

**TEACHERS' UNIVERSITY CENTRE FOR DISTANCE EDUCATION
PROGRAMME PROJECT REPORT (PPR)**

TRADITIONAL PROGRAMS AT CTU

Course: Bachelor in Mathematics

Duration: 3 Years

A. Programme Mission and Objective:

The aim of CTU in starting Bachelor in Mathematics is to create Mathematics professionals for delivering better education and professional sector.

(a) Rationale : The main reason for offering this programme are :

Mathematics is an exciting and growing field in both humanities and Science. It is an emerging field of opportunities as the era has shifted from just treating a disease to controlling and preventing it in the community. The field enriches the research activities and promotion activities.

Mathematics is a diverse and dynamic field- It is open for students of Science stream.

(b) Goals and objectives:

To provide a career for students as skilled graduates to face any challenges in the form of competitive exams and to take Mathematics as a discipline for their further studies.

To train students with required skills as human resource in Mathematics domain.

B. Relevance of the programme with HEI's Mission and Goals :

The programme is entirely in line with the CTU strategic goals as well as its Mission to provide superior professional education, nurturing translational and transformational research in Mathematics sector for the benefit of the society. The programme is also consistent with Higher Education vision 2020 to transform society towards knowledge society and making education an improve tool to realize knowledge, economy and society.

C. Nature of prospective target group of learners :

A class XII Pass from Science stream from any statutory board in the country or abroad.

The Certificate should have been obtained from a recognized board, established by law in India and the medium of instruction for the degree should be English. A candidate who has scored a minimum passing marks in the qualifying examination will be eligible for admission to the B.Sc. Mathematics Course.

D. Appropriateness of programme to be conducted in open and distance learning mode to acquire specific skills and competence

This course is intended for professional's practitioners, researchers and students from wide range of backgrounds who aim to develop their knowledge and insights pertaining to the Mathematics discipline. The course is designed to provide critical and practical skills to analyse, evaluate, design and implement solution and strategies with regards to Mathematics and its issues.

E. Instructional Delivery Mechanism

CTU follows a modern ICT enabled approach for instruction. The methodology of instruction in CTU is different from that of the conventional /regular programs. Our system is learner-oriented and the learner is an active participant in the teaching-learning process. Most of the instructions are imparted through online and distance mode. Academic delivery systems of CTU are:

Print Material: CTU mainly focuses on Self Learning Material (SLM) and their up gradation by eminent teachers/academicians both from CTU and other reputed universities/institutions. As text information plays a vital role in distance education, print based instruction has a critical role in CTU distance learning initiatives.

Audio-Visual Material Aids: The learning package contains audio and video programmes which have been produced by the University for the Enhancement of understanding of the course material given to the student. The video lectures are uploaded in the University website for the student's access.

Online/Virtual Classes: Delivery of classroom-like lectures will also be available in the student portal for enhanced learning experience.

Laboratory facilities: CTU has advanced laboratory for practical training for younger minds to get hands on experience in cutting edge techniques.

I) Identification of Media

Print, Audio-Video and Online media will be utilized for the dissemination of knowledge relevant to the program enrolled.

II) Student support system

CTU provides an exclusive online portal for students to cater to all of their academic related matters such as notification of contact classes, assignment details, course material, and examination schedule. In addition, each student has provision to seek guidance, counseling and career guidance throughout the program.

F. Procedure for admissions, curriculum transaction and evaluation

Admission to all the programs is through notification in newspaper and on University website. The admission procedure involves submission of filled application by the candidates after paying the prescribed fees. The admission scrutiny committee evaluates all the submitted applications and recommend the eligible candidates. The selected candidates are notified through admissions office and also on the University website. The selected candidates are expected to report within the stipulated timeframe for provisional admission to the program.

Curriculum transaction for the program is through the designated online student portal as detailed below.

Skill based ODL Programs at CTU

By now, open and distance learning (ODL) Institutions have established themselves as an alternative to provide education especially at tertiary level. But from past few years many ODL institution also diverted their attention towards improving skills of teachers and industrial workforce through in-service teaching programme and skill development programmes. Yet, despite the rapid expansion of ODL institutions, policy-makers have limited evidence regarding the actual outcomes and impact of such initiatives. Such ODL based model of improving skills of learners either in job or as their pre-jobs requirement has great importance and relevance in countries like India where there is an urgent need of providing, cost effective training to a large number of untrained work force and need of continuing education at different levels for improve overall their skills and enable them to be part of the productive force in fast growing Indian economy.

B.Sc Mathematics

Semester-I

Code	Paper	Credit	Internal Assessment	External Assessment	Duration of Examination
	English Language Compulsory	3	30	70	3hrs
	Major/Principal				
MAT 101	Calculus And Matrix Algebra(Theory)	4	30	70	3hrs
MAT 102	Calculus And Matrix Algebra (Practicals)	3	30	70	3hrs
	Minor-1/Subsidiary-1				
PHY 101	Physics (Theory)	4	30	70	3hrs
PHY 102	Physics (Practicals)	3	30	70	3hrs
	Minor-2/Subsidiary-2				
CHE 101	General Chemistry(Theory)	4	30	70	3hrs
CHE 102	Chemistry (Practicals)	3	30	70	3 hrs

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Semester-II

Code	Paper	Credit	Internal Assessment	External Assessment	Duration of Examination
	English Language Compulsory	3	30	70	3hrs
	Major/ Principal				
MAT 103	Differential Equations and Co-ordinate Geometry(Theory)	4	30	70	3hrs
MAT 104	Differential Equations and Co-ordinate Geometry(Practicals)	4	30	70	3hrs
	Minor-1 / Subsidiary-1				
PHY 103	Physics (Theory)	4	30	70	3hrs
PHY 104	Physics (Practicals)	4	30	70	3hrs
	Minor-2 / Subsidiary-2				
CHE 103	Chemistry (Theory)	4	30	70	3hrs
CHE 104	Chemistry (Practicals)	4	30	70	3hrs

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Semester-III

Code	Paper	Credit	Internal Assessment	External Assessment	Duration of Examination
	English Language Compulsory	3	30	70	3hrs
	Major/ Principal				
MAT 201	Advanced Calculus-I (Theory)	4	30	70	3hrs
MAT 202	Linear Algebra-I (Theory)	4	30	70	3hrs

MAT 203	Practicals(Based On MAT201, MAT202 And Numerical Methods-I)	2.5	30	70	3hrs
	Minor / Subsidiary				
PHY 201	Physics (Theory-1)	4	30	70	3hrs
PHY 202	Physics (Theory-2)	4	30	70	3hrs
PHY 203	Physics (Practicals)	2.5	30	70	3hrs

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Semester-IV

Code	Paper	Credit	Internal Assessment	External Assessment	Duration of Examination
	English Language Compulsory	3	30	70	3hrs
	Major/ Principal				
MAT 204	Advanced Calculus-II(Theory)	4	30	70	3hrs
MAT 205	Abstract Algebra-I (Theory)	4	30	70	3hrs
MAT 206	Practicals(Based on MAT204, MAT205 and Numerical Methods-II)	2.5	30	70	3hrs
	Minor / Subsidiary				
PHY 204	Physics (Theory-1)	4	30	70	3hrs

PHY 205	Physics (Theory-2)	4	30	70	3hrs
PHY 206	Physics (Practicals)	2.5	30	70	3hrs

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Semester-V

Code	Paper	Credit	Internal Assessment	External Assessment	Duration of Examination
MAT 301	Linear Algebra – II (Theory)	4	30	70	3hrs
MAT 302	Analysis – I (Theory)	4	30	70	3hrs
MAT 303	Complex Variables and Fourier Series(Theory)	4	30	70	3hrs
MAT 304	Mathematical Programming (Theory)	4	30	70	3hrs
MAT 305	(Elective Course): Number Theory (Theory)	4	30	70	3hrs
	English Language	3	30	70	3hrs

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Semester-VI

Code	Paper	Credit	Internal Assessment	External Assessment	Duration of Examination
MAT 307	MAT 307: Abstract Algebra-II (Theory)	4	30	70	3hrs
MAT 308	MAT 308: Analysis-II (Theory)	4	30	70	3hrs
MAT 309	MAT 309: Analysis-III (Theory)	4	30	70	3hrs
MAT 310	MAT-310: Graph Theory(Theory)	4	30	70	3hrs
MAT 311	(Elective Course): Operations Research (Theory)	4	30	70	3hrs
	English Language	3	30	70	3hrs