



MATHEMATICS TALENT SEARCH AND NURTURE PROGRAMME – 2010

Sponsored by
The National Board for Higher Mathematics (NBHM)
Conducted by

**DEPARTMENT OF MATHEMATICS
UNIVERSITY OF CALICUT**

AIM

What will be this world without Numbers? Without Mathematics ?

Mathematics is one of the outstanding creations of the human mind. It has evolved through the pioneering works of several human minds, individually and collectively. Indeed, it is now the language of Physical Sciences, and is making its presence felt in the areas of natural sciences and social science too. For a serious student of Mathematics, its unparalleled charm and beauty, is an enjoyment beyond comparison. Our aim is to attract talented, motivated and dedicated students to enjoy this charm and beauty of Mathematics through this programme

ACADEMIC PROGRAMME

We have been organizing a programme (at Level 1 of the MT & TS) for the students of the Universities in Kerala during April/May from 2003 onwards. This year also we propose to organize a similar programme.

Foundations, Analysis, Algebra, and Linear Algebra & Geometry of the B.Sc (Mathematics) level are the areas we intend to include in our programme.

The faculty will be active mathematicians with commitment to teaching, some of them having experience in the conduct of MT & TS programme. The hallmark of the programme is to develop the concepts through problem solving, stimulating participants to discover them.

ELIGIBILITY

Students eligible for this programme will be those who have just completed the B.Sc Final Year and are interested to pursue Mathematics at a higher level.

SELECTION

The selection will be purely on merit, based on consistently good academic records and a recommendation better from a Teacher closely acquainted with the candidate.

VENUE AND DURATION

The venue of the programme will be Calicut University Campus. Duration of the programme will be 3 weeks, during 3rd May to 22nd May 2010 **. The students are expected to stay at the campus. The selected candidates will be given TA, free boarding and lodging during the programme. They will also be provided with free study materials.

HOW TO APPLY

The application consists of candidate's academic record and a recommendation letter from one of the teachers, in the prescribed proforma, and should be sent to:

The Director,
MTS & N Programme,
Department of Mathematics
University of Calicut
Calicut University (PO)-673 635.

Last Date:20th March 2010

NB: The proforma of Application and Recommendation Forms and the Application Forms for Teachers can be had from The Head, Department of Mathematics of the College where the candidates

is studying. They can also be downloaded from our website

www.universityofcalicut.info

Phone: 0494 2401144*418, (off) 0483 2754300 (Res.)

09447791504 (Mob:) E-mail: mtsandnpunical@gmail.com

**Subject to the approval by the NBHM

MATHEMATICS TALENT SEARCH & NURTURE PROGRAMME (MTS & NP) - 2010

UNIVERSITY OF CALICUT

Sponsored by

THE NATIONAL BOARD FOR HIGHER MATHEMATICS (NBHM)

The University of Calicut has been organizing the Mathematics Talent Search and Nurture Programme with the financial support from the National Board for Higher Mathematics (NBHM) since 2003. The programme is aimed at creating interest in the study of Mathematics by stimulating Mathematical thinking of a select group of students from the Colleges of Kerala, who have taken the final exam of B.Sc. Mathematics in the current year. This is modeled on the Mathematics Training and Talent Search Programme (MT&TS) organized by The National Board for Higher Mathematics (NBHM) at Level 1. We select about 40 candidates, from among the applicants, based on the recommendations from their teachers and their past performance in Mathematics at the School and the College.

The questions that the applicants normally have in their mind are given below with the answers.

1. *How many years has the programme been conducted by the Department?*

The programme is being conducted every summer since 2003.

2. *What is the basis of selection for participating in the Programme?*

The selection depends mainly on the following three criteria: (i) a consistent good academic record and (ii) the recommendation letter of the teacher. (The selection is very much influenced by the specifics rather than by the general recommendations in the letter). (iii) Answers to the questions 6,7,8, 9, 10 & 11 in the application forms by the students.

3. *Where is the Programme conducted?*

At the Department of Mathematics, University of Calicut.

4. *Is there any fee to be paid by the students?*

Absolutely nothing. In fact the programme reimburses the travel expenses and also gives free lodging and boarding during the period of the programme. The participants are usually given good accommodation inside the University Campus.

5. *Is there any scholarship for successful students?*

No, there will not be any scholarship for the students after their successful completion of the programme. However, there will be a follow-up programme for students whose performance and participation in the course are very good. Those students who undergo the programme have found it very useful and will help them to do well in the interviews during the admission process at good institutes of learning. Some of them also get opportunity to go for the MT & TS Programme at the 2nd Level.

6. *Will the participants receive any certificate at the end of the programme?*

Yes, all participants who attend the programme for the entire period will receive a certificate of participation.

7. *Will the programme help the students in getting jobs? Getting admissions in good institutions?*

The main aim of the programme is to train the students so that they can work independently, achieve certain level of confidence in the learning/understanding of Mathematics and to give them a proper perspective of the study of Mathematics.. We do NOT think of this programme as a job-training programme of any kind. However, the knowledge and attitude acquired during the programme, if further cultivated by the participants, seem to help them achieve better goals in academic career.

8. *How are the courses different from the ones we have at the colleges?*

Radically different. In fact, it takes about three days for the participants to get used to our way of doing things. Some of the faculty is from various leading institutions of the country and is not confined to the institute of the venue. People who are experts in the field, who are known for their teaching and have a commitment towards high quality Mathematics in India, are chosen to give the courses. As a rule each module of a course is taught by a single expert. This paves the way for better interaction (over a period of 3 weeks) between the faculty and students and also imparts a perspective of the field among the students. The teacher keeps asking questions, sometimes well-formulated, sometimes vague, to give you a taste of how mathematics is discovered. He most often develops a proof from the ideas given by the students and asks them to write in the way a text book will present it. There will be a great deal of pressure on you to think on your own and take active participation in the course.

The anchoring faculty for a course is also supported by a number of talented teachers with commitment to Mathematics teaching to help the students in the process of understanding the concepts. The teachers try to identify the difficulties of the individual students. Giving individual attention is one of the unique features of this programme. The willingness to work very hard is a pre-requisite for the programme. If you are seriously interested in pursuing higher mathematics, this programme will be immensely useful to you.

The programme also provides a platform for students with varied back-ground to come together and interact with peers and experts in the field. This serves two purposes: i) the participants come to know where they stand academically and what they have to do to bring out their full potential and ii) they establish a rapport with other participants and teachers which help them shape their career in Mathematics. This allows them to see for themselves how they compare with other students.

9. *Are there tests at the end of the programme?*

No It is our belief that one should learn Mathematics for its own sake and for the love of it rather than focusing one's attention on the tests.

10. *What are the subjects taught? Are they pure or applied?*

The emphasis is on the so-called pure Mathematics. The courses are on Foundations, Analysis Algebra, Linear Algebra & Geometry. The medium of instruction is generally English. The programme is likely to enrich the communication skills of the participant in English, at least in the domain of Mathematics.

11. *Do we have to have a great deal of back-ground in Mathematics?*

No. The courses are usually designed in such a way that 50% of the concepts may be already familiar to most of the students. The main aim of the course, as was mentioned above, is to promote thinking. As a matter of fact, it was observed in the previous programmes that the students who learn a topic for the first time in the programme have performed well as the courses progressed. It is not our aim to introduce a lot of jargon to the students. In stead, we introduce the very basic concepts and train the students thoroughly.

12. *Can we join the programme a few days after the inaugural day?*

As mentioned earlier, it takes about three days for the students to get used to our method of teaching. Anybody who joins the programme after the third day is at a distinct disadvantage, as the other participants would be in a better position to participate in the discussions. Hence as a rule we expect the participants to be available from day 1 onwards.

13. *Can we contact you, if necessary?*

Yes. My phone numbers are 0494 2401144*418 (Office) and 0483 2754300 (Res.), Mob: 9447791504
E-mail : ptrunical@rediffmail.com.

A Question never asked: How can we help MTS & NP?

In many ways.

To start with, you may inform your juniors and others who exhibit a certain amount of motivation and who have an aptitude for mathematics about this programme and encourage them to apply. You will be in a better position to judge which of your college students will be suitable for this activity more than the teachers, who may not have any idea of this programme. You may distribute copies of the application and recommendation letter form to those interested.

Secondly, you may leave a word and all the necessary information regarding the course with the teacher of your college who has motivated you to apply. This will enable him/her to encourage suitable students to the programme in future.

Thirdly, you may offer seminars at your institute along the way we teach. Your friends will also have a taste of the way Mathematics is practiced in real life.

Fourthly, you may inform us of teachers who are likely to be interested in this mode of teaching. We are constantly on the look-out for motivated teachers who will be ready to sacrifice their vacation and offer training in this programme. We also allow teachers to participate in this programme if they want to know how training is imparted. For this purpose, interested teachers are encouraged to join us to support the programme during the class room session. They should write to the Programme Director about this. Such participation is only by invitation. Those invited by us will be reimbursed the travel expenses and provided with some financial support.

RAMACHANDRAN.P.T

Director, MTS & N Programme 2010
Dept. of Mathematics, University of Calicut

**DEPARTMENT OF MATHEMATICS
UNIVERSITY OF CALICUT**



RAMACHANDRAN.P.T
Director
MTS & NP 2010

CALICUT UNIVERSITY P.O.
Pin: 673 635
KERALA, INDIA

No. Math/MTS & NP/2010.

Date : 01.01.2010

To

The Head

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Dear Sir,

We are conducting the MTS & N Programme this year also with the support from the National Board of Higher Mathematics. We are going ahead with the preparations. The programme is scheduled from 3rd May to 22nd May 2010, for a period of three weeks. We are now in the process of drawing up the academic activities. In this regard we are looking forward for the support from teachers for the conduct of the tutorial activities.

It would be nice if your colleagues could spare at least four or five days consecutively for this purpose. Let them identify their convenient days and let us know by 31st March 2010, Please use the application form (or photocopies) attached herewith. They are welcome to be with us for a longer duration also.

Kindly bring this to the notice of your colleagues.

There is a provision for the teachers to visit the programme apart from participating as a tutor. Local hospitality will be available for such visitors. Looking forward to your whole hearted co-operation.

The details of the programme are available at our website www.universityofcalicut.info. The forms can also be downloaded from the site.

Yours sincerely,

RAMACHANDRAN.P.T

MATHEMATICS TALENT SEARCH & NURTURE PROGRAMME - 2010
UNIVERSITY OF CALICUT

Dear Teacher:

The Courses offered at MTS & NP will be intensive and require active participation from the students. In this programme the participants will be solving problems of B.Sc level. Based on our experience for the last few years we find certain traits are essential to get the maximum out of this Programme. **In this regard, we request you to comment on the following points in a scale of 0 to 10 (0 for the lowest and 10 for the highest) on the student's ability.** Please help us by being factual in awarding the points. Otherwise it will not be any use for us in our selection.

We thank you very much for your valuable comments.

RECOMMENDATION

Student's Name :

Sl. No.	Student's Ability Level	Points Awarded (between 0 & 10)
1.	Motivation for higher studies	
2.	Capacity to grasp new concepts	
3.	Perseverance and determination to attain the goal	
4.	Problem solving ability	
5.	Reciprocation in the class room	
6.	Interest for learning beyond the exam point of view	

If you are recommending more than one student, please put them in order of merit and indicate the ranking of the candidate.

If any of your students had participated in the Programme earlier, please compare the present one with them.

Any other comments (especially if the student is awarded exceptional points above).

Date :

Signature :

Seal of the Institution:

Name :

Designation :

MATHEMATICS TALENT SEARCH & NURTURE PROGRAMME - 2010
UNIVERSITY OF CALICUT

Instructions: Please get your academic records attested by a teacher. Do not send photocopies of the mark sheets. You should request a teacher (**who knows your mathematical background well**) to fill in the recommendation form in an envelope duly sealed by the teacher. It should accompany the application form. Photocopies of this form may be used. **Answers of questions 6, 7, 8, 9, 10 & 11 which are crucial for your selection may be given in separate sheets.**

APPLICATION FORM

1. **Name** (in block letters) Mr./Ms.:

2. **Gender:** Male Female

3.

Address for correspondence	College /Institute Address
Pin Code :	Pin Code :
Email : Phone No. (with STD code):	Email : Phone No. (with STD code):

Academic Record

4.

Sl. No.	Examination	% of Marks (Aggregate)	No. of Maths. Papers	% of marks in Maths
1.	S.S.C./10 th Std.			
2.	H.S.C./12 th Std.			
3.	B.Sc. 1 st Year			
4.	B.Sc. 2 nd Year			
5.	B.Sc. 3 rd Year (Half yearly examination)			

5. Present Course of Study :

6. Have you participated in any mathematical activities? Please give details. In case of MT & TS, mention the year, camp, level and the roll-number.

7. Are you a recipient of any merit scholarship, any certificates of merit?

8. Give a small write up on a Result or on an Example or on a Problem which you felt most interesting.

9. What is the motivation for your interest in Mathematics?

10. Give details of contributions, if any, by you to Mathematics.

11. Anything else you would like to inform us regarding your Mathematical interests and talents.

12. Write the name, designation and the office address of the teacher who writes the recommendation letter.

Date:

Signature of the Applicant

Attestation by a Teacher: Please sign with date and seal of the Institution.

I hereby attest that I verified the records and found the above to be correct to the best of my knowledge.

Office Seal

Signature of the Teacher

**DEPARTMENT OF MATHEMATICS
UNIVERSITY OF CALICUT**

MTS & NP 2010
(03/05/2010 to 22/05/2010)

APPLICATION FORM FOR TEACHERS

(This is necessary for the records)

1. Name & Contact Address of the
Participating teacher : a) Office :

b) Residential :

E-mail :

Phone :

Mobile:

2. Name of the College :

3. Dates suitable to you :

4. Whether you need accommodation during your visit :

Signature