

**School of Basic Sciences :BSc(H) Mathematics with specialization in Computational Mathematics**

**Year 1**

<b>Semester-I</b>						
<b>S. No.</b>	<b>Category</b>	<b>Name of the Course</b>				
			<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
<b>1</b>	<b>Core</b>	Fundamental of Mathematics I	3	1	0	4
<b>2</b>	<b>Core</b>	Calculus	3	0	1	4
<b>3</b>	<b>AEC</b>	English Proficiency I	0	0	2	2
<b>4</b>	<b>VAC</b>	IT Tools and Data Analytics	0	0	2	2
<b>5</b>	<b>MDC-1</b>	Foundation of Programming	2	0	2	4
<b>6</b>	<b>GE</b>	Generic Elective/Minor-1	-	-	-	4
<b>Total Credits</b>						<b>20</b>

**Semester-II**

<b>S. No.</b>	<b>Category</b>	<b>Name of the Course</b>				
			<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
<b>1</b>	<b>Core</b>	Fundamental of Mathematics II	3	1	0	4
<b>2</b>	<b>Core</b>	Linear Algebra I	3	0	1	4
<b>3</b>	<b>Core</b>	Multivariable Calculus	3	1	0	4
<b>4</b>	<b>AEC</b>	English Proficiency II	0	0	2	2
<b>5</b>	<b>VAC</b>	Choose Any one from Basket of VAC	2	0	0	2
<b>6</b>	<b>GE</b>	Generic Elective/Minor-2	-	-	-	4
<b>Total Credits</b>						<b>20</b>

**Year 2**

**Semester-III**

<b>S. No.</b>	<b>Category</b>	<b>Name of the Course</b>				
			<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
<b>1</b>	<b>Core</b>	Real Analysis I	3	1	0	4
<b>2</b>	<b>Core</b>	Linear Algebra II	3	1	0	4
<b>3</b>	<b>Core</b>	Ordinary Differential Equations	3	0	1	4
<b>4</b>	<b>AEC</b>	Today's Science, Tomorrow's World I	2	0	0	2
<b>5</b>	<b>Internship</b>	Social Internship	-	-	-	2
<b>6</b>	<b>SEC</b>	Choose Any one from Basket of SEC	3	0	0	3

7	GE	Generic Elective/Minor-3	-	-	-	4
<b>Total Credits</b>						<b>23</b>
<b>Semester-IV</b>						
S. No.	Category	Name of the Course				
			L	T	P	C
1	Core	Advanced Numerical Analysis	3	0	1	4
2	Core	Partial differential Equations	3	1	0	4
3	Core	Descriptive Statistics	3	0	1	4
4	AEC	Today's Science, Tomorrow's World II	2	0	0	2
5	SEC	Choose Any one from Basket of SEC	-	-	-	3
6	MDC-2		-	-	-	2
7	GE	Generic Elective/Minor-4	-	-	-	4
<b>Total Credits</b>						<b>23</b>
<b>Year 3</b>						
<b>Semester-V</b>						
S. No.	Category	Name of the Course				
			L	T	P	C
1	Core	Complex Analysis	3	1	0	4
2	Core	Modern Algebra	3	0	1	4
3	Elective	Specialized Elective 1	-	-	-	4
4	GE	Generic Elective/Minor-5	-	-	-	4
5	SEC	Choose Any one from Basket of SEC	3	0	0	3
6	VAC	Choose Any one from Basket of VAC	-	-	-	2
7	Internship	Internship (Industrial/Academic/Research)	0	0		2
<b>Total Credits</b>						<b>23</b>
<b>Semester-VI</b>						
S. No.	Category	Name of the Course				
			L	T	P	C
1	Elective	Modelling and Simulations	3	1	0	4
2	Elective	Probability Theory	3	1	0	4
3	Elective	Specialized Elective-2	-	-	-	4
4	Elective	Specialized Elective -3	-	-	-	4

5	Minor	Generic Elective/Minor-6	-	-	-	4
6	MDC-3		-	-	-	3
Total Credits						23
Electives						
S. No.	Category	Name of the Course				
			L	T	P	C
1	Elective 1	Operation Research	3	1	0	4
2		Numerical Linear Algebra	-	-	-	4
3		Graph Theory	3	1	0	4
4	Elective 2	Numerical Optimization Techniques	3	1	0	4
5		Database Management system	3	0	1	4
6	Elective 3	Computational Physics	3	1	0	4
7		Machine Learning	3	1	0	4
8	Elective 4	Computational Number Theory and Cryptography	3	1	0	4
9		Data Mining and Warehouse	3	1	0	4
10	Elective 5	Algorithms in Mathematical Finance	3	1	0	4
11		Cloud Computing	3	1	0	4




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