

# Certificate Course

## **NTR GOVT DEGREE COLLEGE FOR WOMEN**

(Accredited by NAAC with "B" Grade)

**MAHABUBNAGAR-T.S**

**2022-2023**



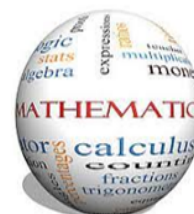
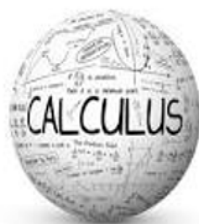
**DEPARTMENT OF MATHEMATICS**



**CERTIFICATE COURSE-APPLICATIONS OF CALCULUS**

**(In Economics, Commerce and Management)**

**(21.02.2023-18.03.2023)**



Course Coordinator  
Dr.T.Vijayalaxmi  
T.Rajeshwari  
Ch.Ravali

Principal  
S.Gangadhar(FAC)

### Brochure

#### Aim of the course

- To develop and strengthen basic Calculus concepts and skills needed for the study of subjects like Economics, Commerce and Management.
- We shall assume minimum prior knowledge of mathematical concepts.
- However we will assume familiarity with concepts of "Financial Mathematics:  
Percentage  
Profit and loss  
Simple and compound interest

## Course outcomes

- With mathematical formulations, one makes logical and precise conclusions.
- Mathematics helps become literate in the language of Modern Economics.
- Higher studies in the fields of Economics, Commerce and Management demand mathematical maturity.

## Need of Mathematics

- Mathematics is an essential subject needed to do higher studies of any field, even for non-science/engineering subjects.
- This helps in focusing on the common structure of the problem.
- The reasons for this are the following:
  - \* Mathematics allows one to formulate and study different looking problems as one.
  - \* This helps in focusing on the common structure of the problem.
  - \* Mathematics language is not ambiguous as compared to verbal expressions.
  - \* Mathematical formulation allows one to specify the assumptions precisely.

## How Mathematics is used in this course

- Step 1  
Observe the real world phenomenon and collect data.
- Step 2  
Formulate a mathematical model.
- Step 3  
Apply mathematical tools and draw logical conclusions.
- Step 4  
Compare the conclusions with the actual data and accept/reject/modify the model.  
In this course we will be mainly looking at steps 2 and 3 in detail.

## About the course-briefly

To be more precise, we will look at the study and use of Calculus of one and many variable, and applications.

### Example 1:

The statement - "The equilibrium price is that at which quantity demanded equals quantity supplies" refers to the mathematical statement "A solution of a system of two linear equations in two variables."

### Example 2:

The statement - "General equilibrium of a system" is best analyzed by "Solution of a system of linear equations".

### Example 3:

The statement - "Quantity demanded depends upon the price", and "Consumption depends upon the level of income", are examples of "Functional relationships" in mathematics.

**Example 4:**

The statement - Marginal concepts, such as “Marginal cost, revenue, utility, product, tendency of consumption”, etc. fall under the concept of “Derivatives of function” in mathematics.

**Example 5:**

The statement - “Profit maximization”, “Product frontier”, etc., come under the topic of “Maximization” or “Optimization” in mathematics.

**Schedule of the course:**

S.No	Month and week	Topic
1	February - IV	Introduction-Sets, Sequence, Relations, Functions, Graphs of Functions.
2	March - I	Linear and nonlinear models. Limit of functions
3	March - II	Continuous functions and applications of continuous functions.
4	March - III	Derivatives and applications. Test and distribution of certificates.

**Enrollment of the students:**

	A	B	C	D	E	F	G
1	Timestamp	Name of the student	Name of the college	Year of studying and Nan Roll number	E-mail.Id	Mobile number	
6	2/21/2023 10:04:01	Firdous fathima	Ntr government degree	Final years BSc (mpcs)	20033030468038	456fiddufathima@gmail.c	9014273004
7	2/21/2023 10:04:50	M Nikitha	NTR govt degree college	3rd year, Bsc(MPCS)	20033030468101	nikichary55@gmail.com	8247292357
8	2/21/2023 10:06:46	Ayesha	Ntr govt degree women's	3rd year B.sc (mpcs)	20033030468011	ayasha30082003@gmail	8121573169
9	2/21/2023 10:07:46	Meraj Fathima	N.T.R GDC (W)	2022 to 2023 bsc mpcs	20033030468091	merajfatima502@gmail.c	8520825186
10	2/21/2023 10:07:55	P.Sireesha	N.T.R GDC(W)	B.sc 3rd year Mpcs	20033030468127	sireeshapulolu@gmail.co	6305289567
11	2/21/2023 10:07:58	b.akhila	Ntrgwc mbnr	Bsc 3rd year mpcs	20033030468012	akkiakhila182@gmail.cor	8328485290
12	2/21/2023 10:08:06	M.mamatha	NTR (GDC) mahabubna	Bsc(mpcs) 3rd year	20033030468098	mamatha93925@gmail.c	9392502307
13	2/21/2023 10:08:11	K bharathi	NTRGDC (W)	BSC(mpcs)	20033030468076	kuruvabharathikbharathi@	7013671814
14	2/21/2023 10:08:15	Munoor Divya	NTR govt degree college	3rd year,Bsc(mpcs)	20033030468106	munoordivya1234@gmai	+919502630316
15	2/21/2023 10:08:17	Anchana Pravalika	Ntd GDC (Mbnr)	B. Sc 3rd year Mpcs	20033030468005	pravalikaanchana@gmai	8341583951
16	2/21/2023 10:08:18	Suchitra	Ntr GDC	Bsc 3rd year Mpce	20033030468033	Suchisuchitra200@gmail	9703597336
17	2/21/2023 10:08:33	Palle sri varshitha	NTR degree women's col	Mpcs-bsc-3rd year	20033030468116	@varshapalle643gmail.c	9392985046
18	2/21/2023 10:08:34	M.Renuka	NTR Govt Degree Colleg	B.Sc (MPCs) Final year	20033030468105	mulintyrenuka@gmail.coi	8523888179
19	2/21/2023 10:08:34	T.swathi	NTR GDC(w)	Bsc 3rd year (MPCS)	20033030468150	tswathi15102002@gmail.	9392362957
20	2/21/2023 10:08:35	Shivani reddy palli	Ntr government degree c	Bsc-mpcs-3rd year	20033030468131	shivanireddy pally8822@t	9346935450
21	2/21/2023 10:08:36	S Dharani	NTR Degree college (W)	B.SC (MPCS) Final Year	20033030468139	dharanishasani339@gma	9392863963
22	2/21/2023 10:08:53	J Anusha	NTR GDC(W)-Mahabubr	3rd year,Bsc(mpcs)	20033030468053	anushajavvaj79@gmail.c	7330854452
23	2/21/2023 10:09:02	R.Samyuktha	NTR GDC(W) Mahabubr	3rd year Bsc(mpcs)	20033030468133	ryalapetasamyuktha@gn	7989190617
24	2/21/2023 10:09:03	B.Srujana	Ntr GDC(mbnr)	Bsc third year Mpcs	20033030468025	srujanabanda9@gmail.co	7013401152
25	2/21/2023 10:09:04	G.Anusha	NTRGDW	Third year and Bsc(mpcs)	20033030468050	gujjulaanu123@gmail.coi	9398203195
26	2/21/2023 10:09:07	B.krishnaveni	NTRGDC	Bsc 3rd year mpcs	20033030468017	krishnaveni996@gmail.	8074542340
27	2/21/2023 10:09:08	Pochamoni. Gayathri	NTR. GDC(W)	Final year, mpcs	20033030468124	gayathripochamoni@gma	8247320602
28	2/21/2023 10:09:12	A Sai Supriya	Ntrgdc(w) mbnr	3rd year bsc(mpcs)	20033030468008	saisupriyareddy@gn	9951328033



		CLASS M.Pcs II <sup>o</sup> SUBJECT												
		Certificate Course (Applications of calculus)												
Roll No.	NAME OF THE STUDENT	Month	Date											
		21	22	23	24	25	26	27	28	29	30	31	NO. of Lecturers	
		Total No. of Attendance	Sign of Lecturer											
082	M. Sareja													
098	M. Mamatha													
091	Meerai Fathima													
038	Firdous Fathima													
101	M. Nikitha													
011	Ayesha													
091	Meerai Fathima													
127	P. Sireesha													
012	R. Arhita													
098	M. Mamatha													
076	K. Bharathi													
106	M. Divya													
005	A. Paavalka													
033	Suchitra													
116	P. Sai Vaashitha													
105	M. Renuka													
150	T. Sreethi													
131	Shivani Reddy Palle													
139	S. Dharamani													
053	J. Anusha													
133	R. Samyuktha													
025	B. Soujanya													
050	G. Anusha													
017	B. Kaishnavani													
126	P. Gayatri													
008	A. Sai Srujanika													
013	B. Bindu													
072	K. Sibaaswami													
111	Nazimunn Sultana													
048	G. Shivaleela													
071	K. Shrisika													



Inaugural session



**Inaugural session**



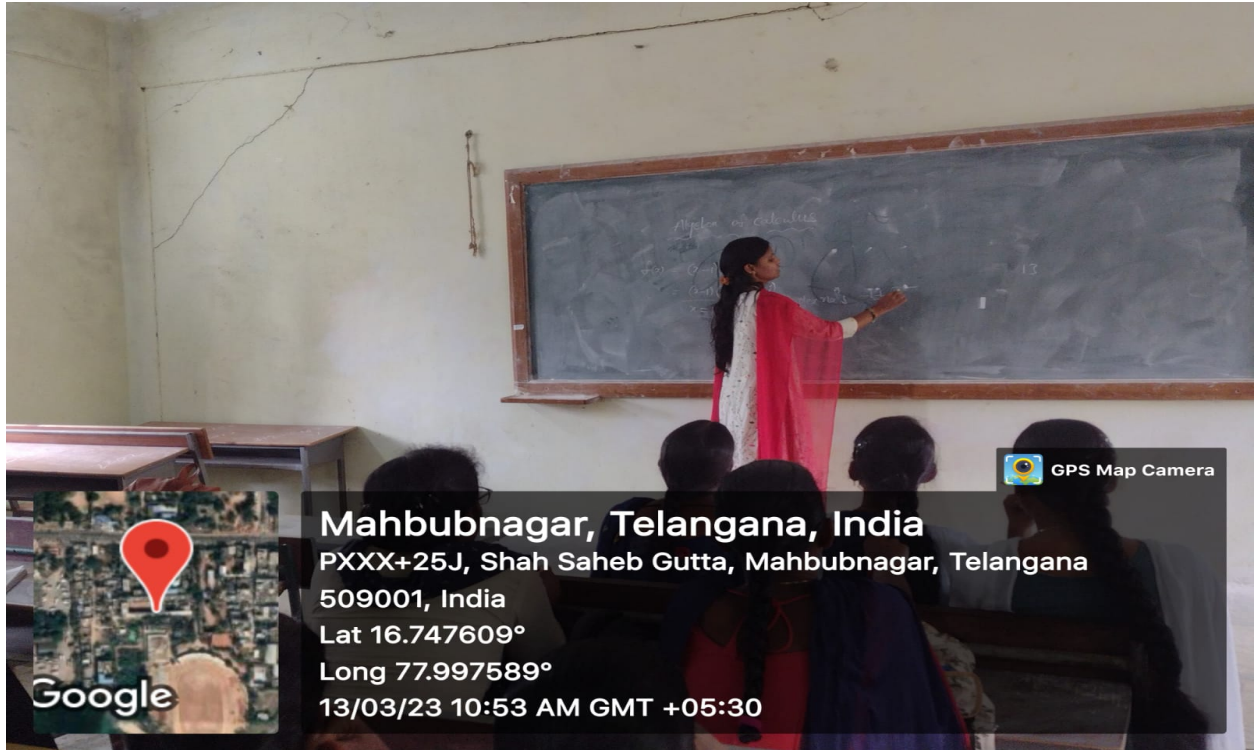
**Students attendance**



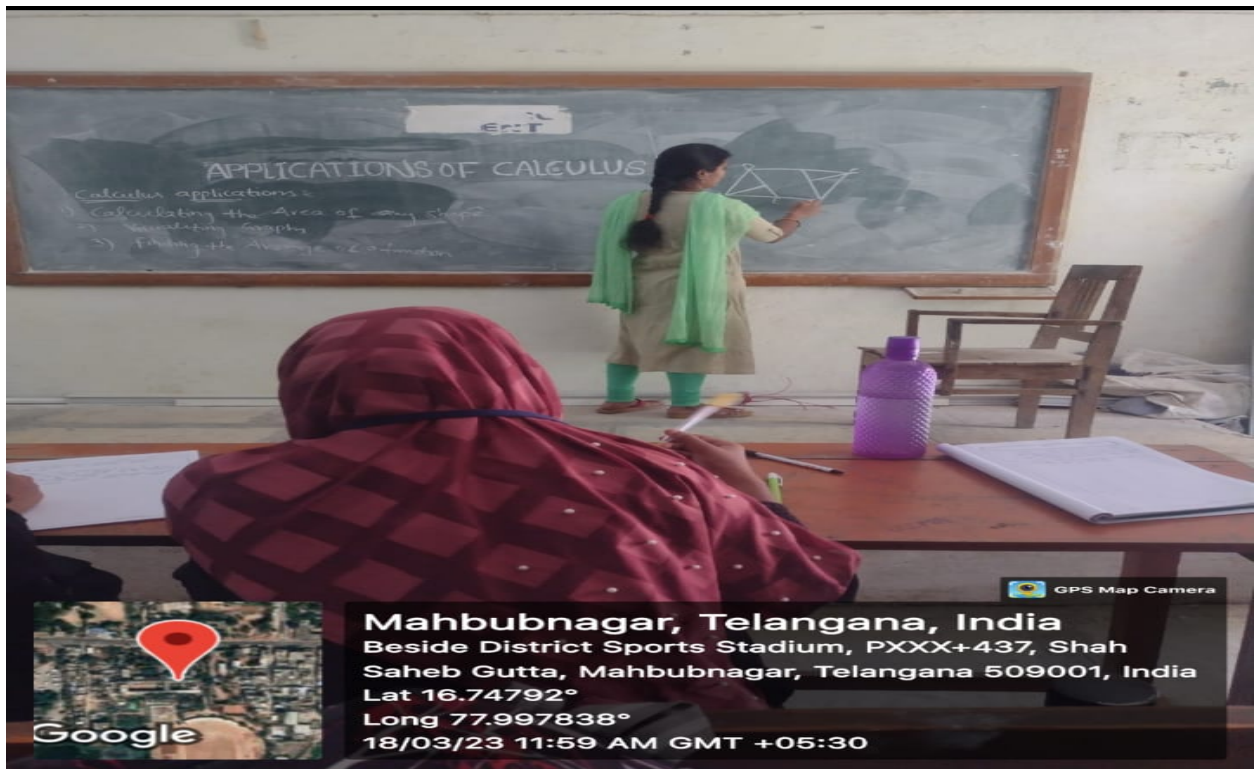
**Classes by the faculty**



**Students attendance**



**Classes by the faculty**



**Classes by the faculty**



**NTR GOVERNMENT DEGREE COLLEGE FOR WOMEN  
MAHABUBNAGAR**

Accredited by NAAC with "B" Grade//An ISO 9001-2015 Institution  
Affiliated to Palamuru University

**DEPARTMENT OF MATHEMATICS  
CERTIFICATE**

This is to certify that C.Shireesha, Class B.Sc(MPCs), Roll No. 20033030468141 has successfully completed the Certificate course in "*Applications of Calculus*" conducted from 21.03.2023 to 18.03.2023.



Dr.T.Vijayalaxmi  
Head of the Department



S.Gangadhar  
Principal(FAC)

**Certificate of the student**

**Principal**



**PRINCIPAL  
N.T.R.G.D.C.(W)  
Mahabubnagar.**