Maulana Azad College
Department of Mathematics
Teaching / Lesson Plan 2019-2020, Undergraduate Mathematics (Honours and General)
CBCS (2018) and (1+1+1 System-2009)

Semester	Period of Semester	Tentative Dates of University Exam* (*Follow the latest notification by CU)	Name of the Faculty	Course Code	Paper Name	Brief Description of the Topics	No. of Lectures
Sem-1 (CC1)	July' 19 – Dec.' 19	**Follow the latest notification by CU**	Dr. Nanda Das	CC1-(TH+TU)	Calculus, Geometry & Vector Analysis	Unit-1: Calculus	25+5
						Unit-2: Geometry-2D	10
			Dr. Kartik Chandra Basak			Unit-2: Geometry-3D	20
						Unit-3: Vector Analysis	15
Sem-1 (CC2)			Dr. Babli Saha	CC2-(TH+TU)	Algebra	Unit-1: Complex Number, Theory of Equation, Inequality, Linear difference Equation.	30
						Unit-3: Matrix Algebra, Solution of System of Linear Equations.	15
			Dr. Somnath Bandyopadhyay			Unit-2: Relation, Mapping and Integers.	30
Sem-1 (GE1)			Dr. Somnath Bandyopadhyay	GE1-(TH+TU)	Mathematics-GE1	Unit-1: Algebra-I	10
			Dr. Babli Saha			Unit-2: Differential Calculus-I	20
			Dr. Kartik Chandra Basak			Unit-3: Differential Equation-I	10
			Dr. Nanda Das			Unit-4: Coordinate Geometry	20
Sem-2 (CC3)	Jan' 20- June' 20	**Follow the latest notification by CU**	Dr. Somnath Bandyopadhyay	CC3-(TH+TU)	Real Analysis	Unit-1: Real Numbers	30
						Unit-2: Real Sequence	30
						Unit-3: Infinite Series	10+5
Sem-2 (CC4)			Dr. Babli Saha	CC4-(TH+TU)	Group Theory-I	Unit-1: Group & Subgroup	30
						Unit-2: Cyclic Group	25
						Unit-3: Normal Subgroup	20
Sem-2 (GE2)			Dr. Babli Saha	GE2-(TH+TU)	Mathematics GE2	Unit-1: Differential Calculus-II	15
			Dr. Kartik Chandra Basak			Unit-2: Differential Equation-II	10
			Dr. Nanda Das			Unit-3: Vector Algebra	10
			Dr. Somnath Bandyopadhyay			Unit-4: Discrete Mathematics	25

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Sem-3 (CC5)	July' 19 – Dec.' 19	Follow the latest notification by CU	Dr. Somnath Bandyopadhyay	CC3-(TH+TU)	Theory of Real Functions	Unit-1: Limit and Continuity of functions	40
			Dr. Babli Saha			Unit-2: Differentiability of Functions	35
Sem-3 (CC6)			Dr. Somnath Bandyopadhyay	CC4-(TH+TU)	Ring Theory & Linear Algebra-I	Unit-1: Ring Theory	35
			Dr. Babli Saha			Unit-2: Linear Algebra	40
Sem-3 (CC7)			Dr. K. C. Basak	CC6-(TH+TU)	ODE & Multivariate Calculus-I	Unit-1: Ordinary Differential Equation	40
			Dr. Nanda Das			Unit-2: Multivariate Calculus-I	35
Sem-3 (SEC-A1)			Dr. Nanda Das	SEC-A1-TH	C-Programming Language	Constants, Variables & Data type of C-Program, Decision making and Branching, Control Statements, Array, User defined functions, Library functions.	30
Sem-3 (GE-3)			Dr. Babli Saha	GE3-(TH+TU)	Mathematics-GE3	Unit-1: Integral Calculus	10
			Dr. K.C. Basak			Unit-2: Numerical Methods	25
			Dr. Somnath Bandyopadhyay			Unit-3: Linear Programming (Theory)	10
			Dr. Nanda Das			Unit-3: Linear Programming (Theory)	15
Sem-4 (CC8)	Jan' 20 – June' 20	Follow the latest notification by CU	Dr. Somnath Bandyopadhyay	CC8-(TH+TU)	Riemann Integration and Series of Functions	Unit-1: Riemann Integration	35
						Unit-3: Power Series	5
			Dr. Babli Saha			Unit-2: Improper Integral	10
						Unit-3: Sequence & Series of Functions and Fourier Series.	25
Sem-4 (CC9)			Dr. K.C. Basak	CC9-(TH+TU)	PDE & Multivariate Calculus-II	Unit-1: Partial Differential Equation.	40
			Dr. Nanda Das			Unit-2: Multivariate Calculus-II	35
Sem-4 (CC10)			Dr. Kartik Chandra Basak	CC10-(TH+TU)	Mechanics	Unit-3: Kinematics of a Particle, Newton Laws of motion and Law of gravitation.	20
						Unit-4: Problems in particle dynamics, Planar motion of a particle, Motion of a particle in 3D.	20
			Dr. Nanda Das			Unit-1: Coplanar forces, Force system in space, Friction	15
						Unit-2: Virtual work, Stability of equilibrium.	10
						Unit-5: Many particles system.	10
Sem-4 (SEC-B)			Dr. Kartik Chandra Basak	SEC-B-TH	Scientific Computing with Sage Math.	Numeric Computation, Plotting of functions, Programming and Applications.	30
Sem-4 (GE4)			Dr. Babli Saha	GE4-(TH+TU)	Mathematics GE4	Unit-1: Algebra-II (Vector Space)	10
			Dr. Somnath Bandyopadhyay	GE4-(TH+TU)	Mathematics GE4	Unit-1: Algebra-II (**Group Theory, Ring and Field**)	10
			Dr. Nanda Das	GE4-(TH+TU)	Mathematics GE4	Unit-2: Computer Science and Programming.	15
			D. K. C. Basak	GE4-(TH+TU)	Mathematics GE4	Unit-3: Probability and Statistics	25

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Name of the Teacher	Title of the Teaching Assignment	Paper	Module	Group	Unit-I Topic to be covered before Mid-Term Examination	Number of Classes Required	Unit-II Topic to be covered before Test Examination.	Number of Classes Required	Remarks
Dr. Kartik Chandra Basak	**Part-III (Hons.) 2019-2020**	Paper-VI	Mod-XI	Group-A (10 Marks)	Vector Integration: Line Integral.	10	Surface Integral and Volume Integral and related theorems.	10	Details to be found in the Syllabus of Calcutta University
			Mod-XI	Group-B (20 Marks)	Statics-II: Virtual Work, Centre of Gravity.	20	Statics-II: Stable and Unstable equilibrium, Forces in three dimensions.	20	
			Mod-XII	Group-A (25 Marks)	Equilibrium of fluids in a given field of forces, Thrust in Plane Surface, Centre of Pressure.	20	Rotating Fluid, Stable and Unstable equilibrium and Gas.	20	
		Paper-VIII	Mod-XVI	Group-A (25 Marks)	Numerical Analysis: Integration , Solution of Transcendental equation.	20	Solution of Ordinary Differential Equation.	15	

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Dr. Somnath Bandyopadhyay	Part-III (Hons.) 2019-2020	Paper-V	Mod-IX	Group-A (50 Marks)	Analysis III: Compactness in R, Bounded Variation, Riemann Integration.	30	Analysis III: Sequence and Series of Functions of a real variable, Power Series.	25	Details to be found in the Syllabus of Calcutta University
			Mod-X	Group-A (20 Marks)	Modern Algebra III : Linear Transformation on Vector Spaces. Linear Transformation and Matrices.	15	Linear Algebra II : Normal Subgroup, Homomorphism and Isomorphism of Groups.	15	
				Group-B (15 Marks)	Tensor Calculus: Generalised concept of a vector. Contravariant and Covariant vectors.	10	Tensor Caculus: Rest of the Tensor Calculus.	10	
				Group-C (15 Marks)	Differential Equation-II: Series Solution at an Ordinary Point.	10	Differential Equation-II: Laplace Transformation and its Application in ODE.	10	

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Dr. Babli Saha	Part-III (Hons.) 2019-2020	Paper-VII	Mod-XIII	Group-A (20 Marks)	Analysis-IV: Fourier Series, Multiple Integral and its application to determination of volume and surface area.	15	Analysis-IV: Improper Integration and their convergence.	15	Details to be found in the Syllabus of Calcutta University
				Group-B (15 Marks)	Metric Space:	20			
				Group-C (15 Marks)			Complex Analysis	20	
			Mod-IV	Group-A (30 Marks)	Probability: up to Expectation-II	40	Some Special Distribution, Convergence in Probability.	15	
				Group-B (20 Marks)	Statistics: Upto Sampling Distribution	10	Statistics: Bivariate Sample, Confidence Interval, Testing of Hypothesis.	20	
Dr. Nanda Das	Part-III (Hons.) 2019-2020	Paper-VIII	Mod-XII	Group-B (25 Marks)	Rigid Dynamics: Moment of Inertia, D'Alembert Principle, Motion about Fixed Axis up to Compound Pendulum.	25	Reaction on Fixed axis, Motion in Two-dimension, Impulse in 2D, Angular momentum & Energy equation.	20	Details to be found in the Syllabus of Calcutta University
			Mod-XV	Group-A (25 Marks)	Numerical Analysis: Interpolation , Numerical Differentiation & Integration.	20	Numerical Solution of Linear System of Equations, Transcendental equation and ODE.	20	
				Group-B (25 Marks)	Boolean Algebra: Basic Idea of Boolean Algebra and Switching Circuits and their applications.	10	Computer Programming: Concept of Algorithm, Flowchart and corresponding Programming in C	20	
			Mod-IV	Group-B (25 Marks)	Numerical Practical.(with Calculator)	25	Computer Practical in C	20	

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