KAZI NAZRUL UNIVERSITY — FACULTY OF SCIENCE

DEGREE PROGRAMME: 3 YEARS DEGREE WITH MATHEMATICS/4 YEARS DEGREE WITH MATHEMATICS HONOURS/ 4 YEARS DEGREE WITH MATHEMATICS HONOURS WITH RESEARCH

WITH EFFECT FROM THE ACADEMIC SESSION: 2023-24

Abbreviated Degree	Abbreviated Degree Programme	Semester	Course Name		Course Type	Course Code	Course Details	L - T - P	Course Credit	Sem Credit	CA Marks Practical	CA Marks Theoretical	ESE Marks Practical	ESE Marks Theoretical	Total Marks	Sem Marks
		I	Classical Algebra, Calculus and Analytical Geometry		MAJOR	BSCMTMMJ101	MJC-1	4 - 1 - 0	5	20		30		70	100	350
			MINOR COURSE- Choose from the Pool of Minor Courses offered in 1st Semester by the other Disciplines		MINOR	See Pool	MNC-1	4 - 1 - 0	5			30		70	100	
			Choose from the Pool of Multidisciplinary Courses offered in 1st Semester		MD	See Pool	MDC-1	3 - 0 - 0	3			15		35	50	
			English/MIL Communication		AEC	See Pool	AEC-1	4 - 0 - 0	4			15		35	50	
			Graph Theory		SEC	BSCMTMSE101	SEC-1	2 - 1 - 0	3			15		35	50	
		II	Linear Algebra I, Ordinary Differential Equations and Vector Calculus		MAJOR	BSCMTMMJ201	MJC-2	4 - 1 - 0	5	20		30		70	100	350
			MINOR COURSE- Minor Course opted for in the 1st semester should be continued in the 2nd semester with syllabus content of 2nd semester		MINOR	Corresponding Course Code of Minor opted in 1st Semester	MNC-2	4 - 1 - 0	5			30		70	100	
			Choose from the Pool of Multidisciplinary Courses offered in 2nd Semester		MD	See Pool	MDC-2	3 - 0 - 0	3			15		35	50	
			Environment Studies		VAC	VAC-201	VAC-1	4 - 0 - 0	4			15		35	50	
			Mathematical Tools and Latex		SEC	BSCMTMSE201	SEC-2	2 - 1 - 0	3			15		35	50	
	BSCMTM		Student exiting the programmes after securing 40 credits will be awarded UG Certificate in the relevant Discipline/Subject provided they secure 4 credits in work based vocational courses offered during summer term or internship / Apprenticeship. In addition to 6 credits from skill-based courses earned during first and second semester													
		III	Real Analysis I		MAJOR	BSCMTMMJ301	MJC-3	4 - 1 - 0	5	22		30		70	100	400
			Abstract Algebra I and Number Theory		MAJOR	BSCMTMMJ302	MJC-4	4 - 1 - 0	5			30		70	100	
			MINOR COURSE- Choose from the Pool of Minor Courses offered in 3rd Semester by the other Disciplines		MINOR	See Pool	MNC-3	4 - 1 - 0	5			30		70	100	
			Choose from the Pool of Multi-Disciplinary Courses offered in 3rd Semester		MD	See Pool	MD-3	2 - 1 - 0	3			15		35	50	
			English Communication		AE	See Pool	AECC-2	4 - 0 - 0	4			15		35	50	
		IV	Multivariate Calculus		MAJOR	BSCMTMMJ401	MJC-5	4 - 1 - 0	5	22		30		70	100	400
			Linear Algebra II and Tensor Calculus		MAJOR	BSCMTMMJ402	MJC-6	4 - 1 - 0	5			30		70	100	
			MINOR COURSE- Choose from the Pool of Minor Courses offered in 4th Semester by the other Disciplines		MINOR	See Pool	MNC-4	4 - 1 - 0	5			30		70	100	
			Programming in C		SEC	BSCMTMSE401	SEC-3	2 - 1 - 0	3			15		35	50	
			VALUE ADDED COURSE- Choose from the Pool of VAC offered in 4th Semester (Any One)		VA	See Pool	VAC-2	See Pool	4			See Pool				
			Students exiting the programmes after securing 80 credits will be awarded UG Diploma in the relevant Discipline/Subject provided they secure additional 4 credits in skill based vocational courses offered during first year or second year summer term													
		V	Real Analysis II		MAJOR	BSCMTMMJ501	MJC-7	4 - 1 - 0	5	20		30		70	100	400
			Probability, Statistics and Linear Programming Problem		MAJOR	BSCMTMMJ502	MJC-8	4 - 1 - 0	5			30		70	100	
			Numerical Methods and Numerical Lab		MAJOR	BSCMTMMJ503	MJC-9	3 - 0 - 4	5		30	15	20	35	100	
			MINOR COURSE- Choose from the Pool of Minor Courses offered in 5th Semester by the other Disciplines		MINOR	See Pool	MNC-5	4 - 1 - 0	5			30		70	100	

		Sem	Course		Category	Code	Course No	L-T-P	Credit	Total Credit		CA		ESE		Total Marks	Total Sem Marks
BSC / BSCH / BSCHR	MATHEMATICS																
		VI	Partial Differential Equations and Calculus of Variations		MAJOR	BSCMTMMJ601	MJC-10	4 - 1 - 0	5			30		70		100	450
			Metric Space and Complex Analysis		MAJOR	BSCMTMMJ602	MJC-11	4 - 1 - 0	5			30		70		100	
			Mechanics		MAJOR	BSCMTMMJ603	MJC-12	4 - 1 - 0	5	22		30		70		100	
			Mathematics in India: From Vedic Period to Modern Times		MAJOR	BSCMTMMJ604	MJC-13	4 - 1 - 0	5			30		70		100	
			Summer Internship		SI	BSCMTMSI601	SI-1	0 - 0 - 4	2			15		35		50	
			Total Credit and Marks		TOTAL CREDIT					126	TOTAL MARKS						2350

Students who want to undertake 3-year UG programme will be awarded UG Degree in the relevant Discipline / Subject upon securing 126 credits

		Sem	Course		Category	Code	Course No	L-T-P	Credit	Total Credit		CA		ESE		Total Marks	Total Sem Marks
	4 YEARS DEGREE WITH HONOURS	VII	Integral Transforms and Integral Equations		MAJOR	BSCMTMMJ701	MJC-14	4 - 1 - 0	5			30		70		100	500
			General Topology		MAJOR	BSCMTMMJ702	MJC-15	4 - 1 - 0	5			30		70		100	
			Functional Analysis		MAJOR	BSCMTMMJ703	MJC-16	4 - 1 - 0	5			30		70		100	
			Advanced Differential Equations and Special Functions		MAJOR	BSCMTMMJ704	MJC-17	4 - 1 - 0	5	25		30		70		100	
			MINOR COURSE- Choose from the Pool of Minor Courses offered in 7th Semester by the other Disciplines		MINOR	See Pool	MNC-6	4 - 1 - 0	5			30		70		100	
		VIII	Operations Research		MAJOR	BSCMTMMJ801	MJC-18	4 - 1 - 0	5			30		70		100	500
			Differential Geometry		MAJOR	BSCMTMMJ802	MJC-19	3 - 1 - 0	4			30		70		100	
			Classical Mechanics		MAJOR	BSCMTMMJ803	MJC-20	3 - 1 - 0	4			30		70		100	
			Abstract Algebra II		MAJOR	BSCMTMMJ804	MJC-21	3 - 1 - 0	4	22		30		70		100	
			MINOR COURSE- Choose from the Pool of Minor Courses offered in 8th Semester by the other Disciplines		MINOR	See Pool	MNC-7	4 - 1 - 0	5			30		70		100	
			Total Credit and Marks		TOTAL CREDIT					173	TOTAL MARKS						3350

Students will be awarded UG Degree (Honours) in the relevant Discipline / Subject provided they secure 173 credits

		Sem	Course		Category	Code	Course No	L-T-P	Credit	Total Credit		CA		ESE		Total Marks	Total Sem Marks
	4 YEARS DEGREE WITH HONOURS WITH RESEARCH	VII	Integral Equations and Integral Transforms		MAJOR	BSCMTMMJ701	MJC-14	4 - 1 - 0	5			30		70		100	500
			General Topology		MAJOR	BSCMTMMJ702	MJC-15	4 - 1 - 0	5			30		70		100	
			Functional Analysis		MAJOR	BSCMTMMJ703	MJC-16	4 - 1 - 0	5			30		70		100	
			Advanced Differential Equations and Special Functions		MAJOR	BSCMTMMJ704	MJC-17	4 - 1 - 0	5	25		30		70		100	
			MINOR COURSE- Choose from the Pool of Minor Courses offered in 7th Semester by the other Disciplines		MINOR	See Pool	MNC-6	4 - 1 - 0	5			30		70		100	
		VIII	Operations Research		MAJOR	BSCMTMMJ801	MJC-18	4 - 1 - 0	5			30		70		100	500
			RESEARCH PROJECT / DISSERTATION		RP	BSCMTMRP801	RP-1	4 - 0 - 16	12	22	140	30	60	70		300	
			MINOR COURSE- Choose from the Pool of Minor Courses offered in 8th Semester by the other Disciplines		MINOR	See Pool	MNC-7	4 - 1 - 0	5			30		70		100	
			Total Credit and Marks		TOTAL CREDIT					173	TOTAL MARKS						3350

Students will be awarded UG Degree (Honours) with Research in the relevant Discipline / Subject provided they secure 173 credits

Abbreviations: MJC-= Major (Core); AE= Ability Enhancement; AECC= Ability Enhancement Compulsory Course; MNC= Minor (Core); SE= Skill Enhancement; SEC= Skill Enhancement Course; MD= Multidisciplinary Course; SI - Summer Internship; RP= Research Project; VAC= Value Added Course; CA= Continuous Assessment, ESE= End Semester Examination, L= Lecture Hour; T= Tutorial Hour and P= Practical Hour/ Field Work and NA= Not Applicable

Semesterwise Pool of Minor Courses offered by this Discipline for other Honours Disciplines

Discipline	Semester	Course Name	Course Type	Course Code	Course Details	L - T - P	Course Credit	Sem Credit	CA Marks Practical	CA Marks Theoretical	ESE Marks Practical	ESE Marks Theoretical	Total Marks	Sem Marks
	I	Classical Algebra, Calculus and Analytical Geometry		BSCMTMMN101	MNC-1	4 - 1 - 0	5			30		70	100	
	II	Linear Algebra I, Ordinary Differential Equations and Vector Calculus		BSCMTMMN201	MNC-2	4 - 1 - 0	5			30		70	100	
	III	Real Analysis and Complex Analysis		BSCMTMMN301	MNC-3	4 - 1 - 0	5			30		70	100	
MATHEMATICS	IV	Abstract Algebra and Linear Algebra II	MINOR	BSCMTMMN401	MNC-4	4 - 1 - 0	5	NA		30		70	100	NA
	V	Numerical Analysis and Partial Differential Equations		BSCMTMMN501	MNC-5	4 - 1 - 0	5			30		70	100	
	VII	Mechanics		BSCMTMMN701	MNC-6	4 - 1 - 0	5			30		70	100	
	VIII	Probabilty, Statistics and Linear Programming Problem		BSCMTMMN801	MNC-7	4 - 1 - 0	5			30		70	100	

Semester wise Pool of Multidisciplinary Courses offered by this Discipline for other Disciplines

Discipline	Semester	Course Name	Course Type	Course Code	Course Details	L - T - P	Course Credit	Sem Credit	CA Marks Practical	CA Marks Theoretical	ESE Marks Practical	ESE Marks Theoretical	Total Marks	Sem Marks
		Physical Science((From Physics)		MDC101		3 - 0 - 0			`	15		35		
		E-Commerce(From BBA)		MDC102		3 - 0 - 0				15		35		
		Human Rights(From Political Science)		MDC103		3 - 0 - 0				15		35		
		Disaster Management (From Geography)		MDC104		3 - 0 - 0				15		35		
		Fitness And Wellness (From Physical Education)		MDC105		3 - 0 - 0				15		35		
		Application Of Bio-Science (From Zoology)		MDC106		3 - 0 - 0				15		35		
		Film Appreciation (From English)		MDC107		3 - 0 - 0				15		35		
		Accounting For All (From Commerce)		MDC108		3 - 0 - 0				15		35		
	I	History Of Ancient Bengal (From History)	(Any One)	MDC109	MD-1	3 - 0 - 0	3			15		35	50	
		Bangla Sahitya O Sanskriti(From Bengali)		MDC110		3 - 0 - 0				15		35		
		Money And Banking (From Economics)		MDC111		3 - 0 - 0				15		35		
		Patrakarita (From Hindi)		MDC112		3 - 0 - 0				15		35		
		Business Mathematics (Mathematics)		MDC113		3 - 0 - 0				15		35		
		Indian Society (From Sociology)		MDC114		3 - 0 - 0				15		35		
		Yoga For Daily Life (Philosophy)		MDC115		3 - 0 - 0				15		35		
		Electronic Measurements (Electronics)		MDC116		3 - 0 - 0				15		35		
		Information And Communication Technology From Computer Sc.)		MDC117		3 - 0 - 0				15		35		
		Introduction To Local Flora (Dept Of Botany)		MDC118		3 - 0 - 0				15		35		
		Information And Media Literacy		MDC119		3 - 0 - 0				15		35		
		Mathematical Science (From Mathematics)		MDC201		3 - 0 - 0				15		35		
		Business Environment (From BBA)		MDC202		3 - 0 - 0				15		35		
		Basic Statistics (Statistics)		MDC203		3 - 0 - 0				15		35		
		Cultural History of Bengal (From History)		MDC204		3 - 0 - 0				15		35		
MULTI DISCIPLINARY		Personal Finance (From Commerce)		MDC205		3 - 0 - 0		NA		15		35		
		Nutrition And Public Health (From Nutrition)		MDC206		3 - 0 - 0				15		35		
		Educational Philosophy (From Education)		MDC207		3 - 0 - 0				15		35		
		Stress Management (From Psychology)		MDC208		3 - 0 - 0				15		35		
	II	Social Media and Cyber Awareness (From Computer Science)	(Any One)	MDC209	MD-2	3 - 0 - 0	3			15		35	50	
		Adhunik Bangla Sahitya (From Bengali)		MDC210		3 - 0 - 0				15		35		
		Nazrul Sangeet (Nazrul Sangeet)		MDC211		3 - 0 - 0				15		35		
		E-Waste Management (Electronics)		MDC212		3 - 0 - 0				15		35		
		Chemical Science (Chemistry)		MDC213		3 - 0 - 0				15		35		
		Critical Survey of Sanskrit Language (Sanskrit)		MDC214		3 - 0 - 0				15		35		
		Asnaf- E -Adab (Dept of Urdu)		MDC215		3 - 0 - 0				15		35		
		Anuvad Vigyan (Deptt. Of Hindi)		MDC216		3 - 0 - 0				15		35		
		Herbal Home Remedies (Dept of Botany)		MDC217		3 - 0 - 0				15		35		

Course Name	Semester		Course Type	Course Code	Course Details	L - T - P	Course Credit	Sem Credit	CA Marks		ESE Marks		Total Marks	Sem Marks
									Practical	Theoretical	Practical	Theoretical		
Bharatavarsha—A Land of Rare Natural Endowments (From Geography)				MDC301		3 - 0 - 0				15		35		
The Vedangas and Other Streams of Indian Knowledge System (From Sanskrit)				MDC302		3 - 0 - 0				15		35		
Indian Astronomy (From Physics)				MDC303		3 - 0 - 0				15		35		
Indian Health Sciences (From Zoology)	III	(Any One)		MDC304	MD-3	3 - 0 - 0	3			15		35	50	
Indian Mathematics (From Mathematics)				MDC305		3 - 0 - 0				15		35		
Indian Education (From Education)				MDC306		3 - 0 - 0				15		35		
Indian Polity and Economy (From Political Sc)				MDC307		3 - 0 - 0				15		35		
Methodology Of Indian Knowledge System (Philosophy)				MDC308		3 - 0 - 0				15		35		

Pool of Communication Courses offered as Ability Enhancement Courses in the SEMESTER-I

Discipline	Semester	Course Name	Course Type	Course Code	Course Details	L - T - P	Course Credit	Sem Credit	CA Marks		ESE Marks		Total Marks	Sem Marks
									Practical	Theoretical	Practical	Theoretical		
English/MIL Communication	I	English Communication	AE	AECE101	AEC-1	4 - 0 - 0	4	NA		15		35	50	NA
		Bengali Communication		AECB101		4 - 0 - 0				15		35		
		Hindi Communication	(Any One)	AECH101		4 - 0 - 0				15		35		
		Urdu Communication		AECU101		4 - 0 - 0				15		35		

Pool of Value Added Courses offered in the SEMESTER-IV

Discipline	Semester	Course Name	Course Type	Course Code	Course Details	L - T - P	Course Credit	Sem Credit	CA Marks		ESE Marks		Total Marks	Sem Marks
									Practical	Theoretical	Practical	Theoretical		
VALUE ADDED	IV	Yoga And Health (From Physiology)		VAC401	VAC-2	4 - 0 - 0	4	NA	`	15		35	50	NA
		Social Values and Ethics (From Philosophy)		VAC402		4 - 0 - 0				15		35		
		Digital And Technological Solutions (From Computer Science)		VAC403		4 - 0 - 0				15		35		
		Understanding India (From History)	(Any One)	VAC404		4 - 0 - 0				15		35		
		Sustainable Development: Issues And Challenges (From Economics)		VAC405		4 - 0 - 0				15		35		
		Goods And Services Tax (From Commerce)		VAC406		4 - 0 - 0				15		35		
		Basics of Indian Constitution (From Political Science)		VAC407		4 - 0 - 0				15		35		