St. Joseph's Degree College

Sunkesula Road, Kurnool

CERTIFICATE COURSE
SYLLABUS

Foundations of Mathematics

UNIT-I: **10 hrs**

Introduction of Ordinary & Partial Differential Equations, Order & Degree of Differential Equations, Formation of Differential Equations, Homogeneous D.E and Non-Homogenous D.E, Methods to solve first order, first degree Differential equations.

UNIT-II: 10 hrs

Introduction to Indefinite integrals and their properties, Methods to solve indefinite integrals, Introduction to Definite integrals and their properties, Methods to solve definite integrals, Difference between definite & indefinite integrals.

UNIT-III: 10 hrs

Introduction to Set theory – Definitions, Types of sets, Laws, Functions-Definition, Types, Domain and Range**.**

UNIT-IV: 10 hrs

Introduction to real numbers, Intervals, Boundedness (infimum & supremum), Modulus, Integral part, Step function, Neighbourhood, Limit point of a set.

Reference books:

1. Introduction to ODE and PDE by M.D. Raisingania
2. Elements of Real analysis by Shanti Narayan

Objectives of this course:

1. To explore basic concepts of calculus and algebra, real analysis to students who have taken mathematics in their under graduate.
2. To emphasize on understanding concept and applications of the topics rather than studying theory behind it.

Learning outcomes:

1. Students can able to solve basic problems on differentiation and integrations.
2. Students can understand the concept of real analysis and abstract algebra in their undergraduate papers.

COURSE DETAILS

Course type	:	Certificate
Course duration	:	40 hrs
Commence of course	:	01-02-2024
Completion of course	:	25-03-2024
Date of examination	:	30-03-2024
Faculty assigned	:	1. S. Ajay Kumar
		2. Dr. V. Suresh Babu
		3. S. Manzoor Kaleem
		4. S. Siva Kumar

Head of the Department
Dr. T. Mohan Reddy
St. Joseph's Degree College,
Kurnool.

Request Letter

Date:22-01-2024,
Kurnool.

To
Dr.C. V. Satya Narayana
SJCQAC Coordinator,
St. Joseph's Degree College,
Kurnool-518004.

Respected sir,

The Department of Mathematics would like to introduce Certificate Course on "**FOUNDATIONS OF MATHEMATICS**" for 3rd year mathematics students. The course duration will be 40 hours. In this regard, I request you to grant permission to go ahead with our proceedings.

Thanking you sir,

23/01/2024

Dr.T. Mohan Reddy,
Head of the Department,
Department of Mathematics
St. Joseph's Degree College,
Kurnool.

Circular

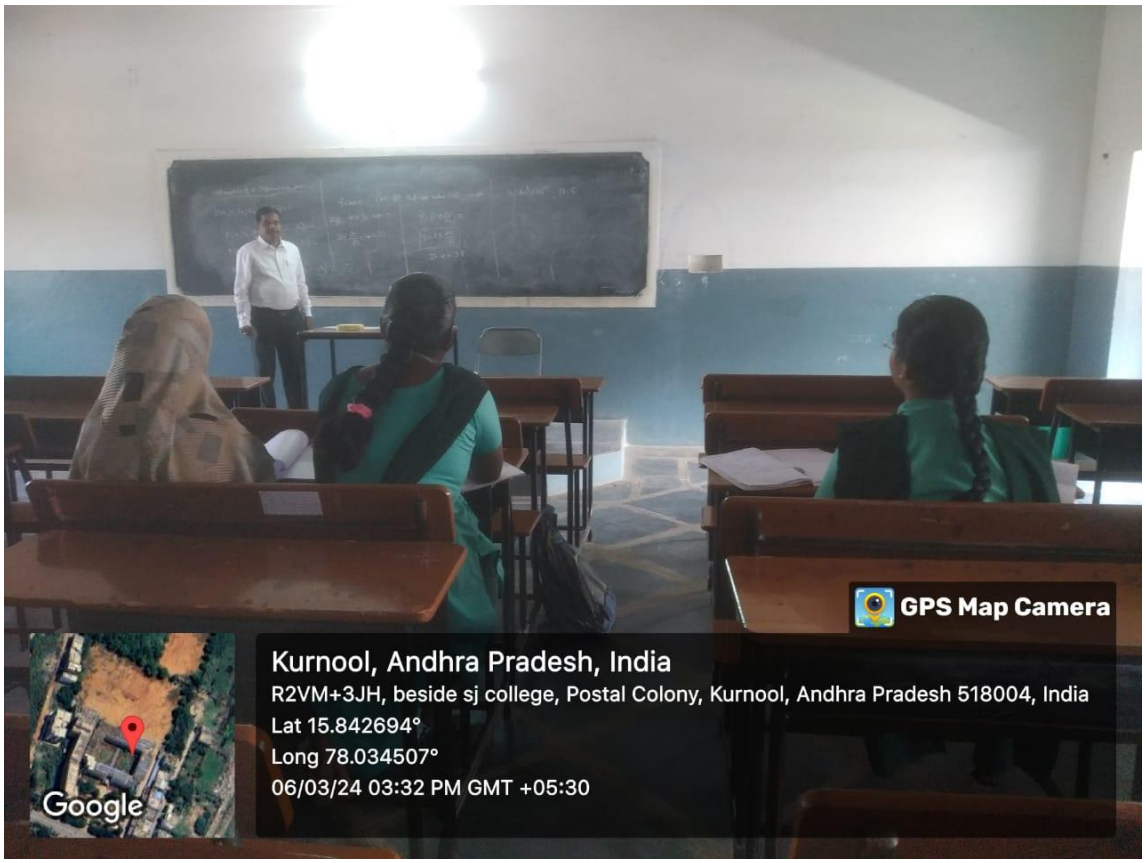
Date: 26-01-2024,
Kurnool.

Dear Students,

The Department of Mathematics is going to introduce certificate course on **"FOUNDATIONS OF MATHEMATICS "** for II Second semester mathematics students. It is proposed to conduct classes from 2nd February 2024. This is a certificate course which is about to have 8 weeks. So I request all students to make use of this opportunity. For further information, visit department of Mathematics.

Thanking you,

Dr.T. Mohan Reddy,
Head of the Department,
Department of Mathematics
St. Joseph's Degree College,
Kurnool.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Number of students registered for the course: 57

Number of students attempted the exam: 35

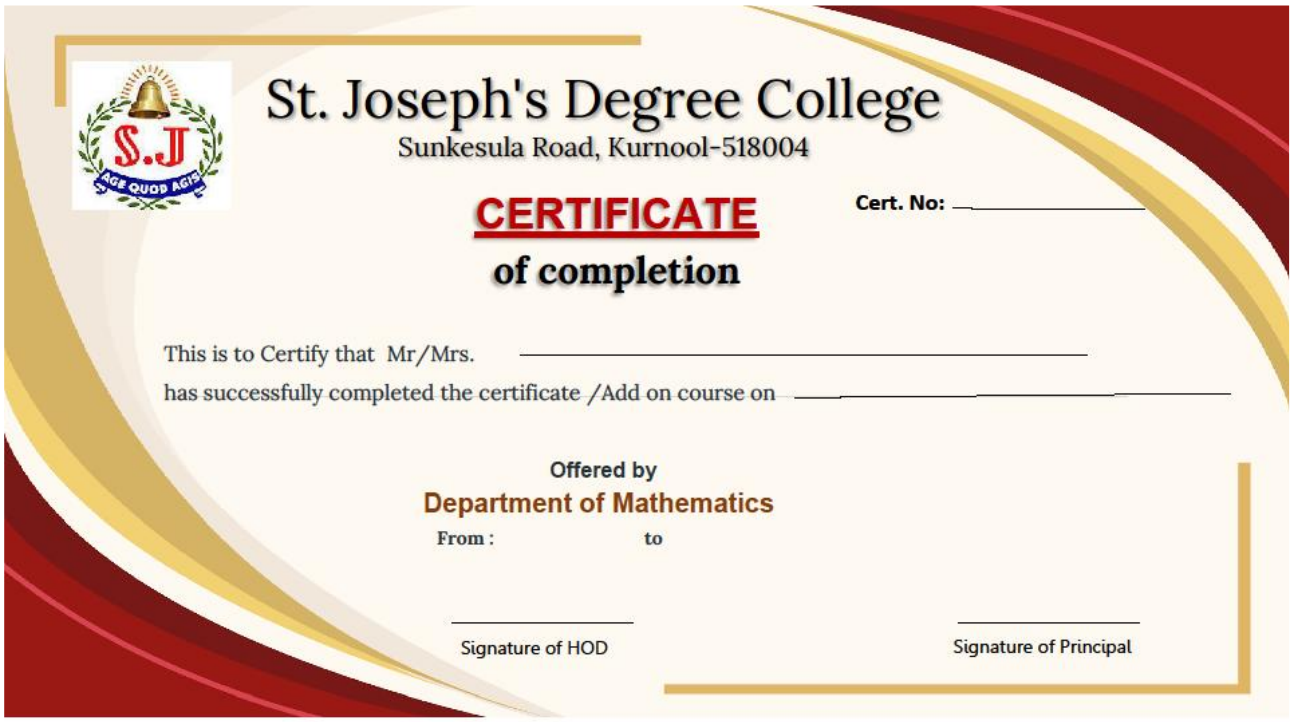
Number of students passed the exam: 35

QUESTION PAPER: https://drive.google.com/file/d/1W9FrBRdIqp92Xhcmyozk-KFt3S5jO4bU/view?usp=sharing

OUTSTANDING STUDENTS IN THIS COURSE:

1. **S. FARIDA BHANU**
2. **A. JANARDHAN**
3. **K. THIRUMALESH**

TEMPLATE OF THE CERTFICATE:



ATTENDANCE:

LINK: VIEW