



MAHATMA GANDHI CENTRAL UNIVERSITY

[Established by an Act of Parliament]

TempCamp, Zila School Campus, Motihari, District – East Champaran, Bihar – 845 401

DEPARTMENT OF MATHEMATICS SCHOOL OF MATHEMATICS AND STATISTICAL SCIENCES

UNDERGRADUATE PROGRAMME Under Choice Based Credit System

B.Sc. (Honours) Mathematics

(Courses effective for the Second Batch: 2017-20 onwards)

PROGRAMME STRUCTURE

Semester	Core Course (14)	Ability Enhancement Compulsory Course (AECC) (3)	Skill Enhancement Course (SEC) (2)	Discipline Specific Elective (DSE) (4)	Generic Elective (GE) (4)
I	C1 Calculus I (including Practicals) C2 Real Analysis I	AECC-1 (English communication / MIL / Environmental Studies) AECC-2 (English communication / MIL / Environmental Studies)			GE-1
II	C3 Calculus II C4 Ordinary Differential Equations (including Practicals)	AECC-3 (English communication / MIL / Environmental Studies)			GE-2
III	C5 Group Theory I C6 Real Analysis II C7 Numerical Analysis (including Practicals)		SEC-1 (MATLAB)		GE-3
IV	C8 Partial Differential Equations (including Practicals) C9 Ring Theory C10 Discrete Mathematics		SEC-2 (LaTeX)		GE-4

V	C11 Group Theory II C12 Complex Analysis			DSE-1 (i) Analytical Geometry Or (ii) Number Theory Or (iii) Programming in C++ DSE-2 (i) Statistics and Probability Or (ii) Mathematical Modelling Or (iii) Mechanics
VI	C13 Linear Algebra C14 Metric Spaces			DSE-3 (i) Operations Research Or (ii) Combinatorial Mathematics Or (iii) Tensor Analysis & Differential Geometry DSE-4 (i) Graph Theory Or (ii) Financial Mathematics Or (iii) Theory of Relativity

List of Courses for B. Sc. (Hons.) Mathematics

Details of Course Codes, Course Titles and Credits

'L' stands for Lectures

'T' stands for Tutorials

'P' stands for Practicals

Semester	Course Code	Course Title	Credit
I	MATH3001	Calculus I	4(L)+2(P)=6
	MATH3002	Real Analysis I	5(L)+1(T)=6
		AECC-1 (English communication / MIL / Environmental Studies)	2
		AECC-2 (English communication / MIL / Environmental Studies)	2
		GE-1	6
	Total Credits		

II	MATH3003	Calculus II	5(L)+1(T)=6
	MATH3004	Ordinary Differential Equations	4(L)+2(P)=6
		AECC-3 (English communication /MIL / Environmental Studies)	2
		GE-2	6
	Total Credits		
III	MATH3005	Group Theory I	5(L)+1(T)=6
	MATH3006	Real Analysis II	5(L)+1(T)=6
	MATH3007	Numerical Analysis	4(L)+2(P)=6
	MATH3008	SEC-1 (MATLAB)	2
		GE-3	6
	Total Credits		
IV	MATH3009	Partial Differential Equations	4(L)+2(P)=6
	MATH3010	Ring Theory	5(L)+1(T)=6
	MATH3011	Discrete Mathematics	5(L)+1(T)=6
	MATH3012	SEC-2 (LaTeX)	2
		GE-4	6
	Total Credits		
V	MATH3013	Group Theory II	5(L)+1(T)=6
	MATH3014	Complex Analysis	5(L)+1(T)=6
		DSE-1	6
		DSE-2	6
	Total Credits		
VI	MATH3015	Linear Algebra	5(L)+1(T)=6
	MATH3016	Metric Space	5(L)+1(T)=6
		DSE-3	6
		DSE-4	6
	Total Credits		
Total Credits for B.Sc. (Hons.) Mathematics			142

LIST OF DISCIPLINE SPECIFIC ELECTIVES (DSE)

Semester	Course Code	Course Title	Credit
V	MATH3017	Analytical Geometry	5(L)+1(T)=6
	MATH3018	Number Theory	5(L)+1(T)=6
	MATH3019	Programming in C++	4(L)+2(P)=6
	MATH3020	Statistics and Probability	5(L)+1(T)=6
	MATH3021	Mathematical Modelling	4(L)+2(P)=6
	MATH3022	Mechanics	5(L)+1(T)=6
VI	MATH3023	Operations Research	5(L)+1(T)=6
	MATH3024	Combinatorial Mathematics	5(L)+1(T)=6
	MATH3025	Tensor Analysis & Differential Geometry	5(L)+1(T)=6
	MATH3026	Graph Theory	5(L)+1(T)=6
	MATH3027	Financial Mathematics	5(L)+1(T)=6
	MATH3028	Theory of Relativity	5(L)+1(T)=6

LIST OF GENERIC ELECTIVES (GE) (FOR OTHER DEPARTMENTS)

Semester	Course Code	Course Title	Credit
I	MATH3201	Calculus	5(L)+1(T)=6
II	MATH3202	Algebra	5(L)+1(T)=6
III	MATH3203	Differential Equations	5(L)+1(T)=6
IV	MATH3204	Elements of Analysis	5(L)+1(T)=6

School of Computer Science and Information Technology has been started B. Tech. Programme in Computer Science and Engineering from the academic session 2017-18. This Programme comprises following papers of Mathematics.

List of papers for B.Tech. Programme

Course Code	Course Title	Credit
MATH3301	Engineering Mathematics I	3(L)+1(T)=4
MATH3302	Engineering Mathematics II	3(L)+1(T)=4
MATH3303	Probability and Statistics	3(L)+1(T)=4