

Program Structure of B.Sc. Honours in Mathematics/B.Sc. Honours with Research in Mathematics+ 1 OR 2 Year PG
(With Effect From: 2024 – 25)

Certificate in Mathematics

Year: First / Semester: Second (Even Semester)

S. N.	Course Code	Course Title	Theory / Practical	Course Type	Periods/ Per week			Continuous Assessment			End Semester Examination (ESE)	Subject Total	Total Credit Points	Attributes							United Nations Sustainable Development Goals (SDGs)
					Lecture (L)	Tutorial (T)	Practical (P)	Class Test (CT)	Teacher Assessment (TA)	Total				Employability	Entrepreneurship	Skill Development	Gender Equality	environment & Sustainability	Human Value	Professional Ethics	
THEORIES																					
1	B030201T/ MT138	Matrices and Differential Equations & Geometry	Theory	Core Major (Compulsory)	4	2	0	15	10	25	75	100	06	✓		✓					
2	B030202T/MT159	Vector Analysis and Vector Calculus	Theory		4	2	0	15	10	25	75	100	06	✓		✓					
3	(a) B070201T/ CS129 (b) B060201T/ MT141 (c) B010201T/ PY115	(a) Database Management Systems (b) Descriptive Statistics &&Probability Distributions (Bivariate) (c) Thermal Physics and Semiconductor Device	Theory	Minor elective	3	1	0	15	10	25	75	100	04	✓	✓	✓		✓	✓	✓	  
4	I030202V/MT144	Latex/Scientific writing Or MOOCs-SWAYAM etc	Theory+Practical	Vocational	2	-	2	-	-	-	100	100	03	✓		✓					
5	Z020201/NS110	First Aid and Health	Theory	Co-curricular (Compulsory)	2	0	0	15	10	25	75	100	02	✓	✓	✓		✓	✓	✓	
6	B060203T/MT153	Application of Artificial intelligence in Mathematical Sciences	Theory	Non Credit/Audit	2	0	0	-	-	-	-	100	00	✓	✓	✓				✓	
PRACTICAL																					
7	(a) B070202P/C S130	(a) Database Management Systems Lab	Practical	Minor elective	0	0	4	15	10	25	75	100	02	✓		✓					
8	(b) B060202P/ MT142	(b) Descriptive Data Analysis Lab (Bivariate)																			
9	(c) B010202P/PY116	(c) Thermal Properties of Matter and Electronic Circuits																			
TOTAL					17	5	6	75	50	125	475	700	23								

S. N.	Course Code	Course Title	Theory / Practical	Course Type	Periods/ Per week			Continuous Assessment			(ESE)	Subject Total	Total Credit Points	Attributes							United Nations Sustainable Development Goals (SDGs)
					Lecture (L)	Tutorial (T)	Practical (P)	Class Test (CT)	Teacher Assessment (TA)	Total				Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
THEORIES																					
1	B030101T/MT136	Differential Calculus & Integral Calculus	Theory	Core Major (Compulsory)	3	1	0	15	10	25	75	100	04	✓		✓					
2	B060101T/MT139	Descriptive Statistics (Univariate) & Theory of Probability	Theory	Core Major (Elective)	3	1	0	15	10	25	75	100	04	✓		✓					
	B070101T/CS127	Problem Solving using Computer												✓		✓					
	B010101T/ PY113	Mathematical Physics & Newtonian Mechanics												✓		✓					
	B020101T/CH151	Fundamentals of Chemistry-I												✓		✓					
3	I030103V/MT143	Introduction to LaTeX OR MOOCs/SWAYAM etc.	Theory+ Practical	Vocational	2	0	2	-	-	-	100	100	03	✓		✓					
4	Z010101T/BE105	Food Nutrition and Hygiene	Theory	Co-curricular (Compulsory)	2	0	0	15	10	25	75	100	02	✓	✓	✓		✓	✓	✓ 	
5	A050101T/HE101	Rashtra Gaurav	Theory	Non Credit/Audit	2	0	0	-	-	-	-	100	00						✓	 	

PRACTICAL																			
6	B030102P/MT137	Practical using Mathematica /MATLAB	Practical	Core Major (Compulsory)	0	0	4	15	10	25	75	100	02	✓		✓			
7	B060102P/ MT140	Descriptive Data Analysis Lab (Univariate)	Practical	Core Major (Elective)	0	0	4	15	10	25	75	100	02	✓		✓			
	B070102P/CS128	Software Lab using Python (P-2)												✓		✓			
	B010202P/PY116	Thermal Properties of Matter & Electronic Circuits												✓		✓			
	B020102P/CH134	Quantitative Analysis												✓		✓			
TOTAL					12	2	10	75	50	125	475	700	17						



Department of Mathematics & Statistics

Evaluation Scheme of Undergraduate & Post Graduate Program as per NEP-2020 Guidelines B.Sc. (Hons.) Mathematics Four Year program with Double Majors (Statistics/ Computer Science /Physics/Chemistry) w.e.f. Session 2024-25

Year: First/ Semester: Second (Even Semester)

Certificate in Science (Mathematics & Statistics OR Mathematics & Computer Science OR Mathematics & Physics OR Mathematics & Chemistry)

S. N.	Course Code	Course Title	Theory / Practical	Course Type	Periods/ Per week			Continuous Assessment			(ESE)	Subject Total	Total Credit Points	Attributes								United Nations Sustainable Development Goals (SDGs)
					Lecture (L)	Tutorial (T)	Practical (P)	Class Test (CT)	Teacher Assessment (TA)	Total				Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics		
THEORIES																						
1	B030201T/MT138	Matrices and Differential Equations & Geometry	Theory	Core Major (Compulsory)	4	2	0	15	10	25	75	100	06	✓		✓						
2	B060201T/ MT141	Descriptive Statistics (Bivariate) & Probability Distributions	Theory	Core Major (Elective)	4	2	0	15	10	25	75	100	04	✓		✓						
	B070201T/CS129	Database Management Systems												✓		✓						
	B010201T/PY115	Thermal Physics & Semiconductor Devices												✓		✓						
	B020201T/CH139	Bioorganic and Materials Chemistry												✓		✓						
3	ES115/BM186	Fundamentals of Environmental Science	Theory	Core Minor (Elective)	4	2	0	15	10	25	75	100	06	✓		✓						
	A040209T/LN109	Basics of Communication																				
4	I030202V/MT144	LaTeX – Scientific Writing OR MOOCs/SWAYAM etc.	Theory+ Practical	Vocational	2	0	2	-	-	-	100	100	03	✓		✓						
5	Z020201T/NS110	First Aid and Health	Theory	Co-curricular (Compulsory)	2	0	0	15	10	25	75	100	02	✓	✓	✓		✓	✓	✓		

6	<u>B060203T/MT153</u>	Application of Artificial Intelligence in Mathematical Sciences	Theory	Non Credit/Audit	2	0	0	-	-	-	-	100	00	✓	✓	✓			✓		
PRACTICAL																					
7	B060202P/ MT142	Descriptive Data Analysis Lab (Bivariate)	Practical	Core Major (Elective)	0	0	4	15	10	25	75	100	02	✓		✓					
	B070202P/CS130	Database Management Systems Lab												✓	✓	✓				✓	
	B010202P/PY116	Thermal Properties of Matter & Electronic Circuits												✓	✓	✓				✓	
	B020202P/CH141	Biochemical Analysis												✓	✓	✓				✓	
TOTAL					18	6	6	75	50	125	475	700	23								

Department of Mathematics & Statistics
Evaluation Scheme of Undergraduate & Post Graduate Program as per NEP-2020 Guidelines
B.Sc. (Hons.) Mathematics Four Year program with Double Majors (Statistics/ Computer Science /Physics/Chemistry)
w.e.f. Session 2024-25

Year: Second/ Semester: Third (Odd Semester)

DIPLOMA in Science (Mathematics & Statistics OR Mathematics & Computer Science OR Mathematics & Physics OR Mathematics & Chemistry)

S. N.	Course Code	Course Title	Theory / Practical	Course Type	Periods/ Per week			Continuous Assessment			(ESE)	Subject Total	Total Credit Points	Attributes							United Nations Sustainable Development Goals (SDGs)
					Lecture (L)	Tutorial (T)	Practical (P)	Class Test (CT)	Teacher Assessment (TA)	Total				Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
THEORIES																					
1	B030301T/MT228	Algebra & Mathematical Methods	Theory	Core Major (Compulsory)	4	2	0	15	10	25	75	100	06	✓		✓				 	
2	B060301T/MT230	Theory of Estimation & Sampling Survey	Theory	Core Major (Elective)	3	1	0	15	10	25	75	100	04	✓		✓					
	B070301T/CS273	Operating Systems												✓		✓					
	B010301T/PY207	Electromagnetic Theory & Modern Optics												✓							
	B020301T/CH232	Chemical Dynamics & Coordination Chemistry												✓		✓					
3	I030302V/MT234	Introduction to R OR MOOCs/SWAYAM etc	Theory+ Practical	Vocational	2	0	2	-	-	-	100	100	03	✓		✓					
4		Regional Languages		Minor Co-curricular	2	0	0	15	10	25	75	100	02	✓		✓					

PRACTICAL

PRACTICAL																					
5	B060302P/MT231	Sampling Survey Lab	Practical	Core Major (Elective)	0	0	4	15	10	25	75	100	02	✓	✓	✓		✓	✓	✓	
	B070302P/CS274	Operating Systems Lab	Practical											✓		✓					
	B010302P/PY208	Demonstrative Aspects of Electricity & Magnetism	Practical											✓		✓					
	B020302P/CH234	Physical Analysis	Practical											✓	✓	✓		✓	✓	✓	
TOTAL					11	3	6	60	40	100	400	500	17								

S. N.	Course Code	Course Title	Theory / Practical	Course Type	Periods/ Per week			Continuous Assessment			End Semester Examination (ESE)	Subject Total	Total Credit Points	Attributes								United Nations Sustainable Development Goals (SDGs)								
					Lecture (L)	Tutorial (T)	Practical (P)	Class Test (CT)	Teacher Assessment (TA)	Total				Employability	Entrepreneurship	Skill Development	Gender Equality	environment & Sustainability	Human Value	Professional Ethics										
THEORY																														
1	B030501T/MT320	Group and Ring Theory & Linear Algebra	Theory	Core Major (Compulsory)	4	1	0	15	10	25	75	100	05	✓		✓														
2	(a) B030502T/MT321 (b)B030503T/MT322 (c)B030504T/MT323	Opt any one of the following: (a) Number Theory & Game Theory (b) Graph Theory & Discrete Mathematics (c) Differential Geometry & Tensor Analysis	Theory		4	1	0	15	10	25	75	100	05	✓		✓														
3	B060501T/MT327 AND B060502T/MT328	Multivariate Analysis & Non-Parametric Methods AND Analysis of Variance & Design of Experiments	Theory	Core Major (Elective)	3	1	0	15	10	25	75	100	04	✓																
4	B070501T/CS365 AND B070502T/CS366	Analysis of Algorithms and Data Structures AND Soft Computing	Theory																											
5	B010501T/PY311 AND B010502T/PY312	Classical & Statistical Mechanics AND Quantum Mechanics & Spectroscopy	Theory		3	1	0	15	10	25	75	100	04	✓																
6	B020501T/CH337 AND B020502T/CH338	Organic Synthesis-A AND Rearrangements and Chemistry of Group Elements	Theory																											
PRACTICAL																														
7	B060503P/MT329	Non-Parametric Methods & Design of Experiments Lab	Practical	Core Major (Elective)	0	0	4	15	10	25	75	100	02	✓		✓														
8	B070503P/ CS367	Lab on Algorithms and Data Structures with C++	Practical																											
9	B010503P/PY313	Demonstrative Aspects of Optics & Lasers	Practical																											
10	B190503P/CH339	Qualitative Analysis	Practical																											
TOTAL					14	4	4	75	50	125	375	500	20																	



Evaluation Scheme of Undergraduate & Post Graduate Program as per NEP-2020 Guidelines

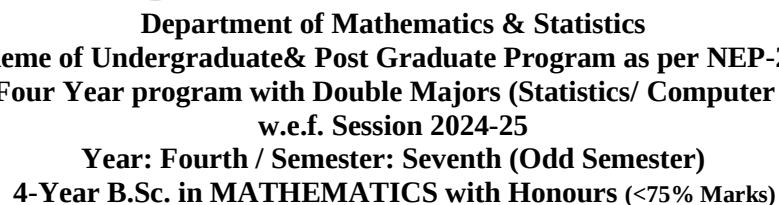
B.Sc. (Hons.) Mathematics Four Year program with Double Majors (Statistics/ Computer Science /Physics/Chemistry)

w.e.f. Session 2024-25

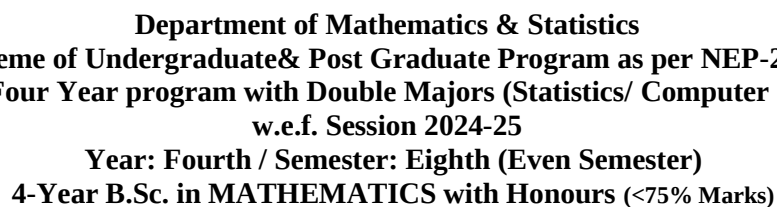
Year: Third / Semester: Sixth (Even Semester)

3-Year B.Sc. in (Mathematics & Statistics OR Mathematics & Computer Science OR Mathematics & Physics OR Mathematics & Chemistry)

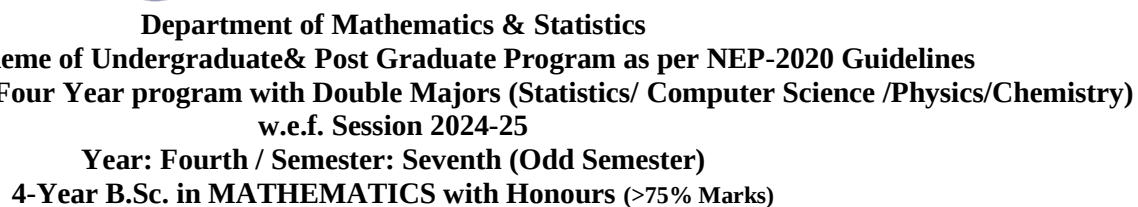
S. N.	Course Code	Course Title	Theory / Practical	Course Type	Periods/ Per week			Continuous Assessment			End Semester Examination (ESE)	Subject Total	Total Credit Points	Attributes							United Nations Sustainable Development Goals (SDGs)									
					Lecture (L)	Tutorial (T)	Practical (P)	Class Test (CT)	Teacher Assessment (TA)	Total				Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics										
THEORY																														
1	B030601T/MT324	Metric Space & Complex Analysis	Theory	Core Major (Compulsory)	3	1	0	15	10	25	75	100	04	✓		✓														
2	B030602T/MT325	Numerical Analysis & Operations Research	Theory		3	1	0	15	10	25	75	100	04	✓		✓					 									
3	B060601T/MT330 AND B060602T/MT331	Statistical Computing & Introduction to Statistical Software AND Operations Research	Theory	Core Major (Elective)	3	1	0	15	10	25	75	100	04	✓																
4	B070601T/CS368 AND B070602T/CS369	Data Communication and Computer Networks AND Cyber Security & Cyber Laws	Theory																											
5	B010601T/PY314 AND B010602T/PY315	Solid State & Nuclear Physics AND Analog & Digital Principles & Applications	Theory		3	1	0	15	10	25	75	100	04	✓							 									
6	B020601T/CH353 AND B020602T/CH354	Organic Synthesis-B AND Chemical Energetics and Radiochemistry	Theory																											
PRACTICAL																														
1	B030603P/MT326	Practical on Numerical analysis using Mathematica /MATLAB	Practical	Core Major (Compulsory)	0	0	4	15	10	25	75	100	02	✓		✓														
2	B06060MT332	Operations Research & Statistical Computing Lab	Practical	Core Major (Elective)	0	0	4	15	10	25	75	100	02	✓																
3	B070603P/CS370	Lab on Computer Networks	Practical																											
4	B010603P/PY316	Analog & Digital Circuits	Practical																											
5	B020603P/CH355	Analytical Methods	Practical																											
TOTAL					12	4	8	90	60	150	450	600	20																	



S. N.	Course Code	Course Title	Theory / Practical	Course Type	Periods/ Per week			Continuous Assessment			End Semester Examination (ESE)	Subject Total	Total Credit Points	Attributes								United Nations Sustainable Development Goals (SDGs)	
					Lecture (L)	Tutorial (T)	Practical (P)	Class Test (CT)	Teacher Assessment (TA)	Total				Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics			
THEORY																							
1	B030701T/MT434	Real & Complex Analysis	Theory	Core Major (Compulsory)	3	1	0	15	10	25	75	100	04	✓		✓							
2	B030702T/MT435	Advanced Modern Algebra	Theory		3	1	0	15	10	25	75	100	04	✓		✓							
3	B030703T/MT436	Ordinary &Partial Differential Equations	Theory		3	1	0	15	10	25	75	100	04	✓		✓							
4	B030704T/MT437	Discrete Structures	Theory		3	1	0	15	10	25	75	100	04	✓		✓							
5	B030707/MT455	Advance Mathematical Modelling & Simulation	Theory		3	1	0	15	10	25	75	100	04	✓		✓							
TOTAL					15	5	0	75	50	125	375	500	20										



S. N.	Course Code	Course Title	Theory / Practical	Course Type	Periods/ Per week			Continuous Assessment			End Semester Examination (ESE)	Subject Total	Total Credit Points	Attributes							United Nations Sustainable Development Goals (SDGs)	
					Lecture (L)	Tutorial (T)	Practical (P)	Class Test (CT)	Teacher Assessment (TA)	Total				Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics		
THEORY																						
1	B030801T/MT438	Advanced Differential Geometry	Theory	Core Major (Compulsory)	3	1	0	15	10	25	75	100	04	✓								
2	B030802T/MT439	Optimization & Statistical Techniques	Theory		3	1	0	15	10	25	75	100	04	✓								
3	(B030803T/MT440)	Numerical Analysis with Application	Theory		3	1	0	15	10	25	75	100	04	✓								
4	(B030804T/MT441)	Advanced Linear Algebra	Theory		3	1	0	15	10	25	75	100	04	✓								
PRACTICAL																						
5	(B030805P/MT442)	Advanced Numerical Analysis Lab	Practical	Core Major (Compulsory)	0	0	8	15	10	25	75	100	04	✓								
TOTAL					12	4	8	75	50	125	375	500	20									



S. N.	Course Code	Course Title	Theory / Practical	Course Type	Periods/ Per week			Continuous Assessment			End Semester Examination (ESE)	Subject Total	Total Credit Points	Attributes								United Nations Sustainable Development Goals (SDGs)	
					Lecture (L)	Tutorial (T)	Practical (P)	Class Test (CT)	Teacher Assessment (TA)	Total				Employability	Entrepreneurship	Skill Development	Gender Equality	environment & Sustainability	Human Value	Professional Ethics			
THEORY																							
1	B030701T/MT434	Real & Complex Analysis	Theory	Core Major (Compulsory)	3	1	0	15	10	25	75	100	04	✓		✓							
2	B030702T/MT435	Advanced Modern Algebra	Theory		3	1	0	15	10	25	75	100	04	✓		✓							
3	B030703T/MT436	Ordinary & Partial Differential Equations	Theory		3	1	0	15	10	25	75	100	04	✓		✓							
4	B030704T/MT437	Discrete Structures	Theory		3	1	0	15	10	25	75	100	04	✓		✓							
5	B030604R/MT334 OR B060705R/MT445	MathematicsProject-2 (R-3) OR Statistics Research Project-1 (R-6)	Theory		3	1	0	15	10	25	75	100	04	✓		✓							
TOTAL					15	5	0	75	50	125	375	500	20										



Year: Fourth / Semester: Eighth (Even Semester)
4-Year B.Sc. in MATHEMATICS with Honours (>75% Marks)

S. N.	Course Code	Course Title	Theory / Practical	Course Type	Periods/ Per week			Continuous Assessment			End Semester Examination (ESE)	Subject Total	Total Credit Points	Attributes							United Nations Sustainable Development Goals (SDGs)
					Lecture (L)	Tutorial (T)	Practical (P)	Class Test (CT)	Teacher Assessment (TA)	Total				Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
THEORY																					
1	B030801T/ MT438	Advanced Differential Geometry	Theory	Core Major (Compulsory)	3	1	0	15	10	25	75	100	04	✓							
2	B030802T/ MT439	Optimization & Statistical Techniques	Theory		3	1	0	15	10	25	75	100	04	✓							
3	(B030803T/ MT440)	Numerical Analysis with Application	Theory		3	1	0	15	10	25	75	100	04	✓							
4	(B030804T/ MT441)	Advanced Linear Algebra	Theory		3	1	0	15	10	25	75	100	04	✓							
5	B030806R/ MT444 OR B060805R/MT446	Mathematics Research Project-2 (R-6) OR Statistics Research Project-2(R-6)	Theory		3	1	0	15	10	25	75	100	04	✓							
TOTAL					15	5	0	75	50	125	375	500	20								

