

From  
Dr. Gnanavel S & Dr. Ali Akbar  
Department of Mathematics, SPS  
Central University of Kerala, Kasaragod.

27.03.2019

To  
Section Officer - Academic  
Central University of Kerala  
Kasaragod.

Respected Sir,  
Sub: Settlement of Advance: National work shop on Glimpses of Differential Geometry during  
30/01/2019-02/02/2019- Explanation - reg.

Ref.: 1. CUK/ACA/128/12/1466 dated. 26<sup>th</sup> December 2018.  
2. CUK/ACA/128/12/1920/E6516 dated. 21<sup>st</sup> March 2019.

With reference (Ref:1) to the above approval, we have successfully conducted the National Workshop on "Glimpses of Differential Geometry" from 30<sup>th</sup> January to 2<sup>nd</sup> February, 2019 at the Department of Mathematics, Central University of Kerala. We have submitted the settlement form with necessary supporting documents for the total expenses for conducting the workshop to a sum of Rs. 1,77,474.00 against the advance amount Rs.1,40,000.00.


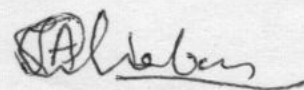
Now we have received a communication (Ref:2) seeking valid reason to claim the excess amount of Rs.36,164.00. The valid reason are as follows:

1. Because of unexpected cancellation/delay of flights for the speakers at the last moment, the actual expenditure exceeds the sanctioned amount.
2. In order to make the workshop very effective we have provided working lunch for all participants and also all the speakers were there throughout the workshop so their food expenses was taken care.

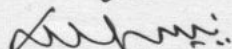
For your kind information, we originally proposed for 4 days with estimate expenditure of Rs.2,29,000.00 earlier, after the communication from AR Academic, we had submitted the revised proposal for 4 days with estimate expenditure of Rs.1,65,000.00, based on the amount allotted to the Department under the head Conference / Workshop.

**We humbly request you to give an approval for the reimbursement of Rs.36,164.00 towards the programme.**

Yours truly,

Recommended  
Strongly.

  
27.03.2019

HEAD  
Department of Mathematics  
School of Mathematical & Physical Sciences  
Central University of Kerala  
Tejaswini Hills, Periyar - 671316  
Kasaragod, Kerala

# Department of Mathematics

## Central University Of Kerala

### Differential Geometry

30<sup>th</sup> January- 2<sup>nd</sup> February, 2019

#### Registered Participants

Name of the student	Address	Signature
AMBIKA BALAKRISHNAN M V	I M.Sc CUK	
AMRUTHA C	I M.Sc CUK	
ANBARASAN S	I M.Sc CUK	
ANOOP V V	I M.Sc CUK	
ANUJ KUMAR	I M.Sc CUK	
ARATHI REGHUNATH	I M.Sc CUK	
ASWATHI ELIZABATH	I M.Sc CUK	
ATHIRA. E.V	I M.Sc CUK	
ATHIRA. V	I M.Sc CUK	
BHAGYALAKSHMI M	I M.Sc CUK	
DIBYAJYOTI DAS	I M.Sc CUK	
DINESH RAM KEUT	I M.Sc CUK	
FIROZ AHAMMED T	I M.Sc CUK	
GREESHMA K	I M.Sc CUK	
HEMAND HARIKUMAR	I M.Sc CUK	
JAGANNADHAM AKHIL	I M.Sc CUK	
KANAGAPRIYA M	I M.Sc CUK	
LEIJO JOSE	I M.Sc CUK	
MANEESHA K V	I M.Sc CUK	
MEGHA ROSE MANOJ	I M.Sc CUK	
MIDHUNA CHANDRAN	I M.Sc CUK	
MUHAMMED SAFWAN . C .T	I M.Sc CUK	
MUKTASHREE MAJHI	I M.Sc CUK	
MUNEESWARAN R	I M.Sc CUK	
NAMITHA	I M.Sc CUK	
NIVEDHYA BALAKRISHNAN	I M.Sc CUK	
P.THULASI GANGADHARAN	I M.Sc CUK	
PATTANSHETTI ANKITA KEDARNATH	I M.Sc CUK	
PRAKASH. P	I M.Sc CUK	
RANI BABY	I M.Sc CUK	
RESHMA SUNIL	I M.Sc CUK	
RIJITH CHACKO	I M.Sc CUK	
SHEEBA P	I M.Sc CUK	



SNEHA BALAKRISHNAN	I M.Sc CUK	SS
SUBHASMITA SETHY	I M.Sc CUK	Subharmita Sathy
SUBHENDU MOHANTY	I M.Sc CUK	Subhendu Mohanty
A APARNNA	II M.SC CUK	S. S. pane
AKHIL VIJAYAN R	II M.SC CUK	<del>AKHIL</del>
ANOOP C AUGUSTINE	II M.SC CUK	
ANSAL ALI A K	II M.SC CUK	
ANUPAMA	II M.SC CUK	
ARYA P S	II M.SC CUK	
ASHWANI K B	II M.SC CUK	Ad
ASWANI C	II M.SC CUK	
BASAVARAJ A Y	II M.SC CUK	B. S. H.
BASUDEBA DASH	II M.SC CUK	B. H.
BHARTI CHOUDHARY	II M.SC CUK	Bharte Choudhary
CHANDINI E	II M.SC CUK	
EANDLA SAINATH	II M.SC CUK	
HARSHENDRA PRASAD PK	II M.SC CUK	H. P. K.
HRIDYA P	II M.SC CUK	
MEGHA BASHEER	II M.SC CUK	
NILUTPAL MILI	II M.SC CUK	N. M. I.
P VISHAL	II M.SC CUK	
PARANDEEP GOSWAMI	II M.SC CUK	P. G.
PIYUSH SINGH	II M.SC CUK	Piyush Singh
PRADEEP KUMAR V E	II M.SC CUK	
RAHUL M P	II M.SC CUK	R. M. P.
RAKESH KUMAR	II M.SC CUK	
RESHMA RAJ P V	II M.SC CUK	
RIYA ROSE JOHNS	II M.SC CUK	R. R. J.
RUDRA PRASAD PAL	II M.SC CUK	R. P. P.
S MAMATA	II M.SC CUK	
SAYANA K V K	II M.SC CUK	S. K. V. K.
SHARIKA B S	II M.SC CUK	
SOVERIN T C	II M.SC CUK	S. T. C.
SREELAKSHMI VISWANATH	II M.SC CUK	
SUNIL KUMAR BAIRWA	II M.SC CUK	S. K. B.
Deepa.K	Ph.D CUK	
Prajisha E	Ph.D CUK	P. E.
Sreya V V	Ph.D CUK	S. V. V.
Soorya P	Ph.D CUK	S. P.
Abdul Jaleel	Ph.D CUK	A. J.
Shine Raj S.N	Ph.D CUK	S. R. S. N.
Shijin T.V	Ph.D CUK	S. T. V.
Amitha Shaji	Ph.D CUK	A. S.



30/01/2019

AFN

## Department of Mathematics

## Central University Of Kerala

## Differential Geometry

30<sup>th</sup> January- 2<sup>nd</sup> February, 2019

Attendance Sheet: I M.SC Students

Name of the student	Address	Signature
Muneeswaran R		R. Muneeswaran
Greeshma .K		Greeshma .K
Megha Rose Manoj		Megha Rose Manoj
M. Kanagapriya		M. Kanagapriya
Bhagyalakshmi .M		Bhagyalakshmi .M
Rajitha Chacko		Rajitha Chacko
Prakash .P		Prakash .P
Denesh Ram Kent		Denesh Ram Kent
S. Anbarasan		S. Anbarasan
Anuj kumar		Anuj kumar
Atira .E.V		Atira .E.V
midhuna chandran .		midhuna chandran .
Hemant Harikumar		Hemant Harikumar
Muhammed Safwan		Muhammed Safwan
Anoop V.V.		Anoop V.V.
Muktashree Majhi		Muktashree Majhi
Subhasmita Sethy		Subhasmita Sethy
Firoz Dhammed T		Firoz Dhammed T
Aswathi P Elizabeth		Aswathi P Elizabeth
Nivedhya Balakrishnan		Nivedhya Balakrishnan
Athira .V		Athira .V
Sneha Balakrishnan		Sneha Balakrishnan
Sheeba .P		Sheeba .P
Shruthi Balakrishnan M.V.		Shruthi Balakrishnan M.V.
Rani Baby		Rani Baby
Reshma Sunil		Reshma Sunil
Amrutha C		Amrutha C
Maneesha KV		Maneesha KV
P- Jhulsi Jayadharan		P- Jhulsi Jayadharan
Namitha		Namitha
Ankita b. pattanshetti		Ankita b. pattanshetti
Subhendu Mohanty		Subhendu Mohanty
Dibyajyoti DAS		Dibyajyoti DAS

Lero Jose

Lero Jose



30/01/2019

AF

## Department of Mathematics

Central University Of Kerala

Differential Geometry

30<sup>th</sup> January- 2<sup>nd</sup> February, 2019

Attendance Sheet: I M.SC Students

Name of the student	Address	Signature
Muneeswaran R		Rllh
Gireeshma.K		Gireeshma
Megha Rose Manoj		Megha
M. Kanagapriya		M.K
Bhagyalakshmi. M		Bhagya
<del>Subhadra</del>		
Hemant Harikumar		Hemant
Muhammed Safwan		Safwan
Muktashree Majhi		Muktashree
Subhasmita Sethy		Subhasmita
Fixoz Abammedi		Fixoz
Aswathi Elizabeth.		Aswathi
midhuna chandran.		midhuna
Akhira. E.V		Akhira
S. Anbarasan		S. Anbarasan
Denesh Ram Keut		Denesh
Anuj kumar		Anuj
Anubika Balakrishna M.		Anubika
Sheeba.P		Sheeba
Sneha Balakrishnan		Sneha
Amrutha C		Amrutha
Manceesha K.V		Manceesha
P. Jhulani Jayachandran		P. Jhulani
Nivedhya Balakrishnan		Nivedhya
Athira V		Athira
Leopoldo		Leopoldo
Dibyashree DAS		Dibyashree
Subhanti Mohanty		Subhanti
Reshmi Sunil		Reshmi
Rani Baby		Rani
Namitha		Namitha
Ankita		Ankita
Prakash		Prakash

Rijith .

Rijith











31/01/2019

AF

## Department of Mathematics

Central University Of Kerala

Differential Geometry

30<sup>th</sup> January- 2<sup>nd</sup> February, 2019

Attendance Sheet: I M.SC Students

Name of the student	Address	Signature
Greeshma K		
Muneeswaran K		
Anleita B Pattenhelli		
Sophiya Mohanty		
DIBYAJYOTI		
Amrutha C		
Maneesha K.V		
P. Jhulesi Gengalharan		
Nivedhya Balakrishnan		
Sneha Balakrishnan		
Ambika Balakrishnan M.V		
Athira V		
Sheeba P		
Ashwathi Elizabeth		
Midhuna Chandran		
Rani Baby		
Reshma Sunil		
Sathwan		
Elemand		
Anoop V.V		
Fiaz Abammed T		
Muktashree Majhi		
Subhasmita Sathy		
Namitha		
Mithras Alhira E.V		
Denesk Ram Reet		
Leijo Jose		
Anuj kumar		
M.KANAGAPRIYA		
Megha Rose Manoj		
Bhagyalakshmi M		
Prakash P		
Rijith chacko		
S. Anbarasan		







31/01/2019

FN

# Department of Mathematics

## Central University Of Kerala

### Differential Geometry

30<sup>th</sup> January- 2<sup>nd</sup> February, 2019

Attendance Sheet: I M.SC Students

Name of the student	Address	Signature
<del>Parvathi</del> Greeshma.K	1	
Muneeswaran R	2	
Ankita b/Pattanshetti		
Subhendu Mohanty		
DIBYAJYOTI DAS		
Amrutha C		
manasha k.v		
P. Jhulesi Jayadherson		
NRedhya Balakrishnan		
Sneha Balakrishnan		
Amubika Balakrishnan M.V.		
Sheeba. P		
Albira.V		
Rani Baby		
Reshma Sunil		
HEMAND HARIKUMAR		
MUHAMMED SAEWAN-C.T		
Firoz Abammed.T		
Anoop.V.V		
Muktashree Majhi		
Subhasmita Sathy		
Namitha.		
<del>Wijay</del>		
BHAGYAKSHAMI M		
M.KANAGAPRIYA		
Neelha Rose Manoj		
Anuj kumar		
Athira. E.V		
Midhuna chandran.		
Asath <sup>o</sup> EU <sup>o</sup> zabath.		
Prakash.P		
Rijith chacko		







01/02/2019

FN

## Department of Mathematics

## Central University Of Kerala

## Differential Geometry

30<sup>th</sup> January- 2<sup>nd</sup> February, 2019

Attendance Sheet: I M.SC Students

Name of the student	Address	Signature
Muneerwan R	I Msc Maths	R. Muneerwan
Greeshma.K		Greeshma.K
Subhandu Mohanly		Subhandu Mohanly
DI BYAJYOTI DAS		DI BYAJYOTI DAS
Ambika Balakrishnan M.V.		Ambika Balakrishnan M.V.
Reshma Sunil		Reshma Sunil
Rani Baby		Rani Baby
Hidhuna Chandran.		Hidhuna Chandran.
M. KANAGAPRIYA		M. Kanagapriya
BHAGYALAKSHMI.M		Bhagyalakshmi.M
MEHA ROSE MANOT		Meha Rose Manot
Denesh Ram Reut		Denesh Ram Reut
Lejo Jose		Lejo Jose
Anuj kumar		Anuj kumar
Namitha		Namitha
Muktashree Majhi		Muktashree Majhi
dubhasmita Sathy		dubhasmita Sathy
Prakash.P		Prakash.P
Rijith chacko		Rijith chacko
S. Anbanasan		S. Anbanasan
Fiaz Abanomed.T		Fiaz Abanomed.T
Hernand Harikumar		Hernand Harikumar
Muhammed Safwan		Muhammed Safwan
Aswathi Elizabeth.		Aswathi Elizabeth.
Athira.F.V		Athira.F.V
Amrutha C		Amrutha C
maneesha K.V		maneesha K.V
P. Theleshi gangadharan		P. Theleshi gangadharan
Anrita k. pattenjheer		Anrita k. pattenjheer
Athira.V		Athira.V
Nivedhya Balakrishnan		Nivedhya Balakrishnan
Sneha Balakrishnan		Sneha Balakrishnan
Sheeba.P		Sheeba.P

Anoop.V.V

Anoop.V.V











01/02/2019

AF

## Department of Mathematics

Central University Of Kerala

Differential Geometry

30<sup>th</sup> January- 2<sup>nd</sup> February, 2019

Attendance Sheet: I M.SC Students

Name of the student	Address	Signature
Muneeswaran R		B.M. Sunil
Greeshma K		Greeshma K
Subhendu Mohanty		Subhendu
Ambika Balakrishnan M.V.		Ambika
Reshma Sunil		Reshma
Rani Baby		Rani
Midhuna Chandran.		Midhuna
M. KANAGAPRIYA		M. Kanagapriya
BHAGYALAKSHMI M		Bhagyalakshmi
MEHA ROSE MANOJ		Meha Rose Manoj
Dinesh Ram Keut		Dinesh Ram Keut
Leijo Jose		Leijo Jose
Muktashree Majhi		Muktashree Majhi
Subharmita Petty		Subharmita Petty
Anuj kumar		Anuj kumar
Prakash P		Prakash P
Rijith chacko		Rijith chacko
Namitha .		Namitha .
S. Anbarasan		S. Anbarasan
Athira F.V		Athira F.V
Hemant		Hemant
Anoop.v.v		Anoop.v.v
Firoz		Firoz
Safwan		Safwan
ASRATHI Elizabeth.		ASRATHI Elizabeth.
Amrutha C		Amrutha C
maneesha k.v		maneesha k.v
P. Thulasi Gengadhara		P. Thulasi Gengadhara
Athira.v		Athira.v
Ankita. f. Pattanshetti		Ankita. f. Pattanshetti
Nivedhya Balakrishnan		Nivedhya Balakrishnan
Sneha Balakrishnan		Sneha Balakrishnan
Sheeba P		Sheeba P

Dibyajyoti DAE



02/02/2019

FN

## Department of Mathematics

Central University Of Kerala

Differential Geometry

30<sup>th</sup> January- 2<sup>nd</sup> February, 2019

Attendance Sheet: I M.SC Students

Name of the student	Address	Signature
Subhendu Mohanty	CUK	
Girishma K	"	
Munneswara R	"	
DIBYAJYOTI DAS	"	
Ankita b. P. Henshetti	"	
Rani Baby	"	
Reshma Sunil	"	
Subharmita Setty	"	
Sheeba P	"	
Sneha Balakrishnan	"	
Nivedhya Balakrishnan	"	
Ambika Balakrishnan M.V.	"	
Athira V	"	
Amrutha C	"	
Maneesha K V	"	
P. Jhulsi Gengadharan	"	
Midhuna Chandran	"	
Aswathi Elizabeth	"	
Hemant Hari Kumar	"	
Prakash P	"	
Athira E.V	"	
Rishabh Chacko	"	
S. Anbanasan	"	
Muktashree Majhi	"	
Anuj Kumar	"	
Dinesh Ram Reut	"	
Lejo Jose	"	
BHAGYALAKSHMI .M	"	
M.KANAGAPRIYA	"	
MEENA ROSE MANOJ	"	
Namitha	"	
Adoop V V	"	
Muhammed Saferan C.T	"	
Firoz Akhamed T	"	







02/02/2019

AF

## Department of Mathematics

## Central University Of Kerala

## Differential Geometry

30<sup>th</sup> January- 2<sup>nd</sup> February, 2019

Attendance Sheet: I M.SC Students

Name of the student	Address	Signature
Subhendu Mohanty	I M.SC	Subhendu
Muneeswaran R	I M-SC	Muneeswaran
Gireeshma.K	"	Gireeshma
Ankita b.pattanshetti	"	Ankita
Reshma Sunil	"	Reshma
Subhasmita Sethy	"	Subhasmita
Sheela .P	"	Sheela
Sneha Balakrishnan	"	Sneha
Nivedhya Balakrishnan	"	Nivedhya
Ambika Balakrishnan M.V.	"	Ambika
Athira.v	"	Athira
Ansutha C	"	Ansutha
Manceha K.V	"	Manceha
P. Jhulesi Egey adharan	"	P. Jhulesi
Aswathpe Elizabeth.	"	Aswathpe
Fiaz Ahmed	"	Fiaz
Prakash.p	"	Prakash
midhuna chandran .	"	midhuna
Anoop.v.v	"	Anoop
Hemant	"	Hemant
Mahd. Safwan.	"	Mahd.
Rani baby	"	Rani
Athira. E.v	"	Athira
Rydh chacko	"	Rydh
S.Ambanaran	"	S.Ambanaran
DIBYAJYOTI DAS	"	DIBYAJYOTI
Anuj kumar	"	Anuj
Dinesh IRam Keut	"	Dinesh
Leijo Jose	"	Leijo
Namitha	"	Namitha
BHAGYALAKSHMI. M	"	BHAGYALAKSHMI
M. KANAGAPRIYA	"	M. Kanaga
MEETHA ROSE MANOT	"	Meetha
Muktashree Majhi	"	Muktashree







**Organizing Secretaries:**

Dr Gnanavel Soundararajan  
Department of Mathematics  
Central University of Kerala  
Periye  
Kasaragod.

&

Dr Ali Akbar K  
Department of Mathematics  
Central University of Kerala  
Periye  
Kasaragod.

**Note:**

Registration Fee: Rs 250.

Interested candidates may register their names by sending their details to Mail id:- gnanavel@cukerala.ac.in on or before 24<sup>th</sup> January 2019.

Paid accommodation can be arranged for out-station participants on request.

**Organizing Committee**

- Dr.V. Vilfred, Associate Professor & Head
- Dr.K.A. Germina, Associate Professor
- Dr.P. Shaini P, Assistant Professor
- Dr.K. Ali Akbar, Assistant Professor
- Dr.S. Gnanavel, Assistant Professor
- Dr.R. Manikandan, Assistant Professor

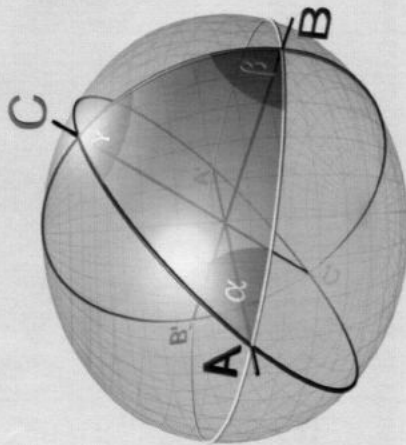
**National Workshop on  
Glimpses of  
Differential Geometry**



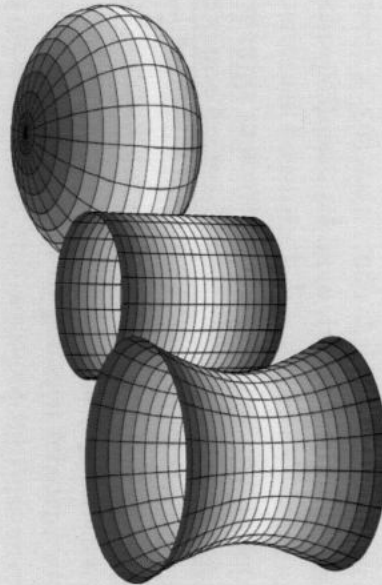
**Department of Mathematics**  
School of Physical Sciences  
Central University of Kerala  
Tejaswini Hills, Periye(P.O)  
Kasaragod, Kerala -671316.

**Venue:** Department of Mathematics  
Teaching block I

**30<sup>th</sup> January- 2<sup>nd</sup> February 2019**



The infinite! No other question has never moved so profoundly the spirit of man.



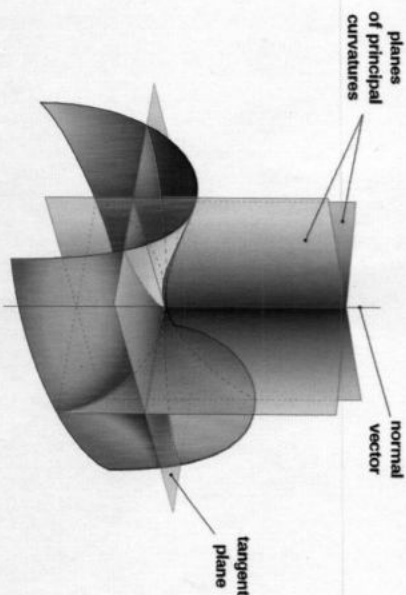


Central University of Kerala (CUK) is one of the 15 new Central Universities established under "The Central Universities Act, 2009 (Act No. 25 of 2009)". CUK aims to extend the scope of learning through a holistic methodology that accommodates diverse linguistic, scientific and cultural traditions. The University is headquartered at Kasaragod, the northernmost district of Kerala and has state wide jurisdiction. The permanent campus of the University is being set up at Tejaswini Hills, Periyé, on a panoramic stretch of 310 acres of land beside the National Highway.



## Department of Mathematics

The Department of Mathematics, School of Physical Sciences, Central University of Kerala, was established in the year 2011 keeping in line with the interdisciplinary vision of the University. The Department offers M.Sc. and Ph.D. programmes in Mathematics. It imparts advanced learning through discussions, problem solving sessions, presentations methods to motivate the students for self-evaluative research oriented study. The Department is offering a wide range of elective courses to enable the students to undertake research in the field of their interest.



## About the Workshop

The link between the physical world and its visualization is geometry. Curves and surfaces are objects that everyone can see, and many of the questions that can be asked about them are natural and easily understood. Differential geometry is concerned with the precise mathematical formulation of some of these questions. This workshop provides an elementary introduction to differential geometry with emphasis on geometric results and demonstrates the concrete importance of elementary differential geometry in applications. In this workshop, resource persons make use of basic mathematical skills in analysis and linear algebra to solve interesting geometric problems, which prepare students/beginners for more advanced study in mathematics. The wide range of topics includes curve theory, a detailed study of surfaces, curvature, variation of area and minimal surfaces, geodesics, and the divergence theorem. The only prerequisites are calculus and linear algebra.



### Venue:

Department of Mathematics  
Teaching Block I  
Central University of Kerala  
Tejaswini Hills, Periyé, Kasaragod

### INVITED SPEAKERS

- Prof. C.S.Aravinda  
Department of Mathematics  
TIFR Centre for Applicable Mathematics  
TIFR Bangalore, Karnataka.
- Prof. G. Santhanam  
Department of Mathematics  
Indian Institute of Technology Kanpur  
Kanpur, U.P.
- Dr Subrahmanian Moosath K.S.  
Department of Mathematics  
IIST - Thiruvananthapuram  
Kerala.
- Dr Banktेशwar Tiwari  
Department of Mathematics  
Banars Hindu University  
Varanasi, U.P.
- Dr Anisa Mohammad Husen Chorwadwala  
Department of Mathematics  
IISER- Pune, Maharashtra.
- Dr Mubena T  
Department of Mathematics  
Government College Kasaragod  
Kerala.