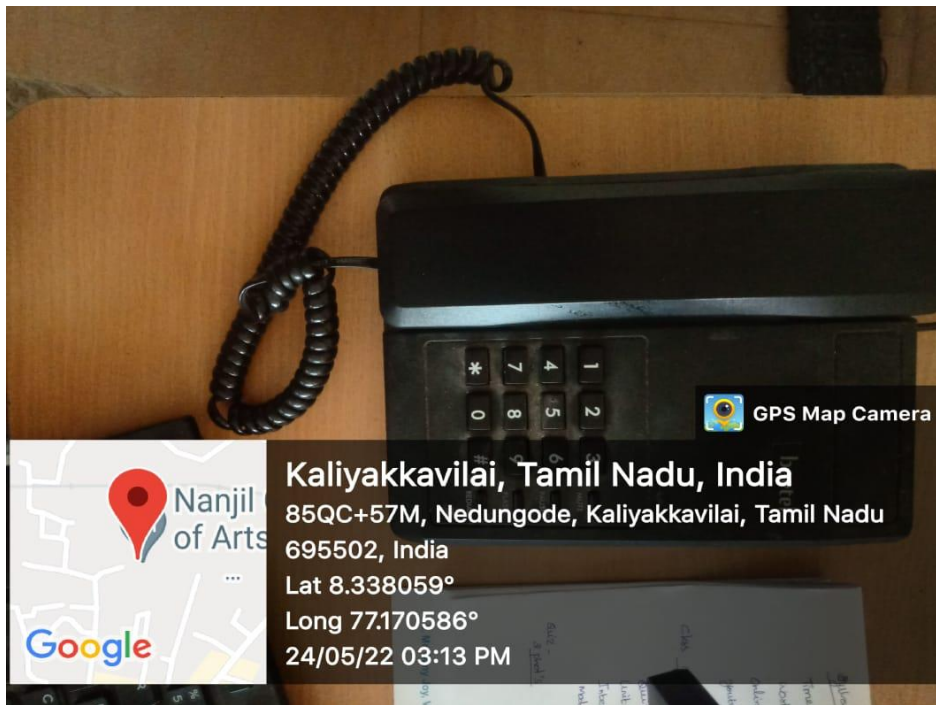
Cultural activities



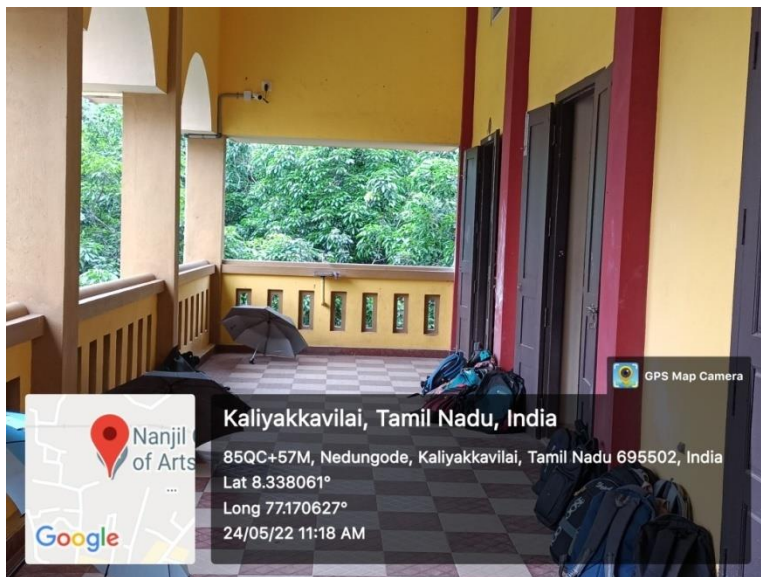
Sports



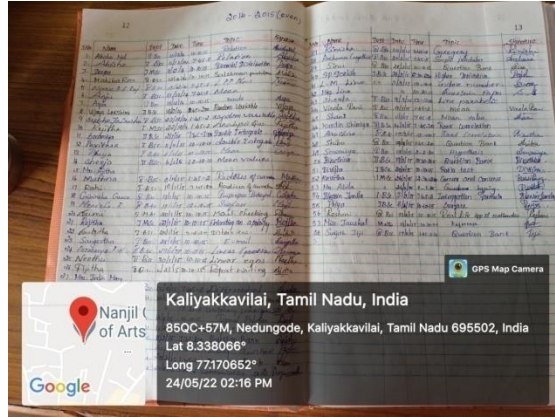
Intercom Facility



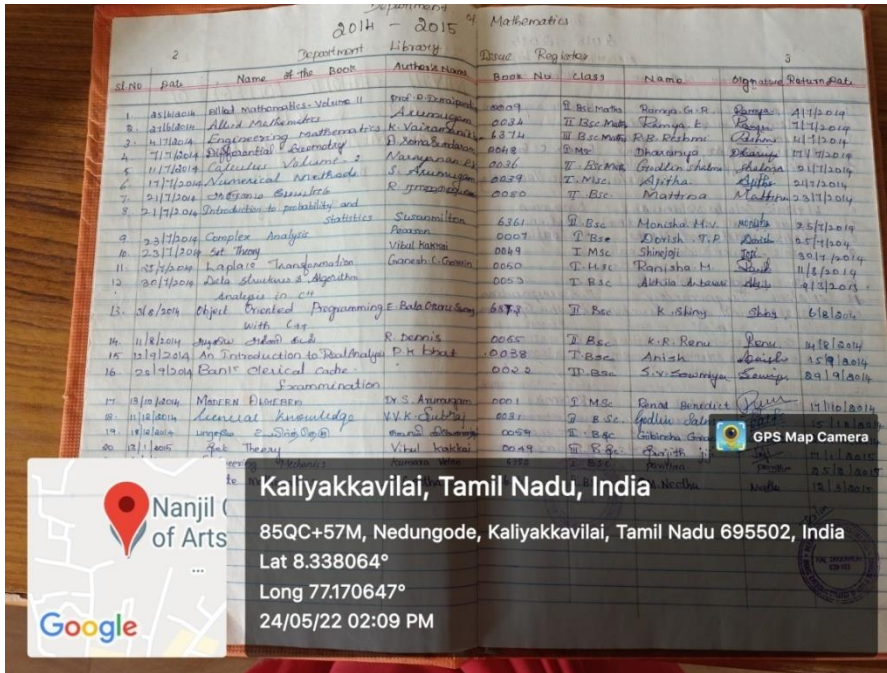
CCTV



Computer Register



Library Register



Stock Register

17

2019 - 20

S.No.	Particulars	Quantity
1	Stapler	1
2	Paste	2
3	Seal	2
4	Stapler Pin	3
5	Perforation Tap	5
6	Leaf file	200
7	Technical	4
8	Gum	2
9	Black Pen	5
10	Red Pen	5
11	Tag File	50
12	Box file	12
13	Cells Tap	3
14	Double side cells Tap	2
15	Punching Machine	1
16	Compact Disc	12
17	Register	150
18	Computer	1
19	Projector	5
20	Woodsen Table	5
21	Projector Table	5
22	Woodsen Chair	5
23	Plastic Chair	5



Nanjil of Arts



Kaliyakkavilai, Tamil Nadu, India

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695502, India

Lat 8.33807°

Long 77.170654°

24/05/22 04:56 PM



GPS Map Camera

Criterion - V

Student Support and progression

The Department of mathematics provide necessary assistance to students, to acquire meaningful experiences for learning at the department and to facilitate their holistic development and progression. It also looks into student performance and the progression of students for higher education and gainful employment.

Academic Support

- **Mentoring**

In every academic year the head of the department allott department students to the staff in the ratio 25:1. Every meetings as well as the personal details of the student and academic record of tests and exams are recorded in a prescribed format in an individual **mentoring booklet** which is given to each student and maintained by the mentor. The mentor can find the student difficulties in their learning process or any various personal problems like new admits, illness, competition, weakness in particular subject, negative mentality, slow learners, weaker section and so on. The mentor offer individual mentoring to help the students to resolve personal or interpersonal problems and maintain academic standards and set goals for academic success. Using mentoring

- Students can improve their personality and fix their goals to achieve.
- Slow learners can motivate by the mentor to develop the progression by conducting extra remedial activities

- Students are get motivated to be excel in academic strategies.
- Students can Communicate effectively and honestly about any problems and issues.

- **PTA meeting**

The department of mathematics conduct the PTA meeting on every academic year. The main objective of the meeting was to create a common platform, where staff and parents come together to discuss student's performance and find out some devise ways to enrich their learning experience. During the time the mentality between the parents and their students are enhanced. It also supports the students in building confidence and braveness. Every PTA meeting are enhanced in practicing self acceptance. Through PTA,

- Faculty and parents can understand actual plan of students and hence it can be easily cure by teachers/parents.
- Parents became aware of the institute's rules and regulations, methodologies of teaching & learning for the overall welfare of students.
- Parents were encouraged to appreciate student's participation in all academic activities.
- Parents can know about child's progress and also weak area in which the child needs to improve.

- **Seminar, Conference and Workshop**

The department of mathematics conduct various activities in the respective areas to mould the students in corresponding field. Students are provided with opportunities to develop their creativity by participating and organizing

intercollegiate as well as national level technical Seminar, Conference and Workshop. Using the activities

- Students can improve the leadership quality and organizing skills.

- **Competitive exams**

The department of mathematics students are encouraged to take up competitive exams like NET, SET, TNPSC, Bank Exam etc. Using the competitive exams

- It improves problem-solving abilities and presentation skills.
- It develops competition skills.

- **Usage of Department Library**

The students can acquire knowledge through textbooks or classroom lectures still they are advised to use college library and department library too.

- The department library helps in fulfillment of their wishes, ambitions and inclinations, as it provides ample opportunities for acquiring knowledge.
- On the other hand, it is much more convenient for the students to collect required material from the library.

- **Students support during the pandemic period**

In the pandemic period the students need the support of technologies to attend online classes. One of our I B. Sc(Mathematics) student whose name is C. M. Christal Rani couldn't have android phone for attending online classes due to economic crisis during the year 2020-21. So the department of mathematics help the girl to take offline classes at college in the class room.

Non academic support

✓ Shift II Classes

Department gives various diploma/certificate courses given in the following table

Sr. No	Batch	No. of students	Diplmo/certificate courses
1	2018-2021	1	Communication and IT Skills
2	2021-2024	4 4 1 1	TNPSC Bank Coaching Tailoring Aari work

- 100% students of the attend the competitive exams and get passed.
- Students can gained the knowledge by attending these classes.
- Students can attend the competitive exams and also make them as placed fit while learning.

✓ Old age Home Visit

In the present days, isolating the old & deprived has been a major social problem faced by the Society. The students were informed about the living style and conditions of the old-age home. Using the old home visit

- Students can realize their social responsibilities towards senior citizens.
- Students can improve their good habits and respect old age peoples in their old home and as well as in the public.

✓ “Illam Thedi Kalvi” Scheme

School Education Department, Govt. of Tamil Nadu has launched a brand new scheme specifically TN Illam Thedi Kalvi Scheme 2021. It was introduced to bridge learning gaps among Govt. School students caused during the pandemic days. 15 Students from Department of Mathematics has registered themselves as volunteers, to rectify the learning gap caused by the lockdowns due to COVID-19, is currently serving as an effective platform to serve the academic and multidimensional progress of as many as primary level students during the evening hours. Using ITK

- Students trained as teachers.
- Students can earn while learn.

Sr. No	Batch	Extension activity/old age home visit	Participants
1	2017-2018	Sanjeevi old age home	UG Students
2	2018-2019	Anbhagam, Munchirai	PG students
3	2019-2020	Sanjeevi old age home	II B. Sc Mathematics
4	2020-2021	Sanjeevi old age home	I B. Sc Mathematics

The Students Committee annually organises the some programmes in our department like sports day, Teachers day, Christmas day, Pongal celebration, Women’s day, mathematicians birthday celebration. The staff motivated the students to participate in all non academic activities.

Welfare Measures

The department of mathematics gives financial support for the needy students. In the academic year 2018 -19 and 2019-20 faculty members contributed 16,000 rupees to 4 poor children.

Financial support awarded to the students:

	2018-2019	2019-2020
No. of Students	2	2
Amount	8000	8000

Student Progression

After graduating , two students admitted to Ph. D, four students joined in M.Phil Mathematics, Fifty students joined in M. Sc Mathematics. Sixty five students joined in B. Ed, One student joined in MBA, another one student joined in MSW and one more student joined in LLB.

Our department students progression for higher education during the last five years.

Sr. No	No. of student	Name of programme admitted to
1	2	Ph.D Mathematics
2	4	M.Phil. Mathematics
3	50	M. Sc Mathematics
4	65	B.Ed. Mathematics
5	1	MBA
6	1	MSW
7	1	LLB
8	2	Co- Operative

Students Placement

In our department nine students got placed in different organisations.

Our department placement during the last five years.

Sr. No	Number of student	Name of the employer with contact details
1	1	Sales Assistant, SBI
2	1	Visiting Faculty
3	1	UG Assistant
4	1	GDS Packer, Department of posts
5	1	Assistant Manager of Bank
6	3	Assistant Professor
9	1	Navy, India

Role of Alumni

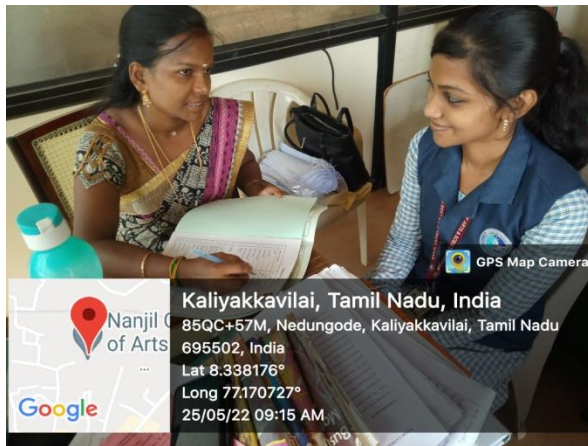
The department of mathematics has an alumni association for building strong bond between alumni and present students. The services of the alumni association are used in strengthening placement and other developmental activities. The alumni are the best statement to the success of our department. This session will cover the following topics:

- Alumni planned to rectify the problems arising in the poor background students by donating books and notes.

- Alumni planned to contribute semester fee for two poor students.
- Alumni discussed about their future plans.
- Alumni advised the current students to clear TNPSC, Bank test etc for attaining their goals easily.

Academic support activities

Mentoring




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 695502, India
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 Long 77.170727°
 25/05/22 09:15 AM

NANJIL COLLEGE OF ARTS & SCIENCES
KALIYAKKAVILAI

Student's Profile

1	Name of the Student	R.N. BHARVA ANGE
2	Gender	<input type="checkbox"/> Male <input checked="" type="checkbox"/> Female
3	Date of Birth	18/06/1999
4	Father's Name	D. Rajaraman
5	Father's Occupation	Coolie
6	Mother's Name	K. Nirmala
7	Mother's Occupation	house wife
8	Other family members	
9	Religion	Christian
10	Address	Mykkalkonam Tebavilai (PO)
11	Contact Phone Number	9865322987
12	Marks scored in SSLC and Name of the School	425 St. Ephraim's MSC NSS
13	Marks scored in Plus 2 and Name of the School	166 St. Ephraim's MSC NSS Associate
14	Subjects Studied Class or Grade in the UG Course and College Studied	Maths Biology
15	Hobbies	Reading books
16	Member in	N.S.S. <input type="checkbox"/> Y.R.C. <input type="checkbox"/> Others: <input type="checkbox"/>
17	Co-curricular Activities	MUSIC
18	Blood Group	B ⁺
19	Mode of transport	College bus <input type="checkbox"/> Other means <input checked="" type="checkbox"/>
20	Ambition in life	Teacher

NANJIL COLLEGE OF ARTS & SCIENCES
KALIYAKKAVILAI

Academic Details
Semester - II



Subject	Name of the Paper	Internal Test I	Internal Test II	Internal Test III	Model Test	University Exam	Remarks
GE1121	Family	14	15	15.5		66	
GE1121	English	13	14	20		62	
MM1122	Vector calculus	16	20	15		79	
MM1122	Differential eqn	19	15	2.5		60	
MA1121	Statistic - II	19	13	20		98	
AV1621	Value based Education	20	20	20		65	

Counseling Details

Date	Purpose	Students' Signature	Parent's Signature	Remarks	Remedial Measures	Staff Signature
1-10-15	Group Studio	Abitha	K. Nirmala	Good		
19-2-16	To prepare for project	Abitha	K. Nirmala	Good		
26-2-16	To prepare Group activity	Abitha	K. Nirmala	Good		
4-3-16	Mock test	Abitha	K. Nirmala	Good		

Attendance:

Total Working Days	Days Present	Percentage Present
90	87	97

Mentor:  Principal: 

NANJIL COLLEGE OF ARTS & SCIENCES
KALIYAKKAVILAI

Academic Details
Semester - II



Subject	Name of the Paper	Internal Test I	Internal Test II	Internal Test III	Model Test	University Exam	Remarks
GE1121	Family	14	15	15.5		66	
GE1121	English	13	14	20		62	
MM1122	Vector calculus	16	20	15		79	
MM1122	Differential eqn	19	15	2.5		60	
MA1121	Statistic - II	19	13	20		98	
AV1621	Value based Education	20	20	20		65	

Counseling Details

Date	Purpose	Students' Signature	Parent's Signature	Remarks	Remedial Measures	Staff Signature
1-10-15	Group Studio	Abitha	K. Nirmala	Good		
19-2-16	To prepare for project	Abitha	K. Nirmala	Good		
26-2-16	To prepare Group activity	Abitha	K. Nirmala	Good		
4-3-16	Mock test	Abitha	K. Nirmala	Good		

Attendance:

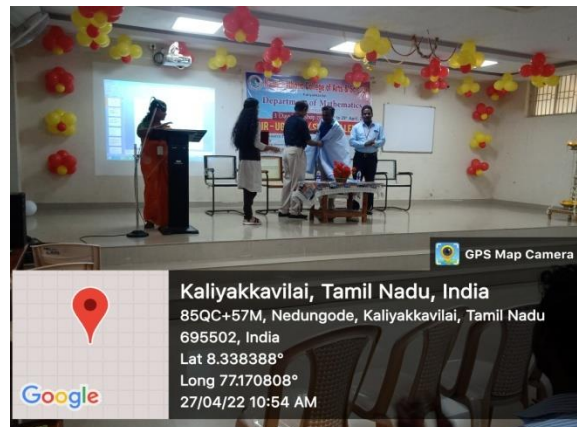
Total Working Days	Days Present	Percentage Present
90	87	97

Mentor:  Principal: 

PTA meeting



Seminar, Conference and Workshop



Department Library

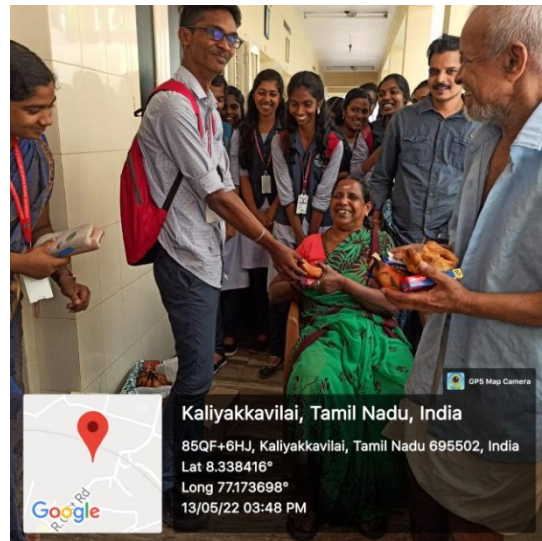
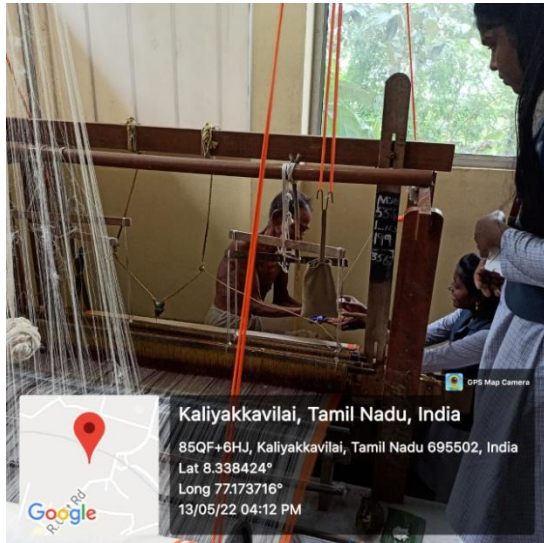


Students support during the pandemic period



Non academic support activities

Old age Home Visit




“Illam Thedi Kalvi” Scheme



Students Activities



Student progression


மணோன்மணியார் சுந்தரனார் பல்கலைக்கழகம்
 மதுரைமலை, தமிழ்நாடு, இந்தியா - 627 012
MANONMANIAM SUNDARANAR UNIVERSITY
 TRUNELVELI, TAMIL NADU, INDIA - 627 012


Serial Number : PC 80010939 Date of Publication : 10/06/2019

PROVISIONAL CERTIFICATE

This is to certify that the undermentioned Candidate has qualified for the Degree Examination as detailed below :

Name of the Candidate : ABISHA V
 Register Number : 2018111354201
 Centre Code : 311
 College : NESAMONY MEMORIAL CHRISTIAN COLLEGE, MARTHANDAM

Month & Year of Passing : JUN-2019
 Degree : MASTER OF PHILOSOPHY
 Subject : MATHEMATICS
 Class : FIRST CLASS


 (Dr. A. Sureshlandi)
 Controller of Examinations

2022/02/24 14:05
 Assistant / Deputy Registrar


Nesamony Memorial Christian College
 An accredited with a grade by NAAC
 Marthandam, Kanyakumari District, Tamil Nadu, India - 629195
 (Affiliated to Manonmaniam Sundaranar University, Tirunelveli)
 Phone No. : 04651-270221 Email id : principal@nmcoc.ac.in ESTD - 1984

TRANSFER CERTIFICATE

T.C No. : TC19-20/05064 Admission No. : S10005 Roll No. : MSMA184077

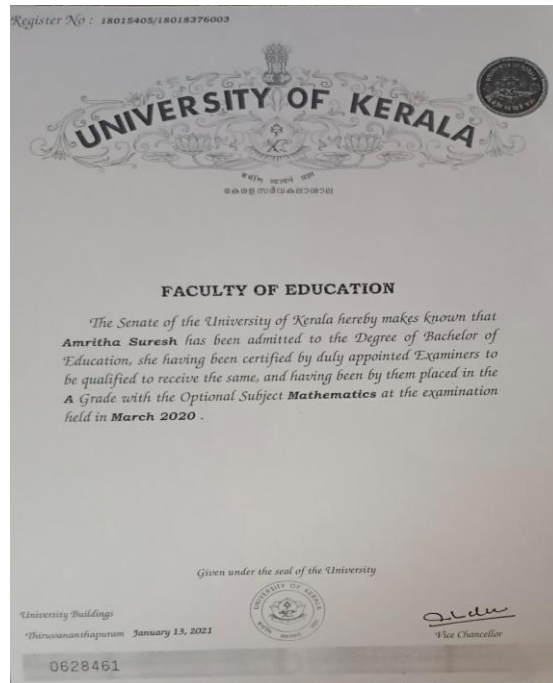
1. Name of the Student	: ABISHA V S
2. Name of the Father / Guardian	: Vignyan M T (Late)
3. Nationality / Religion / Caste	: Indian / Hindu / Nadar
4. Community	: BC
5. Sex	: Female
6. Date of Birth	: 27-10-1998
7. Personal Marks of Identification	: a) b)
8. Date of Admission / Class Admitted (the year to be entered in words)	: 21-06-2019, First Year M.Phil Mathematics TWO THOUSAND EIGHTEEN
9. Class in which the student was studying (at the time of leaving)	: First Year M.Phil Mathematics
10. Main Programme / Ancillary	: Refer Mark Sheet
11. Language under Part-1	: Tamil
12. Medium of Instruction	: English
13. Date on which the student left the College	: 11-06-2019
14. Date of Transfer Certificate	: 11-06-2019
15. The Student Conduct and Character	: GOOD
16. Whether qualified for promotion to a Higher class	: Refer Mark Sheet

Declaration by the Parent / Student
 I hereby declare that the particulars recorded against items 1 to 7 are correct and that no change will be demanded by me in future.


 Signature of the Parent / Student


 NESAMONY MEMORIAL CHRISTIAN COLLEGE
 MARTHANDAM
 PIN : 629 165
 College Seal

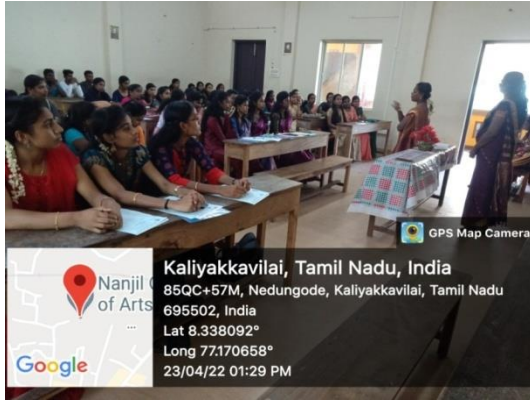

 Signature of the Principal
 PRINCIPAL
 NESAMONY MEMORIAL CHRISTIAN COLLEGE
 MARTHANDAM



Students placement



Alumni meet



Criterion - VI

GOVERNANCE, LEADERSHIP AND MANAGEMENT

Vision

Department of Mathematics tirelessly strives to work towards a holistic development of students via education to achieve a society of equal status between poor and rich pupils.

Mission

- To promote student's education at all levels, to impart education of international standard.
- To impart value based education, leading to holistic development and preparing enlightened citizens.
- The department of Mathematics aims to secure equality of status and opportunity to all of its students.
- To ensure access of all sections of the society for higher education.

Achievement of vision and mission

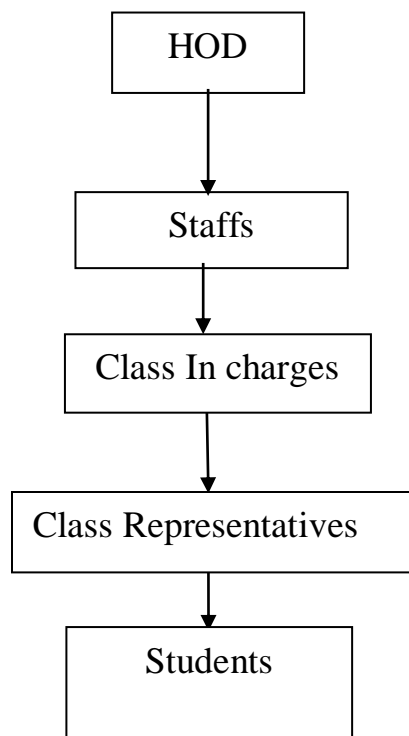
According to the vision of our department, we attain the holistic development of students.

- Through qualified faculty members and ICT enabled class rooms the subject matters are conveyed effectively.
- The faculty members are committed to grow their students to possess well-disciplined and social values.

- Students are taught to reflect on their actions and how to learn from the community around them.
- Teachers often engage students in academic/non-academic programmes that apply critical thinking skills towards solving real world problems.
- Teachers must be prepared to care for students with varying educational levels and learning capabilities.
- Allow students to help develop classroom rules and take on leadership roles helps encourage trust and communication among students and enhance their motivation to succeed.
- Teachers recognize the student's unique strength and treat all students equally.

Functioning of the department

Administrative setup



The department administration focuses on the vision and mission of the department to provide quality education of the students. The Head of the Department monitor all the departmental activities with focus on their development. The faculty members allot the responsibilities to the department student secretary and class representatives.

Governance

The well-organized management governance system actively followed by our department develops under academic and non-academic level.

Academic Governance

The academic governance of Mathematics Department is done by the HOD and staffs.

- HOD is in consultation with our department supervise the paper-setting, moderation, evaluation, and marks submission of all internal examinations of the department, and determines the admission and promotion criteria of the students.
- Head of the Department is convening departmental meetings with departmental members, where the programmes for the academic year.
- The teaching plan is allotted by our HOD, and discussed with staff members and the classes were handled by the concerned teachers.
- The staff members are working along with HOD together for successful completion of the subjects on time.
- Class management committee is formed with HOD, class teacher and student representative.

- Seminar, workshop, conference and association meeting were conducted in association with students. We have conducted department meetings to organize various committees of our department.
- The Head of the Department administrate the Teaching Plans of our faculties and discuss with departmental members to make adjustments in the schedule, and to allot teaching assignments and evaluation duties.
- HOD often takes the lead in planning career counselling, remedial measures, inter-departmental and inter-college activities, departmental excursions and study tours.
- HOD is formulated with the faculty to introduce creative and innovative measures for the benefit of students and also plans to prepare and publish the departmental conference proceeding in consultation with our departmental colleagues.
- Department of Mathematics organizes and conducts the Parent-Teacher meetings in which the academic progress of the students is communicated to their guardians.
- The head of the department along with the faculty members decides on the nature, pattern and duration of special and remedial classes for the students.

a) Governance of class

A class in charge is assigned to each class by the HOD and the class is governed by the class in-charge.

- A student representative is chosen by the class in-charge.
- The communications of college regarding fee payment, internal exams, extension/exposure activities through class in-charge.
- Class room discipline is strictly maintained by the teaching staffs.

- Seating arrangements of students is done by class in-charge.
- Feedback forms are collected from the students by class in-charge.
- Students are motivated to participate cultural events and sports by class in-charge.
- Any discipline issues from the student side it was solved by the class in-charge. It was not solved handled by the HOD.

b) Governance of department library

- Department library is governed by our faculty member.
- Staff and students want any books by entering the details in the department library register.
- Book should be return in the end of the semester.

c) Governance of Co-curricular activities

Department co-curricular activities such as conference, seminar, association meeting are planned in the department meeting.

- Conducting conference/workshop/association meeting/debate/quiz faculty members are chosen to be in charge for stage decoration, registration, seating arrangements, food, reception, certificate and discipline.
- The class in charges assign some of the work from the students and guide them.
- Feedback forms are collected from the students and it is discussed in the department meeting.
- The programme report is submitted to the HOD by the programme co-ordinator.

Non-academic Governance

a) Extra-Curricular Activities

- Department extracurricular activities such as fine arts day, women's day celebrations conduct in each semester.
- These events are planned in the class committee meeting conduct by the HOD. Staffs and students are participated in this meeting.
- The programme schedule and date is finalised by the HOD.
- From the other colleges conduct extracurricular events students motivate by the staff.
- Staff and students participate these extracurricular events, OD will be granted.

1. Sports and games

Under the guidance of the physical Director, students gain leadership quality and achieve their goals through several sports and games.

- One of our student namely, Muhammed Shamil M, II B.Sc Mathematics (2021-2023 batch), who is from very poor family background is now selected as a Kho-Kho player with his proper and continuous practice by the college physical director.
- Also 11 students participated various sports and games organized by the college and other colleges. They also won prizes and certificates through this event.

2. Shift II courses

- Department of Mathematics motivate the students to join shift II courses like spoken English, Tally, TNPSC, RRB, and Banking can strengthen their ability and are trained to gain leadership.
- Department of Mathematics insists the students to join tailoring, driving, art and crafts, playing music instruments. Therefore the students can attain their part time jobs and are capable of withstanding any financial conditions.

Students Participation in Governance

Selection of student representative

- The HOD of the department of Maths selected the **student representative** for each class. The class in charge asks the students willingness to be the part of the representative. If the student is not willing, the HOD and the class in charge select according by the students 12th Marks.
- The HOD and the class in charge select one girl and boy for each class for representative.
- Totally 3 boys and 5 girl representatives in our department.

Role of students-Department administration

- The **student representative** maintains the discipline in their classrooms.
- All college related information is informed to students through the **student representative**.
- The **student representative** collects money to buy their text books from the students and hand it over to the class in charge.

- **Class representatives** for both boys and girls can collect their class assignments and homework note books and submit these to the corresponding subject teachers for evaluation, thus helping in the class room governance.
- If the teacher does not come to the class, the **student representative** informs the class in-charge or head of the department.
- If the college administration wants details about the student particulars from the department, then the staff members ask the **student representative** to collect the information.

Curricular activities

- When the department organises seminar/workshop/conference, the students of the department participate in it as committee members by helping the department.
- Conducting conference/workshop/association meeting students are chosen to be in charge for stage decoration, registration, seating arrangements, food, reception, certificate and discipline.
- Students take seminar invitations of our department and consult department of other college and invite their students. It promotes relationship between our college students and other college students.
- Students are also assisted to send the seminar invitation by post.

Co- Curricular activities

- Organising fine arts day celebrations one student from each class is selected as a representative and they organise those events.
- Our department students perform a debate on the event of women's day.

Extra-Curricular activities

- Physical director of our college select our students to lead yellow, green and Red houses for conducting sports day smoothly.
- Raising funds to visit the old age home on behalf of the department, arranging meals, supplies bed sheet, soap, paste, lunch and snacks for the elderly in front of the students.
- The transport facility for the tour is arranged by the student representative.

LEADERSHIP

- Our department decentralise all the activities among the staff and students.
- Our department staff members got chance to lead to conduct many programmes.
- Our department has trained leadership quality among 120 students for the last five years and they have the capacity to organise or lead any programme even they left the college.

STRATEGY DEVELOPMENT AND DEPLOYMENT

Perspective plan (2017-2022)

- It was planned to motivate P.G. students to present a paper.
- To attain 100% result.
- To upgrade our department as a research centre, the staffs are asked to complete their doctoral degree as early as possible.
- The department organize NET/SET exam coaching classes for final year P.G. Students to enhance mathematics skills, attitudes and to clear the competitive exams.

- With the objective to implement skills and talents, the department organize Workshops / Conferences / Seminars / Webinars.
- The department organizes association meetings to update current events for decision making and implementation.
- The department plans to increase number of distinctions in University Examinations and rank holders with a motto to get opportunities and placements in reputed institutions and companies.
- Through collaboration and extension programmes the students were given interesting and engaging for social upliftment and to make them better citizens.

Achievement of the Perspective plan

- Paper presentation by M.Sc. Students
- Department of Mathematics attained 100% result for PG.
- Four faculty members successfully completed their PhD in the year 2018, 2020,2021and 2022.Two faculty members are pursuing their Ph. D.
- Our department signed with reputed college NMCC, Marthandam,to organise seminars and coaching.
- Every year Department of Mathematics conducted a National Conference, workshop to gain subject knowledge from various resource persons.Every year the Department of mathematics organize PI day celebrations for the purpose of knowing the nature of the irrational number π through poster / paper presentations.
- Every year we conduct two association meeting to update current events for decision making and implementation.

- Students secured three University ranks in Mathematics and eight ranks in Part I and II languages. Department of Mathematics motivated the students to participate the campus interview through college placement and five students selected from our college campus interview.
- Department of Mathematics organised an exposure every year for the students except the pandemic period. Department of Mathematics organised the extension activity every year for the students except the pandemic period.

Non Achievement of the Perspective plan

Department of Mathematics has tried to establish a research centre but failed to achieve, due to

- Faculty members of the mathematics department facing challenges to get guide ship due to lack of published research articles in SCI journals.
- Two of our faculty members couldn't submit their ph. D thesis.

The functioning of the institutional bodies

Administrative and service manual book of our college gives the details like administrative, service rules, code of conduct of employees, duties of personal, the college council, the staff academic council, head of the department, general rules for teaching staff, class room discipline, librarian, rule for teaching staff, leave rules.

FACULTY EMPOWERMENT STRATEGIES

Effective welfare measures for staff

- In the case of important occasion uniform sarees are being purchased by the faculties.
- All faculties of our department united for the marriage function or birthday party of our department staff.
- All of us express our love and affections towards our faculties by sharing our lunch, meals, etc.
- In every academic year, Endowment award is being created by our department to the students who rocks in their academic.

Effective welfare measures for students

- In order to support the students, every year at the time of Christmas, examine the background of each student and select a student from poor background and present a Christmas gift Rs.8000/- in front of college secretary and principal.
- All the staff and students participating Good Samaritan scheme of helping for poor student from the college.

APPRAISAL SYSTEM

1. Department

- At the time of University result publication the appraisal system for teaching staff is done by the HOD.
- The pass percentage of each subject is analysed by the HOD.
- 100% result produced staff are appreciated.

- The class teachers are collecting the feedback forms from the students and submitted to our head of the department.
- The Head of the department collects feedback from the students and suggests suitable measures to improve the teaching learning process of the faculties.

2. Institution

- Every year the outgoing students have to submit the Teacher performance evaluation given by the institution on which the opinions of the students were asked.
- The filled forms are analysed by the Principal for improvement of the Teaching-Learning process.
- The satisfied service were encouraged and appreciated in terms of the staff's performance.
- If there are improvements in the performance it will be informed and the needful advices will be given to them. If they are not fit for the same then they will be terminated from their position.

FINANCIAL MANAGEMENT AND RESOURCE MOBILIZATION

Internal audits

- The funds are collected from the participants on the days of Association Meetings, Conferences, Workshops, Seminars and celebrating the festivals. The funds were spending for the same to the students in the form of certificates, prizes and for all arrangements of the same.
- The department account register is maintained by the cashier of the department and the account detail is checked by the HOD after the completion of every programme.
- Internal audits were carried out every year; the accounts were submitted to the college financial section and clarify the accounts visibly with the department and management.
- If any fund is available will be utilized for the next programmes.

Mobilization of funds

- College Management is offering an amount for conducting seminars, conferences, and association meetings for the benefits of students.
- Organizing Conferences/Workshops registration fee is collected from the students.

INTERNAL QUALITY ASSURANCE SYSTEM

Quality assurance strategies and processes

- As per the decisions taken in the IQAC meeting, the following strategies and processes were introduced in the department.
- Mentors assigned to each student to guide and counsel them to achieve their goals.
- Bridge courses were conducted to the first year students by our faculty members at the time of joining to know about the subjects.
- Remedial classes were conducted to advanced/slow learner students.
- Three internal exams are conducted in each semester.
- IQAC has collected feedback in parents from PTA meeting, analysed the same and used it for qualitative improvement.
- It has organized many FDP programmes for the benefit of staff.
- Extra-curricular activities are promoted to improve the student's talents and reduce their stress.
- The IQAC has regularly convened meetings; it has submitted the AQARs to NAAC in the right manner.
- Encourage and provide support for the quality improvement in Teaching Learning.

Reviewing teaching learning process, structures & methodologies of operations and learning outcomes at periodic intervals through IQAC

- Teaching learning process was reviewed by analysing the feedback forms collected from the students and their parents.
- Based on the feedbacks and suggestions, department modify teaching methodologies.

- As per IQAC suggestions, to improve student's knowledge, we introduced NET/SET coaching classes for P.G. students.
- Students who got low marks in the exams were identified and provided remedial coaching to improve their academic progress.
- Similarly, advanced learners are identified and also motivate them to get university ranks.
- One of our student namely, Muhammed Shamil M, II B.Sc Mathematics (2021-2023 batch), is selected by the university as university player at to play Kho - Kho.
- Also 41 students participated various sports and games organized by the college and other colleges.
- Alumni Association meeting conduct every year.

EFFECTIVE MANAGEMENT

- When conducting Conference, Seminars, Workshops, Association Meeting responsibilities for stage decoration, registration, seating arrangements, food, reception, certificate and discipline are given to each staff and they choose some students and assign some of the work to them and guide them throughout the programme. Thus staff and students worked together for the success of the programme.
- So the work is decentralized by dividing and giving it to each staff and students and the participation of students and staff.
- In this decentralization students to lead and improve their leadership qualities and ensured the participative management.

- Organizing department level programmes such as Fine Arts day, Debate, Quiz, and Exhibition department meeting is conducted. Staff in-charge and student representative is chosen by the HOD. Class in-charge to coordinate the students and prepare different events associated with that programme.
- Hence improved leadership qualities of students and ensured participative management of student and staff.
- Our department staff members are various college club/committees such as YRC, Fine Arts, Sports to improve their leadership qualities and participative management.

Our department followed collective manage system. Through decentralisation and participative approach, our HOD motivated our staff members and the students to participate and to manage effectively any programmes of our department. Hence our department is well managed department with the cooperation of staff and students.

Department Meeting



Kaliyakkavilai, Tamil Nadu, India

85QC+57M, Nedungode, Kaliyakkavilai, Tamil Nadu 695502, India

Lat 8.338319°

Long 77.170718°

24/05/22 01:45 PM

GPS Map Camera

Class comittee Meeting



Staff Welfare



Students Participation



Women's day



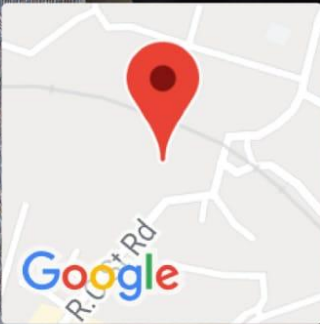
Association Meeting



Alumni Meeting



Old age home visit



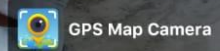
Kaliyakkavilai, Tamil Nadu, India

85QF+6HJ, Kaliyakkavilai, Tamil Nadu 695502, India

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Long 77.173697°

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Department tour



Criteria-VII

Department Values and Best Practices

Department Values and Regulations

In order to maintain the discipline in our department we followed the following values and regulations.

a) For Staff

- Staff should follow the rules and regulations of the college that are in force and may be framed/amended from time to time.
- It is mandatory for Staff to be present in the premises of the College during the working hours. Staff will work for implementing the ideals based on while the College is founded and administrated.
- Staff will be paid salary as per the norms fixed by the management from time to time.
- Staff should not become members of any external associations/unions while in service.
- Staff should be eligible for 12 days of casual leave per year and the leave needs to be sanctioned/approved by the Correspondent/Principal alone.
- Staff services can be terminated by giving one month prior notice in writing by the College. However, no notice will be required to be given in case of Staff services are terminated for any misconduct/indiscipline.
- In the event of Staff deciding to leave from service, he/she should give three months prior notice in writing to the management, failing to

do so you will have to remit three months' salary. Leaving service should be preferably made at the end of the academic year.

b) For Students

- ✓ All the students should obey the rules of the department.
- ✓ Students must attend the classes on time. Every student shall attend the classes regularly and punctually on all working days.
- ✓ Students should get permission from Head of the Department for absenting from classes.
- ✓ In case of long absence due to sickness, production of medical certificate is must.
- ✓ English is the language for communication within the department.
- ✓ When student's meet any of the staff members, they must greet them.
- ✓ Don't use cell phones within the classroom.
- ✓ Students shall maintain strict silence while attending classes.
- ✓ Students should follow the college dress code.
- ✓ If a student got single digit mark either in internal or model exam then he/she must come to the next day with their parent.

Gender Equity

Gender equity is when people of all genders have equal rights, responsibilities and opportunities. Our college is a Co-educated college. For maintaining gender equity in our department we give equal opportunities to both boys and girls. We conducted many programs in our department like Seminars, Workshops, and Conferences and also we celebrated Women's Day, Pi-Day, National Science Day etc. We provide equal Participation and Opportunities to our boys and girls in these programs, for example we allotted the seating arrangement and stage management to our boys and master of ceremonies, registration, reception to our girls. In each class we choose one representative from boy's side

and one from girl's side. Our students treat their classmates with fraternal affection.

a) Safety and Security

- CCTV cameras near the department provide our staff and students a safer place to work and learn.
- Rotational duty by our department faculty members for discipline
- Strict implementation of Anti-Ragging and Anti-Eve teasing
- Complaint boxes
- Separate rest room for boys and girls
- Student moving register for taking permissions

By implementing the above, from 2012 to till now we didn't face any complaints regarding safety.

b) Counseling

In order to discover and develop our student's educational, vocational and psychological potentialities and thereby to achieve an optimal level of personal happiness and social usefulness we give proper guidance to our students for that we maintained a counseling register in our department.

Batch	Type of Counseling	Number of students counseled	Number of students benefited
2017-18	Educational	8	6
	Vocational	3	2
	Psychological	4	3
2018-19	Educational	15	12
	Vocational	2	2
	Psychological	2	2

2019-20	Educational	20	17
	Vocational	3	2
	Psychological	3	3
2020-21	Educational	10	8
	Vocational	5	4
	Psychological	3	2
2021-22	Educational	24	20
	Vocational	10	8
	Psychological	5	4

We identify the students who are in depression because of their family backgrounds and sometimes they are aimless or irresponsible which affects their studies badly. We give counseling to these students to what to do and how to do. Students who badly need more counseling, department advised to seek help from Guidance and Counseling Cell of our College. If these counseling students are not yet recovered, department call the parents to discuss the issues and informed them to take necessary steps.

Common Rooms

In our department we have the following common rooms for both boys and girls.

- Staff room
- Rest rooms-Boys and Girls
- Waiting Room for Boys and Girls
- Health Room
- Seminar Hall
- Auditorium

Solid waste

There are lots of waste materials that are degradable and non-degradable. Therefore, categorization and proper disposal of waste are very important. Our Department has only Solid waste, we don't have Liquid waste, E-waste, Bio-Medical waste. The waste is generated by all sorts of routine activities carried out in the department that includes paper, plastic and food. In our department we have separate dustbins for waste isolation. Every day we ensure that the waste in each dust bins is collected at designated time by our college sweepers.

Culture Difference

According to student's religion, caste, region, and language they have culture difference. Our student's state details are as follows.

Students State Details

S.No	Academic Year	No of students from Kerala	No of students from Tamil Nadu
1	2019-2020	6	67
2	2020-2021	2	63
3	2021-2022	2	52

Student's Diversity Under Region

Our college is situated in the Tamil Nadu Kerala border. Our students are from both Tamil Nadu and Kerala. So our students have different culture. To

generate the feeling of oneness we celebrate the regional festivals like Onam and Pongal in a very special manner.

Pongal

Pongal, is also referred to as Thai Pongal, is a multi-day harvest festival celebrated by people in Tamil Nadu. All departments are joined in the tradition of celebrating the harvest festival Pongal, as part of efforts to ensure that our students remain in touch with Tamil festivities and customs. We celebrated the Pongal festival by organizing a Pongal making competition. The challenge was to make the best pongal in the traditional manner using mud pots and fire wood.

Onam

Onam is a harvest festival celebrated by people in Kerala. We celebrated onam by conducting inter department competition on making colorful pookalam. Diyas were lit and placed upon the pookalam, giving an almost spiritual ambience to the occasion. Sweets were distributed to all which complimented the Onam celebration. In the last two years we don't celebrate Onam because the people in Kerala are affected by flood and due to Covid-19.

Student's Language Details (UG)

Since it is a bilingual area some of our students have Malayalam as first language and also few students have Hindi as first language and the remaining students have Tamil as first language.

S.No	Batch	No of students having Malayalam as first language	No of students having Tamil as first language	No of students having Hindi as first language	Total no of students
1	2017-2018	7	44	0	51
2	2018-2019	2	44	1	47
3	2019-2020	4	36	2	42
4	2020-2021	3	33	1	37
5	2021-2022	1	23	0	24

Totally in the last five years we have 201 students in UG, among these 201 students 180 students have Tamil as their first language, 17 students have Malayalam as their first language and 4 students have Hindi as their first language.

Student's Diversity Under Their Community and Religion

Most of our students are from backward classes and belongs to the minority community. Our students have different community and religions and the details are as follows.

Student's Community Details

S.No	Academic Year	BC	OC	MBC	Total
1	2019-2020	61	6		67
2	2020-2021	60	3		63
3	2021-2022	50	1	1	52

Students Religion Details

S.No	Academic Year	Christian	Hindu	Muslim
1	2019-2020	52	15	0
2	2020-2021	49	13	1
3	2021-2022	42	9	1

Students Diversity Under Their Family Income

Most of our students are from economically weaker session and the details of their income are given below.

S.No	Academic Year	Income below 1,00,000	Income between 1,00,000-2,00,000	Income above 2,00,000
1	2019-2020	59	6	2
2	2020-2021	56	6	1
3	2021-2022	49	1	2

Student's Diversity Under Their Family Member's Education

Our management gives priority to first generation graduates in admission. Almost 40% of our students are the first generation graduates.

S.No	Academic year	No of first graduate students
1	2019-2020	30
2	2020-2021	27
3	2021-2022	24

Our students have different cultures, different castes, different community, different religions and different languages. But all of our students come together in solidarity and participate in all the events that take place in our department. They are united under the word 'students'. In this way we are promoting an inclusive environment for every one with tolerance and harmony towards cultural, regional, linguistic communal socioeconomic and other diversities.

Constitutional Obligations

It is very important for every student's and staff should know their fundamental rights. In order to understand the constitutional principles as applied and understood in everyday life we conducted a one hour awareness program on "Constitutional Obligations". By conducting this program Department creates awareness about fundamental rights and duties as a citizen.

Fundamental Rights

- Right to equality
- Right to freedom

- Right against exploitation
- Right to freedom of religion
- Cultural and educational rights
- Right to constitutional remedies

Fundamental Duties

- To oblige with the Indian Constitution and respect the National Anthem and Flag
- To cherish and follow the noble ideas that inspired the national struggle for freedom
- To protect the integrity, sovereignty and unity of India
- To defend the country and perform national services if and when the country requires
- To promote the spirit of harmony and brotherhood amongst all the people of India and renounce and practices that are derogatory to women
- To cherish and preserve the rich national heritage of our composite culture
- To protect and improve the natural environment including lakes, wildlife, rivers, forests etc.
- To develop scientific temper, humanism and spirit of inquiry
- To safeguard all public property
- To strive towards excellence in all genres of individual and collective activities
- To provide opportunities for education to children between 6-14 years of age, and duty as parents to ensure that such opportunities are being awarded to their child.

Student Ethics

Ethics are well-established levels that make the measures right and wrong. In order to develop the personality of our students we advised our students to follow the following ethics.

- ❖ Do no harm
- ❖ Make things better
- ❖ Respect others
- ❖ Be fair
- ❖ Be loving

By following the above ethics our students understand the reasons behind the differences.

National and International Commemorative Days

We celebrated the National and International Commemorative Days like Independence Day, international Women's Day, World Pi-Day, National Science Day, Srinivasa Ramanujans 100th Death Anniversary, World Mathematics Day and Independence Day.

International Women's Day

International Women's Day is a global celebration dedicated to uplifting women and honoring their achievements. Every year we celebrated the International Women's Day on March 8th by conducting debate and cultural programs.

World Pi - Day

We celebrated Pi-Day on every March 14. It was founded in 1988 by physicist Larry Shaw. March 14 was selected because the numerical date 3.14 represents the first three digits of Pi, and it also happens to be Albert Einstein's

birthday. On that day we conducted poster presentation competition, for the department students.

Independence Day

Independence Day celebration is a day where students, faculties and staff pay tribute to the Nation and the freedom fighters of India. The day of independence is a day of pride, love and respect towards our Nation. Every year we celebrated our National Independence Day on August 15. On that day our college Secretary will hoist the flag and deliver a speech about the significance of Independence Day.

Republic Day

The Republic Day of India was celebrated with gaiety and patriotic at our College on January 26.

National Science Day

We celebrated National Science Day on 28-02-2019. On that day we conducted an exhibition. Our students actively participated in this competition.

Srinivasa Ramanujans 100th Death Anniversary

Srinivasa Ramanujan was a self-taught mathematician who contributed to the theory of numbers. Born in Erode, Tamil Nadu, in 1887, Ramanujan grew up in poverty, his father working as an accounting clerk, while his mother earning a small amount as a temple singer. The mathematician died on April 26, 1920. We conducted an online quiz on the great mathematician Ramanujan on his 100th death anniversary on 26th April 2021.

Festivals

Also we celebrate the commemorative days like Christmas, Ramadan, Deepavali, Pongal, Onam in our department. In these days our student's share their joy by sharing gifts and sweets.

Best Practices

In order to follow our college motto “Learn Lead and Transform” we have the following Best Practices.

NET/SET Coaching

We provide NET/SET coaching to our students with the help of our department staff. Also we conducted a three days workshop on CSIR NET/SET challenges. By conducting this workshop our students got some confidence to face the National Eligibility Test.

Art and Craft Classes

We motivated our students to join Art and Craft classes conducted by our college. Now one of our student is able to teach the Bouquet Making to other students.

LaTeX Training

LaTeX is a software system for document preparation. LaTeX is a better choice comparing to word because it features with a reliable program for typesetting, footnotes, bibliographic, images, captions, tables, cross-references. Also now most of the journals ask the mathematical research papers in LaTeX document. So learning Latex program is very important one for mathematics students. Keeping this in mind we conducted LaTeX workshop for our PG students.

Uniqueness of the Institution

a) Online Courses

Because 40% of our department students are first graduate students, the main aim our department is to reach the unreachable. Our department staff and students are encouraged to opt for Massive Open Online Courses through NPTEL and SWAYAM portal.

b) Shift II Programs

Our college timing is from 8a.m to 2p.m and so our students have enough time to learn more extra courses like diploma courses, tally, TNPSC coaching and type writing classes etc. Our also arranges TNPSC and Tally classes for our students.

S.No	Academic Year	Tally	TNPSC/Banking	Type Writing	DCA/PGDCA/DT P...	Hindi	Tailoring
1	2019-2020	2	4	4	11		
2	2020-2021	3		21	4	1	
3	2021-2022	-	1	7	2		1

c) Wi-Fi Facility

In order to creates more inclusive learning styles for students and makes students learn faster our College provided free Wi-Fi access to both staff and students.

d) Language Lab

In order to develop staff and student's communication skills and builds confidence in learners we have the this user friendly software in our College.

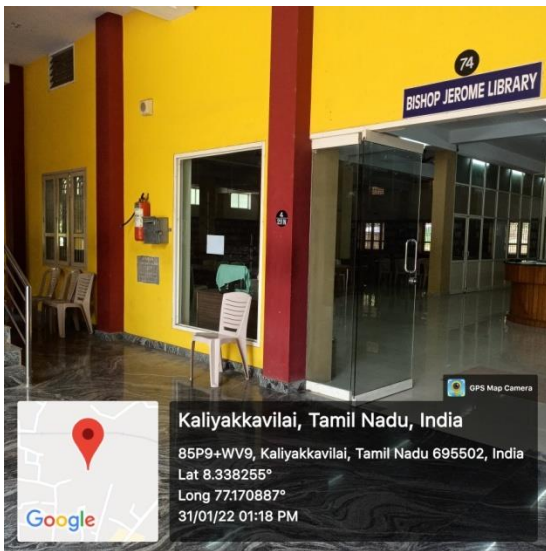
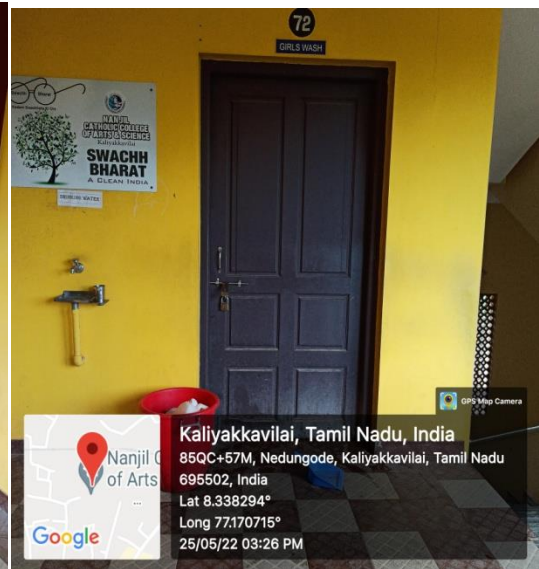
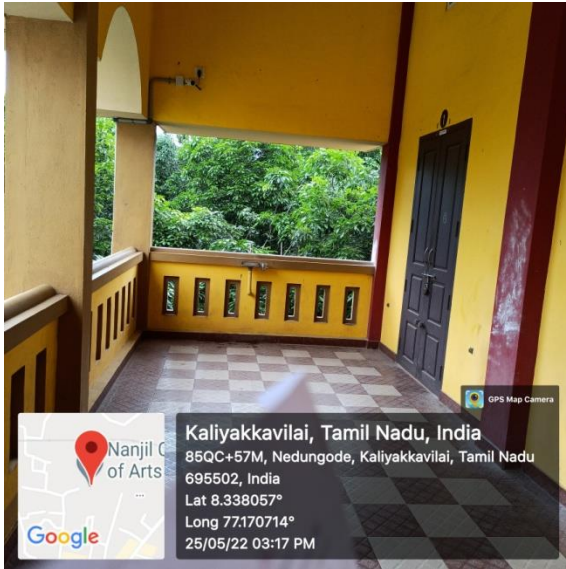
By following the above practices in our Department, Our Student's have inculcated good qualities like Discipline, Punctual, Courteous, Team Spirit, Confident and Responsible. More over our student's excel both in Academic and Non-Academic activities.

Department Values and Best Practices

Students Participation in Various Activities



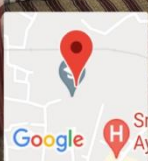
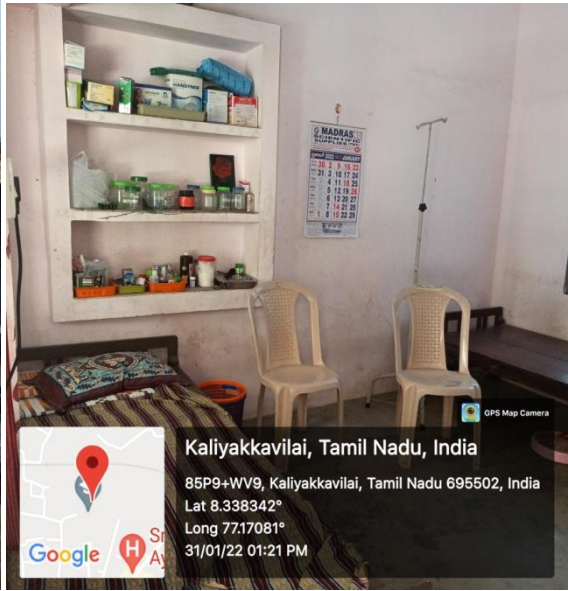
Safety and Security



Common Rooms



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 85QC+57M, Nedungode, Kaliyakkavilai, Tamil Nadu
 695502, India
 Lat 8.338063°
 Long 77.170651°
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Department Counseling Register

DEPARTMENT OF MATHEMATICS STUDENTS COUNSELING REGISTER			
Sl. No.	Name of the student	Address	Signature of student
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DEPARTMENT OF MATHEMATICS STUDENTS COUNSELING REGISTER			
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Waste Management



Awareness Program on Constitutional Obligations



Independence Day



Republic Day



National Voter's Day

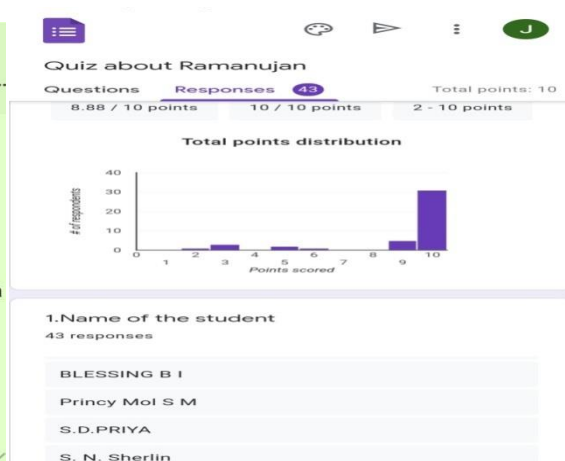


Online Quiz-Ramanujans 100th death anniversary

Nanjil Catholic College of Arts and Science, Department of Mathematics Conduct an Online Quiz about Ramanujan.

Greetings from Department of Mathematics 🎓🎓🎓🎓
Department of Mathematics Nanjil Catholic College of Arts and Science Kaliyakkavilai inviting you to an online quiz on 26th April 2021 (The 100th death anniversary of Srinivasa Ramanujan).
Topic: The Great Mathematician Srinivasa Ramanujan.
Registration link: <https://forms.gle/G4FP5dtqyCXeHRaG6>
👉 No registration fee.
👉 e-certificate will be issued to the participants who score 65% and above.

12:29 pm ✓



Christmas Day Celebration



Pongal Celebration

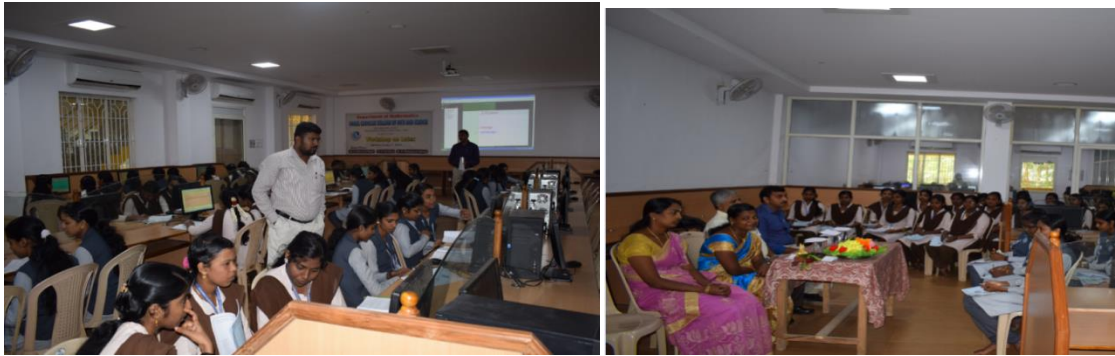


International Women's Day



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Workshop on LaTeX



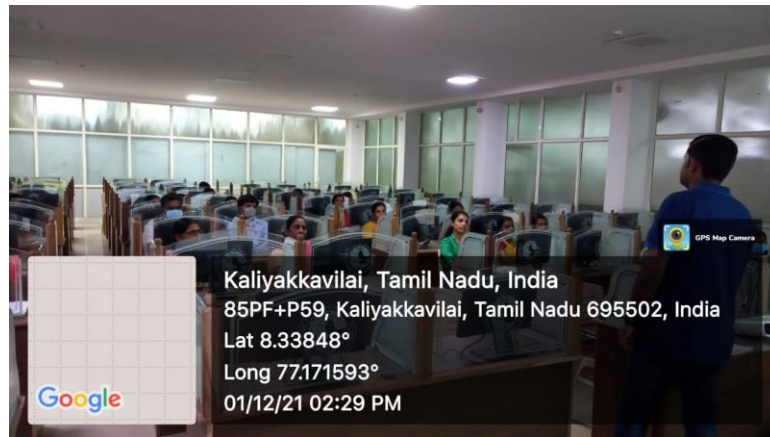
World π -Day (2019)



National Science Day



Language Lab



Online Courses

This certificate is computer generated and can be verified by scanning the QR code given below. This will display the certificate from the NPTEL repository, <https://nptel.ac.in/noc/>

TO: KAVITHA S
 22/3A1
 VELLWILLAGAM
 KANYAKUMARI
 TAMIL NADU
 629165
 PFI. NO. 9442934949
 Roll No: NPTEL19MA22561840151



Score	Type of Certificate
>=90	Elite+Gold
75-89	Elite+Silver
>=80	Elite
40-59	Successfully Completed
<40	No Certificate

No. of credits recommended by NPTEL: 3
 An additional 1 credit may be awarded if the University deems it fit, based on the actual student effort involved.



Elite
NPTEL Online Certification
 (Funded by the Ministry of HRD, Govt. of India)



This certificate is awarded to
KAVITHA S
 for successfully completing the course
Higher Engineering Mathematics

with a consolidated score of **67** %

Online Assignments **11.75/25** Proctored Exam **55.5/75**

Total number of candidates certified in this course: **132**

V. C. Srivastava
 Prof. V. C. Srivastava
 Coordinator, Continuing Education Centre
 IT Floor/ke

JUL-Oct 2019
 (12 week course)

Indradeep Singh
 Prof. Indradeep Singh
 NPTEL, Coordinator
 IT Floor/ke



Indian Institute of Technology Floor/ke



Roll No: NPTEL19MA22561840151

To validate and check scores: <https://nptel.ac.in/noc/>

Additional Courses

