

SCHEME OF INSTRUCTION AND EXAMINATIONS
For students admitted from A.Y. 2019-2020 & onwards

Semester I											
Course Code	Course	Hours of Instructions per week				Exam Duration (Hours)	Maximum Marks			Credits	
		Th.	Pr.	Tu	Total		CIA	SEE	Tot.		
Part I											
19ULCEN01	Functional English - I	3	-	-	3	3	40	60	100	3	
Part II											
19UMTCC101	Core 1: Differential Calculus.	4	-	-	4	3	30	70	100	3	
19UMTCC102	Core 2: Matrix Algebra.	4	-	-	4	3	30	70	100	4	
19UMTDA101	DSE-Allied 1 : Physics – I	3	-	-	3	3	30	70	100	4	
19UMTCC103	Core Practical 1: Practical on Differential Calculus.	-	6*	-	6	3	20	30	50	2	
19UMTCC104	Core Practical 2: Practical on Matrix Algebra.	-	6*	-	6	3	20	30	50	2	
19UMTDA102	DSE-Allied Practical 1: Physics Practical – I	-	2	-	2	3	20	30	50	1	
					28				550	19	
Part III											
-	AECC-1 : Environmental Science	1	-	-	1	-	Remarks at the end of Semester-2			-	
-	SEC - 1: Value Education for Consciousness Development- I	1	-	-	1	-	Remarks at the end of Semester-2			1	
					30					20	

* 3hrs each on Day1 and Day 2.

Semester II											
Course Code	Course	Hours of Instructions per week				Exam Duration (Hours)	Maximum Marks			Credits	
		Th.	Pr.	Tu	Total		CIA	SEE	Tot.		
Part I											
19ULCEN02	Functional English - II	3	-	-	3	3	40	60	100	3	
Part II											
19UMTCC201	Core 3: Differential Equations	3	-	2	5	3	30	70	100	3	
19UMTCC202	Core 4: Advanced Calculus	3	-	2	5	3	30	70	100	4	
19UMTDA201	DSE-Allied 2 : Physics – II	3	-	-	3	3	30	70	100	4	
19UMTCC203	Core Practical 3: Practical on Differential Equations	-	4#	-	4	3	20	30	50	2	
19UMTCC204	Core Practical 4 : Introduction to GEOGEBRA	-	6*	-	6	3	20	30	50	2	
19UMTDA202	DSE-Allied Practical 2: Physics Practical – II	-	2	-	2	3	20	30	50	1	
		28							550	19	
Part III											
19AEES01	AECC-I : Environmental Science	1	-	-	1	-	Remarks			2	
19AEVE01	SEC – I: Value Education for Consciousness Development - II	1	-	-	1	-	Remarks			1	
		30								22	

2hrs each on Day1 and Day 2.

* 3hrs each on Day1 and Day 2.

Semester III										
Course Code	Course	Hours of Instructions per week				Exam Duration (Hours)	Maximum Marks			Credits
		Th.	Pr.	Tu	Total		CIA	SEE	Tot.	
Part I										
19ULCEN03	Advanced English Language– I	3	-	-	3	3	40	60	100	3
Part II										
19UMTCC301	Core 5 : Fundamentals of Mathematical Analysis	3	-	2	5	3	30	70	100	3
19UMTCC302	Core 6 : Linear Algebra.	3	-	2	5	3	30	70	100	4
19UMTDA301	DSE-Allied 3 : Physics-III	3	-	-	3	3	30	70	100	4
19UMTCC303	Core Practical 5 : Practical on Numerical Methods.	-	6*	-	6	3	20	30	50	2
19UMTCC304	Core Practical 6 : Introduction to Scilab.	-	6*	-	6	3	20	30	50	2
19UMTDA302	DSE-Allied Practical 3 : Physics Practical-III	-	2	-	2	3	20	30	50	1
					30				550	19

* 3hrs each on Day1 and Day 2.

Semester IV										
Course Code	Course	Hours of Instructions per week				Exam Duration (Hours)	Maximum Marks			Credits
		Th.	Pr.	Tu	Total		CIA	SEE	Tot.	
Part I										
19ULCEN04	Advanced English Language– II	3	-	-	3	3	40	60	100	3
Part II										
19UMTCC401	Core 7 : Discrete Mathematics	4	-	-	4	3	30	70	100	4
19UMTCC402	Core 8: Integral and Vector Calculus	3	-	1	4	3	30	70	100	3
19UMTCC403	Core 9: Complex Variables and Inner Product Space	3	-	1	4	3	30	70	100	4
19UMTDA401	DSE-Allied 4 : Physics-IV	3	-	-	3	3	30	70	100	4
19UMTCC404	Core Practical 7 : Advanced GEOGEBRA	-	4#	-	4	3	20	30	50	2
19UMTCC405	Core Practical 8 : Introduction to MAXIMA	-	4#	-	4	3	20	30	50	2
19UMTDA402	DSE-Allied Practical 4 : Physics Practical-IV	-	2	-	2	3	20	30	50	1
					28				650	23

2hrs each on Day1 and Day 2.

Semester V										
Course Code	Course	Hours of Instructions per week				Exam Duration (Hours)	Maximum Marks			Credits
		Th.	Pr.	Tu	Total		CIA	SEE	Tot.	
Part II										
19UMTCC501	Core 10 : Group Theory	4	-	-	4	3	30	70	100	3
19UMTCC502	Core 11 : Fundamentals of Numerical Analysis	3	-	-	3	3	30	70	100	3
19UMTCC503	Core 12 : Programming in C	4	-	-	4	3	30	70	100	4
19UMTCC504	Core 13 : Set theory and Logic (Self study course)	1	-	-	1	-	30	70	100	4
19UMTDC501/ 19UMTDC502	DSE-Core 1: Advanced Topics in Mathematical Analysis / Topology	3	-	-	3	3	30	70	100	3
19UMTCC505	Core Practical 9 : Programming in C	-	4*	-	4	3	20	30	50	2
19UMTCC506	Core Practical 10 : Practical on Fundamentals of Numerical Analysis		4*		4	3	20	30	50	2
19UMTCC507	Core Practical 11 : Advanced SCILAB	-	3*	-	3	3	20	30	50	2
19UMTCC508	Core 14: Computer Based Test	-	-	-	-	2	100	-	100	1
	Generic Elective-I	2	-	-	2	-	100	-	100	2
-	Group Project /Internship / Training	2	-	-	2#	-	Evaluation in SEM.-6			-
		30							800	26

* 2hrs each on Day1 and Day 2.

#project guidance: hours/week for faculty per batch: 2 hours

Semester VI										
Course Code	Course	Hours of Instructions per week				Exam Duration (Hours)	Maximum Marks			Credits
		Th.	Pr.	Tu	Total		CIA	SEE	Tot.	
Part II										
19UMTCC601	Core 15 : Ring Theory	3	-	-	3	3	30	70	100	3
19UMTCC602	Core 16: Optimization through Mathematical Programming.	2	-	1	3	3	30	70	100	3
19UMTCC603	Core 17 : Advanced Topics in Numerical Analysis.	3	-	-	3	3	30	70	100	4
19UMTCC604	Core 18 : Complex Analysis	3	-	-	3	3	30	70	100	3
19UMTDC601/ 19UMTDC602	DSE-Core 2: Graph Theory / Basics of Number Theory/	3	-	-	3	3	30	70	100	3
19UMTCC605	Core Practical 12: Practical on Optimization.	-	4*	-	4	3	20	30	50	2
19UMTCC606	Core Practical 13: Practical on Advanced Topics in Numerical Analysis.	-	4*	-	4	3	20	30	50	2
19UMTCC607	Core Practical 14: Introduction to SAGE.	-	4*	-	4	3	20	30	50	2
	Generic Elective-II	2	-	-	2	3	100	-	100	2
19UMTCC608	Project/ Internship/ Training	1	-	-	1#	1	60	40	100	2
		30							800	26
									Total	3900

* 2hrs each on Day1 and Day 2.

#project guidance: hours/week for faculty per batch: 1 hour

Part III						
Course Code	Semester	Particulars	Hrs of instruction/week	No. of Courses	Credit/Course	Total Credits
<i>Ability Enhancement Compulsory Course (AECC)</i>						
(As per common list)	I & II	AECC-I Environment Science	1	1	2	2
	IV & V	AECC-II Communication Skill/Soft Skills	2	2	1	2
					Sub Total	4
<i>Skill Enhancement Course (SEC)</i>						
As per common list	I	SEC-I Value Education for Consciousness Development -I	1	1	1	1
	II	Value Education for Consciousness Development -II	1	1	1	1
	Any Semester between II - V	SEC-II *Co-Curricular Course	> 40 hours in total	1	1	1
	Any Semester between II - V	SEC-III **Value Added Courses	40 hours in total	1	1	1
					Sub Total	4
					Grand Total	8

***Co-Curricular Courses** - Option to students to choose 1 from a list of courses offered by the college, such as Add on Courses, Gandhian Studies Certificate Course, Women Studies Course, etc.

****Value Added Courses** - Option to student to choose at least 1 from a list of courses offered by UG departments.

TOTAL MARKS & CREDIT DISTRIBUTION

S.NO	PART	Total Marks	Total Credits
1.	PART I: Language Course	400	12
2.	PART II: CORE, DSE ALLIED, DSE CORE, GE COURSES	3500	120
3.	PART III: AECC-I & II, SEC – I, II & III	Remarks	08
TOTAL		3900	140

• PART – I LANGUAGE COURSE

The following compulsory courses offered in the first to fourth semester.

S. No	Semester	Course code	Course
1.	I	19ULCEN01	Functional English – I
2.	II	19ULCEN02	Functional English – II
3.	III	19ULCEN03	Advanced English Language – I
4.	IV	19ULCEN04	Advanced English Language – II

• PART – II CORE, DSE ALLIED, DSE CORE, GECOURSES[Theory]

The Core Course given in First to Sixth semester is compulsory

S. No	Semester	Course code	Course
1.	I	19UMTCC101	Differential Calculus.
2.		19UMTCC102	Matrix Algebra.
3.	II	19UMTCC201	Differential Equations
4.		19UMTCC202	Advanced Calculus
5.	III	19UMTCC301	Fundamentals of Mathematical Analysis
6.		19UMTCC302	Linear Algebra.

7.	IV	19UMTCC401	Discrete Mathematics
8.		19UMTCC402	Integral and Vector Calculus.
9		19UMTCC403	Complex Variables and Inner Product Space
10.	V	19UMTCC501	Group Theory
11.		19UMTCC502	Fundamentals of Numerical Analysis
12.		19UMTCC503	Programming in C
13.		19UMTCC504	Set theory and Logic (Self study course)
14.		19UMTCC508	Computer Based Test (MCQs on fundamentals and principles of Core Courses up to semester V)
15.	VI	19UMTCC601	Ring Theory
16		19UMTCC602	Optimization through Mathematical Programming.
17		19UMTCC603	Advanced Topics in Numerical Analysis
18		19UMTCC604	Complex Analysis

• **CORE COURSES [Practical]**

The Core Courses practical given in First to Sixth semester is compulsory.

S. No	Semester	Course code	Course
1.	I	19UMTCC103	Practical on Differential Calculus.
2.		19UMTCC104	Practical on Matrix Algebra.
3.	II	19UMTCC203	Practical on Differential Equations
4.		19UMTCC204	Introduction to GEOGEBRA
5.	III	19UMTCC303	Practical on Numerical Methods.
6.		19UMTCC304	Introduction to Scilab.
7.	IV	19UMTCC404	Advanced GEOGEBRA
8.		19UMTCC405	Introduction to MAXIMA
9.	V	19UMTCC505	Programming in C
10		19UMTCC506	Practical on Fundamentals of Numerical Analysis
11.		19UMTCC507	Advanced SCILAB
12.	VI	19UMTCC605	Practical on Optimization.
13.		19UMTCC606	Practical on Advanced Topics in Numerical Analysis.
14.		19UMTCC607	Introduction to SAGE

- **OTHER CORE COURSES**

S. No	Semester	Course Code	Course
1	V- VI	19UMTCC608	Group Project/ Internship/Training

- **DSE CORE COURSE [Theory& Practical]**

Students are required to opt for any one of the courses offered in 5th & 6th semesters respectively.

S. No	Semester	Course code	Course
1.	V	19UMTDC501	Advanced topics in Mathematical Analysis
		19UMTDC502	Topology
2.	VI	19UMTDC601	Graph Theory
		19UMTDC602	Basics of Number Theory

- **DSE ALLIED COURSES[Theory]**

The DSE Allied Course Theory given in first to fourth semester is compulsory.

S. No	Semester	Course code	Course
1.	I	19UMTDA101	Physics –I
2.	II	19UMTDA201	Physics –II
3.	III	19UMTDA301	Physics –III
4.	IV	19UMTDA401	Physics –IV

- **DSE ALLIED COURSES [Practical]**

The DSE allied Course Practical given in first to fourth semester is compulsory.

S. No	Semester	Course code	Course
1.	I	19UMTDA102	Physics Practical – I
2.	II	19UMTDA202	Physics Practical – II
3.	III	19UMTDA302	Physics Practical –III
4.	IV	19UMTDA402	Physics Practical –IV

- **GENERIC ELECTIVE- I and II**

S. No.	Semester	Course
1.	V	Any one course from the list of courses offered across UG departments
2.	VI	

• **AECC, SEC**

Part III						
Course Code	Semester	Particulars	Hrs of instruction/week	No. of Courses	Credit/ Course	Total Credits
<i>Ability Enhancement Compulsory Course (AECC)</i>						
(As per common list)	I & II	AECC-I Environment Science	1	1	2	2
	IV & V	AECC-II Communication Skill/Soft Skills	2	2	1	2
					Sub Total	4
<i>Skill Enhancement Course (SEC)</i>						
As per common list	I	SEC-I Value Education for Consciousness Development -I	1	1	1	1
	II	Value Education for Consciousness Development -II	1	1	1	1
	Any Semester between II - V	SEC-II *Co-Curricular Course	> 40 hours in total	1	1	1
	Any Semester between II - V	SEC-III **Value Added Courses	40 hours in total	1	1	1
				Sub Total		4
				Grand Total		8

***Co-Curricular Courses** - Option to students to choose 1 from a list of courses offered by the college, such as Add on Courses, Gandhian Studies Certificate Course, Women Studies Course, etc.

****Value Added Courses** - Option to student to choose at least 1 from a list of courses offered by UG departments

Courses offered by the Mathematics department to UG students of the other departments.

I. DSE Allied Course [Theory]

S. No	Semester	Course Code	Course	Name of Program
1.	I	19BCADA101	Mathematics and Statistics-I	B.C.A.
2.	II	19BCADA201	Mathematics and Statistics-II	B.C.A.
3.	I	19BITDA101	Mathematics and Statistics-I	B.Sc. IT
4.	II	19BITDA201	Mathematics and Statistics-II	B.Sc. IT
7.	III	19UCHDA301	Mathematics-I	B.Sc. Chemistry
8.	IV	19UCHDA401	Mathematics-II	B.Sc. Chemistry
9.	IV	19UBCDA401	Mathematics for Biologist	B.Sc. Biochemistry

II: DSE– Allied Courses [Practical]

S.N.	Semester	Course Code	Course	Name of Program
1.	III	19UCHDA302	Mathematics-I Practical	B.Sc. Chemistry
2.	IV	19UCHDA402	Mathematics-II Practical	B.Sc. Chemistry
3.	IV	19UBCDA402	Mathematics for Biologist Practical	B.Sc. Biochemistry

III. Generic Elective Courses offered by the Mathematics department to UG students of the other departments.

No	Semester	Course Code	Course	Name of Program
1.	V	19UMTGE501	GE-I: Fundamentals of Statistics	B.Sc. any subject
2.	VI	19UMTGE601	GE-II: Probability and Distribution	