

KAZI NAZRUL UNIVERSITY				FACULTY OF SCIENCE, TECHNOLOGY & VOCATIONAL STUDIES		3-Year UG Degree /4-Year UG Degree (Honours) / 4-Year UG Degree (Honours with Research)			WITH EFFECT FROM THE ACADEMIC SESSION: 2023-24									
Abbreviated Degree	Discipline	Degree Programme	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				
BSC	Physics	3-year UG Degree	I	Mechanics and General Properties of Matter	MAJOR	BSCPHSMJ101	MJC-1	3 - 0 - 4	5	20	30	15	20	35	100	350		
				Choose from the Pool of Minor Courses offered in 1st Semester by other Disciplines within the faculty	MINOR	See Pool	MNC-1	See Pool	5		See Pool				100			
				Choose from the Pool of Multidisciplinary Courses offered in 1st Semester across the faculties	MD	See Pool	MDC-1	3 - 0 - 0	3			15		35	50			
				English/MIL Communication	AE	See Pool	AEC-1	4 - 0 - 0	4			15		35	50			
				Computer Programming	SE	BSCPHSSE101	SEC-1	0 - 0 - 6	3		15		35		50			
			II	Electricity and Magnetism	MAJOR	BSCPHSMJ201	MJC-2	3 - 0 - 4	5	20	30	15	20	35	100	350		
				Choose from the Pool of Minor Courses offered in 2nd Semester by other Disciplines within the faculty	MINOR	Corresponding Course Code of Minor opted in 1st Semester	MNC-2	See Pool	5		See Pool				100			
				Choose from the Pool of Multidisciplinary Courses offered in 2nd Semester across the faculties	MD	See Pool	MDC-2	3 - 0 - 0	3			15		35	50			
				Environment Studies	VA	VA201	VAC-1	4 - 0 - 0	4			15		35	50			
				Electrical Circuits and Network Skill	Any One	SE	BSCPHSSE201	SEC-2	0 - 0 - 6		3	30		20			50	
				Basic Instrumentation Skills		SE	BSCPHSSE202											
				Student exiting the programmes after securing 40 credits will be awarded UG Certificate in the relevant Discipline/Subject provided they secure following 4 credits in work based vocational courses / summer internship during 1st year														
			II	Vocational Course Summer Internship	Any One	VC SI	VC201 SI201	VCC-1 SIC-1	0 - 0 - 8	4	24	30		20		50	400	
			III	Mathematical Methods in Physics I	MAJOR	BSCPHSMJ301	MJC-3	4 - 1 - 0	5	22		30		70	100	400		
				Optics	MAJOR	BSCPHSMJ302	MJC-4	3 - 0 - 4	5		30	15	20	35	100			
				Choose from the Pool of Minor Courses offered in 3rd Semester by other Disciplines within the faculty	MINOR	See Pool	MNC-3	See Pool	5		See Pool				100			
				Choose from the Pool of Multidisciplinary Courses offered in 3rd Semester across the faculties	MD	See Pool	MD-3	2 - 1 - 0	3			15		35	50			
				English Communication	AE	See Pool	AEC-2	4 - 0 - 0	4			15		35	50			
			IV	Classical Mechanics and Special Theory of Relativity	MAJOR	BSCPHSMJ401	MJC-5	4 - 1 - 0	5	22		30		70	100	400		
				Heat and Thermal Physics	MAJOR	BSCPHSMJ402	MJC-6	3 - 0 - 4	5		30	15	20	35	100			
				Choose from the Pool of Minor Courses offered in 4th Semester by other Disciplines within the faculty	MINOR	See Pool	MNC-4	See Pool	5		See Pool				100			
				Computer Oriented Numerical Analysis	Any One	SE	BSCPHSSE401	SEC-3	0 - 0 - 6		3	30		20			50	
				Scientific Writing and Documentation		SE	BSCPHSSE402											
				Choose from the Pool of Value Added Course offered in 4th Semester	VA	See Pool	VAC-2	See Pool	4			15		35	50			
			Student exiting the programmes after securing 84 credits will be awarded UG Diploma in the relevant Discipline/Subject provided they secure following 4 credits in work based vocational courses / summer internship during 2nd year															
			IV	Vocational Course Summer Internship	Any One	VC SI	VC401 SI401	VCD-1 SID-1	0 - 0 - 8	4	26	30		20		50	450	
			V	Analog Electronics	MAJOR	BSCPHSMJ501	MJC-7	3 - 0 - 4	5	20	30	15	20	35	100	400		
				Quantum Mechanics-I	MAJOR	BSCPHSMJ502	MJC-8	3 - 0 - 4	5		30	15	20	35	100			
				EM Theory and its Applications	MAJOR	BSCPHSMJ503	MJC-9	4 - 1 - 0	5			30		70	100			

Note: Minor Courses (MNC) : Students of a particular UG Course will choose from the Pool of Minor Courses offered by disciplines other than the major discipline opted by the student within the faculty. The student is required to opt the same Minor Discipline in the 2nd semester which he had opted in 1st semester.

Explanation: If a student of Physics Major, opts for a Minor Course offered by Chemistry in 1st semester then that student is required to continue with the Minor Course offered by Chemistry for 2nd semester as Minor Course in the 2nd semester.

Semesterwise Pool of Minor Courses offered by Physics for other Disciplines within the Faculty

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		
Physics	I	Mechanics and General properties of Matter	MINOR	BSCPHSMN101	MNC-1	3 - 0 - 4	5	NA	30	15	20	35	100	NA
	II	Electricity and magnetism		BSCPHSMN201	MNC-2	3 - 0 - 4	5		30	15	20	35	100	
	III	Fundamentals of Optics		BSCPHSMN301	MNC-3	4 - 1 - 0	5			30		70	100	
	IV	Fundamentals of Thermal Physics		BSCPHSMN401	MNC-4	4 - 1 - 0	5			30		70	100	
	V	Basic Electroncis		BSCPHSMN501	MNC-5	4 - 1 - 0	5			30		70	100	
	VI	NA		NA										
	VII	Modern Physics-I		BSCPHSMN701	MNC-6	4 - 1 - 0	5			30		70	100	
	VIII	Modern Physics-II		BSCPHSMN801	MNC-7	4 - 1 - 0	5			30		70	100	

Semester wise Pool of Multidisciplinary Courses offered by Physics for other Disciplines across the Faculties

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		
Physics	I	Physical Science		MDC101	MDC-1	2 - 1 - 0	3	NA		15		35	50	

Pool of Communication Courses offered as Ability Enhancement Courses in 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	Any One	English Communication	AE	AECE101	AEC-1	4 - 0 - 0	4	NA		15		35	50	NA
			Bengali Communication		AECB101										
			Hindi Communication		AECH101										
			Urdu Communication		AECU101										

Pool of Value Added Courses offered in Semester-IV for all Disciplines across all Faculties

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		
NA	IV	Any One	Yoga And Health	VA	VAC401	VAC-2	4 - 0 - 0	4	NA		15	35	50	NA	
			Social Values and Ethics		VAC402										
			Digital and Technological Solutions		VAC403										
			Understanding India		VAC404										
			Sustainable Development: Issues and Challenges		VAC405										
			Goods and Services Tax		VAC406										
			Basics of Indian Constitution		VAC407										

Semester wise Pool of Multidisciplinary Courses offered for all Disciplines across the Faculties:

Offered By 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														
Physics	I	Any One	Physical Science	MD	MDC101	MDC-1	2 - 1 - 0	3	NA		15	35	50	NA													
BBA			E-Commerce		MDC102																						
Political Science			Human Rights		MDC103																						
Geography			Disaster Management		MDC104																						
Physical Education			Fitness and Wellness		MDC105																						
Zoology			Application of Bio-Science		MDC106																						
English			Film Appreciation		MDC107																						
Commerce			Accounting for All		MDC108																						
History			Exploring Early Medieval Bengal: C.7th Century CE to 1206 CE		MDC109																						
Bengali			Bangla Sahitya O Sanskriti		MDC110																						
Economics			Money and Banking		MDC111																						
Hindi			Patrakarita		MDC112																						
Mathematics			Business Mathematics		MDC113																						
Sociology			Indian Society		MDC114																						
Philosophy			Yoga for Daily Life		MDC115																						
Electronics			Electronic Measurements		MDC116																						
Computer Science			Information and Communication Technology		MDC117																						
Botany			Introduction to Local Flora		MDC118																						
Computer Applications			Information and Media Literacy		MDC119																						
Commerce			Personal Finance		MDC120																						
Mathematics	II	Any One	Mathematical Science	MD	MDC201	MDC-2	2 - 1 - 0	3	NA		15	35	50	NA													
BBA			Business Environment		MDC202																						
Statistics			Basic Statistics		MDC203																						
History			Understanding Medieval Bengal Select Themes: 1206 CE-1727 CE		MDC204																						
Commerce			Personal Finance		MDC205																						
Nutrition			Nutrition and Public Health		MDC206																						
Education			Educational Philosophy		MDC207																						
Psychology			Stress Management		MDC208																						
Computer			Social Media and Cyber Awareness		MDC209																						
Bengali			Adhunik Bangla Sahitya		MDC210																						
Nazrul Sangeet			Nazrul Sangeet		MDC211																						
Electronics			E-Waste Management		MDC212																						
Chemistry			Chemical Science		MDC213																						
Sanskrit			Critical Survey of Sanskrit Language		MDC214																						
Urdu			Asnaf- E -Adab		MDC215																						
Hindi			Anuvad Vigyan		MDC216																						
Botany			Herbal Home Remedies		MDC217																						
Geography			III		Any One										Bharatavarsha—A Land of Rare Natural Endowments	MD	MDC301	MDC-3	2 - 1 - 0	3	NA		15	35	50	NA	
Sanskrit															The Vedangas and other Streams of Indian Knowledge System		MDC302										
Physics	Indian Astronomy	MDC303																									
Zoology	Indian Health Sciences	MDC304																									
Mathematics	Indian Mathematics	MDC305																									
Education	Indian Education	MDC306																									
Political Sc	Indian Polity and Economy	MDC307																									
Philosophy	Methodology of Indian Knowledge System	MDC308																									

Department of Physics, Kazi Nazrul University, Asansol
Curriculum For B.Sc. Honours in Physics [CBCS & LOCF]

Semester-I

Semester - I							
Sr. No.	Name of the Subject	Nature	Code	Teaching Scheme in hour per week			credit
				L	T	P	
1	Mathematical Methods of Physics-I	Core Course-I		5	1	0	6
2	Mechanics	Core Course-II (Theory +Lab)		4	0	4	6
3	GE -I	GE-I (Theory)		5	1	0	6
4		GE-I (Theory +Lab)		4	0	4	6
5		AEC-I		4	0	0	4
				Total Credit =22			

Semester-II

Sr. No.	Name of the Subject	Nature	Code	Teaching Scheme in hour per week			credit
				L	T	P	
1	Mathematical Methods of Physics-II	Core Course III (Theory +Lab)		4	0	4	6
2	Electricity and Magnetism	Core Course-IV (Theory +Lab)		4	0	4	6
3	GE -II	GE-II (Theory)		5	1	0	6
4		GE-II (Theory +Lab)		4	0	4	6
5	Eng/MIL	AEC-II		4	0	0	4
Total Credit =22							

Semester-III

Sr. No.	Name of the Subject	Nature	Code	Teaching Scheme in hour per week			credit
				L	T	P	
1	Classical Mechanics and Special Theory of Relativity	Core Course-V (Theory +Lab)		4	0	4	6
2	Thermal Physics- I	Core Course-VI (Theory +Lab)		4	0	4	6
3	Analog Systems and Applications	Core Course VII		4	0	4	6
4	GE -III	GE-III (Theory)		5	1	0	6
5		GE-III (Theory +Lab)		4	0	4	6
6	SEC –I	SEC-I		0	0	8	4
Total Credit =28							

Semester-IV

Sr. No.	Name of the Subject	Nature	Code	Teaching Scheme in hour per week			credit
				L	T	P	
1	Electromagnetic Theory	Core Course-VIII (Theory +Lab)		4	0	4	6
2	Waves and Optics	Core Course IX (Theory +Lab)		4	0	4	6
3	Digital Systems and Applications	Core Course X(Theory +Lab)		4	0	4	6
4	GE -I	GE-I (Theory)		5	1	0	6
		GE-I (Theory +Lab)		4	0	4	6
5	SEC –II	SEC-II		0	0	8	4
Total Credit = 28							

Semester-V

Sr. No.	Name of the Subject	Nature	Code	Teaching Scheme in hour per week			Credit
				L	T	P	
1	Quantum Mechanics	Core Course-XI (Theory +Lab)		4	0	4	6
2	Thermal Physics-II	Core Course XII (Theory +Lab)		4	0	4	6
3	DSE -III	DSE-III (Theory)		5	1	0	6
4	DSE -IV	DSE-III (Theory +Lab)		4	0	4	6
		DSE-IV(Theory)		5	1	0	6
		DSE-IV (Theory +Lab)		4	0	4	6
				Total Credit = 24			

Semester-VI

Sr. No.	Name of the Subject	Nature	Code	Teaching Scheme in hour per week			Credit
				L	T	P	
1	Statistical Mechanics	Core Course-XIII (Theory)		5	1	0	6
2	Condensed Matter Physics	Core Course XIV (Theory +Lab)		4	0	4	6
3	DSE -III	DSE-III (Theory)		5	1	0	6
4	DSE -IV	DSE-III (Theory +Lab)		4	0	4	6
		DSE-IV(Theory)		5	1	0	6
		DSE-IV (Theory +Lab)		4	0	4	6
				Total Credit =24			

Department of Physics, KaziNazrul University, Asansol

Curriculum For B.Sc. with Physics [CBCS & LOCF]

Semester-I

Sr. No.	Name of the Subject	Nature	Code	Teaching Scheme in hour per week			credit
				L	T	P	
1	Mechanics	Core Course (Theory +Lab)		4	0	4	6
2	Discipline 2	Core Course (Theory) OR		5	1	0	6
		Core Course (Theory +Lab)		4	0	4	6
3	Discipline3	Core Course (Theory) OR		5	1	0	6
		Core Course (Theory +Lab)		4	0	4	6
4	EVS	AECC					4
				Total Credit =22			

Semester-II

Sr. No.	Name of the Subject	Nature	Code	Teaching Scheme in hour per week			credit
				L	T	P	
1	Electricity and Magnetism	Core Course (Theory +Lab)		4	0	4	6
2	Discipline 2	Core Course (Theory) OR		5	1	0	6
		Core Course (Theory +Lab)		4	0	4	6
3	Discipline3	Core Course (Theory) OR		5	1	0	6
		Core Course (Theory +Lab)		4	0	4	6
4	Eng/MIL	AEC		4	0	0	4
				Total Credit =22			

Semester-III

Sr. No.	Name of the Subject	Nature	Code	Teaching Scheme in hour per week			credit
				L	T	P	
1	Thermal Physics and Statistical Mechanics	Core Course (Theory +Lab)		4	0	4	6
2	Discipline 2	Core Course (Theory)		5	1	0	6
		OR Core Course (Theory +Lab)		4	0	4	6
3	Discipline3	Core Course (Theory)		5	1	0	6
		OR Core Course (Theory +Lab)		4	0	4	6
4	Electrical Circuit Network Skills	SEC-I		0	0	8	8
				Total Credit =22			

Semester-IV

Sr. No.	Name of the Subject	Nature	Code	Teaching Scheme in hour per week			credit
				L	T	P	
1	Waves and Optics	Core Course (Theory +Lab)		4	0	4	6
2	Discipline 2	Core Course (Theory)		5	1	0	6
		OR Core Course (Theory +Lab)		4	0	4	6
3	Discipline3	Core Course (Theory)		5	1	0	6
		OR					
4	Basic Instrumentation Skills	Core Course (Theory +Lab)		4	0	4	6
		SEC-III		0	0	8	4
Total Credit =22							

Semester-V

Sr. No.	Name of the Subject	Nature	Code	Teaching Scheme in hour per week			credit
				L	T	P	
1	Discipline Specific Elective (Discipline 1: Physics)	Core Course (Theory) OR Core Course (Theory +Lab)		5	1	0	6
		Core Course (Theory) OR		4	0	4	6
2	Discipline Specific Elective (Discipline 2:)	Core Course (Theory) OR		5	1		6
		Core Course (Theory +Lab)		4	0	4	6
3	Discipline Specific Elective (Discipline-3:)	Core Course (Theory) OR		5	1	0	6
		Core Course (Theory +Lab)		4	0	4	6
4	Technical Drawing Skills	SEC-V		8	0	0	4
Total Credit =22							

Semester-VI

Sr. No.	Name of the Subject	Nature	Code	Teaching Scheme in hour per week			credit
				L	T	P	
1	Discipline Specific Elective (Discipline 1: Physics)	Core Course (Theory) OR		5	1	0	6
		Core Course (Theory +Lab)		4	0	4	6
2	Discipline Specific Elective (Discipline 2:)	Core Course (Theory) OR		5	1	0	6
		Core Course (Theory +Lab)		4	0	4	6
3	Discipline Specific Elective (Discipline-3:)	Core Course (Theory) OR		5	1	0	6
		Core Course (Theory +Lab)		4	0	4	6
4	Computational Physics	SEC-IV		8	0	0	4
Total Credit =22							