Course Structure for the Programme B.Sc. (Hons) Mathematics

SEMESTER I							
SL. No.	**TYPE OF COURSE**	**COURSE CODE**	**TITLE OF THE COURSE**	**CONTACT HOURS PER WEEK**			
				L	**T**	**P**	**C**
1	CORE	MTH11001	ALGEBRA I	3	1	0	4
2	CORE	MTH11002	DIFFERENTIAL CALCULUS	3	1	0	4
3	CORE	MTH11003	ORDINARY DIFFERENTIAL EQUATION I	3	1	0	4
4	FOUNDATION	ENG11057	ENGLISH LANGUAGE AND LITERATURE	2	0	0	2
5	GEN. ELECTIVE		THEORY	3	1	0	4
6	GEN. ELECTIVE		PRACTICAL	0	0	3	2
7	VALUE ADDED COURSES	DGS11001	DESIGN THINKING	**2**	**0**	**0**	**2**
			TOTAL CREDIT				22

[OPTIONS: INTRODUCTORY MICROECONOMICS (ECO11001) *, ELECTIVE CHEMISTRY I (CHM11151) & ELECTIVE CHEMISTRY I LAB (CHM12152)]

* For non-lab based subjects total credit will be 6 for one paper (e.g., Economics, L-T-P: 5-1-0)

SEMESTER II							
SL. No.	**TYPE OF COURSE**	**COURSE CODE**	**TITLE OF THE COURSE**	**CONTACT HOURS PER WEEK**			
				L	**T**	**P**	**C**
8	CORE	MTH11004	ALGEBRA II	3	1	0	4
9	CORE	MTH11005	INTEGRAL CALCULUS	3	1	0	4
10	CORE	MTH11006	ORDINARY DIFFERENTIAL EQUATION II	3	1	0	4
11	FOUNDATION	EVS11105	ENVIRONMENTAL SCIENCE	2	0	0	2
12	GEN. ELECTIVE		THEORY	3	1	0	4
13	GEN. ELECTIVE		PRACTICAL	0	0	3	2
14	VALUE ADDED COURSES	IDP14001	INTER-DISCIPLINARY PROJECT	**0**	**0**	**3**	**3**
			TOTAL CREDIT				23

[OPTIONS: INTRODUCTORY MACROECONOMICS (ECO11006)*, ELECTIVE CHEMISTRY II (CHM11153) & ELECTIVE CHEMISTRY LAB II (CHM12154)]

* For non-lab based subjects total credit will be 6 for one paper (e.g., Economics, L-T-P: 5-1-0)

SEMESTER III							
SL. No.	**TYPE OF COURSE**	**COURSE CODE**	**TITLE OF THE COURSE**	**CONTACT HOURS PER WEEK**			
				L	**T**	**P**	**C**
15	CORE	MTH11007	ALGEBRA III	3	1	0	4
16	CORE	MTH11008	REAL ANALYSIS	3	1	0	4
17	CORE	MTH11009	LINEAR ALGEBRA I	3	1	0	4
18	CORE	MTH11010	PARTIAL DIFFERENTIAL EQUATIONS	3	1	0	4

19	SKILL ENHENCEMENT COURSE (SEC)	MTH13011	INTRODUCTION TO MATLAB	1	0	3	3
20	GEN. ELECTIVE	PHY11015 / CSE11641	ELECTIVE PHYSICS I / ELECTIVE COMPUTER SCIENCE I	3	1	0	4
21	GEN. ELECTIVE	PHY12016 / CSE12642	ELECTIVE PHYSICS I LAB / ELECTIVE COMPUTAER SCIENCE I LAB	0	0	3	2
22	VALUE ADDED COURSES	SOC14100	COMMUNITY SERVICE	**0**	**0**	**1**	**1**
23	VALUE ADDED COURSES	EIC11001	VENTURE IDEATION	**2**	**0**	**0**	**2**
			TOTAL CREDIT				28

SEMESTER IV

SL. No.	TYPE OF COURSE	COURSE CODE	TITLE OF THE COURSE	CONTACT HOURS PER WEEK			
				L	T	P	C
24	CORE	MTH11012	LINEAR ALGEBRA II	3	1	0	4
25	CORE	SDS11069	THEORY OF PROBABILITY	3	1	0	4
26	CORE	MTH11013	ANALYTICAL GEOMETRY	3	1	0	4
27	CORE	MTH11014	FUNCTIONS OF COMPLEX VARIABLES	3	1	0	4
28	SKILL ENHENCEMENT COURSE (SEC)	MTH13015	R PROGRAMMING	1	0	3	3
29	GEN. ELECTIVE	PHY11024 / CSE11643	ELECTIVE PHYSICS II / ELECTIVE COMPUTER SCIENCE II	3	1	0	4
30	GEN. ELECTIVE	PHY12025 / CSE12644	ELECTIVE PHYSICS II LAB / ELECTIVE COMPUTAER SCIENCE II LAB	0	0	3	2
31	VALUE ADDED COURSES	PSG11021	HUMAN VALUES AND PROFESSIONAL ETHICS	**2**	**0**	**0**	**2**
			TOTAL CREDIT				**27**

SEMESTER V

SL. NO.	TYPE OF COURSE	COURSE CODE	TITLE OF THE COURSE	CONTACT HOURS PER WEEK			
				L	T	P	C
27	CORE	MTH11016	FUNCTIONS OF SEVERAL VARIABLES	3	1	0	4
28	CORE	MTH11017	INTRODUCTION TO NUMERICAL ANALYSIS	3	1	0	4
29	CORE	MTH12019	INTRODUCTION TO NUMERICAL ANALYSIS LAB	0	0	3	2
30	CORE	SDS11070	STATISTICS	3	1	0	4
31	CORE	MTH11018	VECTOR ANALYSIS AND TENSOR CALCULUS	3	1	0	4
32	ELECTIVE	-	DSE I	3	1	0	4
33	ELECTIVE	-	DSE II	3	1	0	4
34		MTH14020	SUMMER INTERNSHIP	-	-	-	2
			TOTAL CREDIT				28

SEMESTER VI							
SL. No.	**TYPE OF COURSE**	**COURSE CODE**	**TITLE OF THE COURSE**	**CONTACT HOURS PER WEEK**			
				L	**T**	**P**	**C**
35	CORE	MTH11021	INTRODUCTION TO LINEAR PROGRAMMING AND GAME THEORY	3	1	0	4
36	CORE	MTH11022	INTEGRAL TRANSFORMS	3	1	0	4
37	CORE	MTH11023	DYNAMICS OF PARTICLES	3	1	0	4
38	ELECTIVE	-	DSE III	3	1	0	4
39	ELECTIVE	-	DSE IV	0	0	12	10
			TOTAL CREDIT				26
			TOTAL (REQUIRED CREDIT)	**22+23+28+27+28+26=154**			

Discipline Specific Electives (DSE):

Students are required to study **FOUR** elective Papers from the Major/ Hons discipline during semester V and VI. The list of the electives are given below.

DSE I		**DSE II**	
MATHEMATICAL FINANCE	MTH11024	NUMBER THOERY	MTH11027
PORTFOLIO OPTIMIZATION	MTH11025	SET THEORY AND METRIC SPACES	MTH11028
NON-LINEAR DYNAMICS	MTH11026		
DSE III		**DSE IV**	
MATHEMATICAL MODELLING	MTH11029	PROJECT / DISSERTATION AND VIVA-VOCE	MTH15031