2020
SYLLABUS

School of Natural Sciences

M.Sc. in Applied Mathematics under UGC – CBCS

M.Sc. Applied Mathematics Course Structure

Category definition with credit breakup

Semester	Credit					
	CC	**DSE**	**GE**	**SEC**	**USC**	**Total/Sem**
First	20	4	4	1	2	31
Second	20	4		1	2	27
Third	24			1	2	27
Fourth	12			1	2	15
Total Credit/ Course	76	8	4	4	8	
Total Credit						100

CC: Core Courses; **GE**: General Elective; **SEC**: Skill Enhancement Courses;
DSE: Discipline Specific Elective; **USC:** University specified course

First Year

Category	Course name	Credit	Teaching Scheme		
			L	**T**	**P**
Semester – I					
CC – 1	**Abstract algebra and Theory of Ordinary Differential equation**	4	3	1	0
CC – 2	**Real Analysis**	4	3	1	0
CC – 3	**Mathematical Methods I**	4	3	1	0
CC – 4	**Classical Mechanics and Introduction to Quantum Mechanics**	4	3	1	0
CC – 5	**Discrete Mathematics , Graph theory and Non Linear Dynamics**	4	3	1	0
DSE – 1	**Continuum Mechanics**	4	3	1	0
GE - 1	**Generic Elective**	4	4	0	0
USC – 1	**Foreign language – I**	2	2	0	0
SEC – 1	**Mentored Seminar – I**	1	1	0	0
Total Credit = 31			**Teaching Hour = 31**		
Semester – II					
CC – 6	**Complex analysis and Wavelet Transform**	4	3	1	0
CC – 7	**Mathematical Methods II**	4	3	1	0
CC – 8	**Numerical Analysis**	4	3	1	0
CC – 9	**Probability and Statistics**	4	3	1	0
CC – 10	**Theory of Elasticity - I**	4	3	1	0
DSE – 2	**Optimization Techniques and Calculus of Variation**	4	3	1	0
USC – 2	**Foreign language – II**	2	2	0	0
SEC – 2	**Mentored Seminar – II**	1	1	0	0
Total Credit = 27			**Teaching Hour = 27**		

Second Year

Category	Course name	Credit	Teaching Scheme		
			L	T	P
Semester – III					
CC – 11	Topology, Functional Analysis and Operator Theory	4	3	1	0
CC – 12	Stochastic Process and Stochastic Differential equation	4	3	1	0
CC – 13	Theory of Relativity and classical Electromagnetism	4	3	1	0
CC – 14	Theory of Elasticity -II	4	3	1	0
CC – 15	Financial Mathematics and Biomathematics	4	3	1	0
CC – 16	Numerical Analysis Lab with Python	4	0	0	8
USC – 3	Foreign language – III	2	2	0	0
SEC – 3	Mentored Seminar – III	1	1	0	0
Total Credit = 27			Teaching Hour = 31		
Semester – IV					
CC – 17	Master Project / Dissertation	12	0	0	24
USC – 4	Foreign language – IV	2	2	0	0
SEC – 4	Master Seminar	1	1	0	0
Total Credit = 15			Teaching Hour = 27		