

## Program structure with credits for the Three Year B.Sc. (General/Honours) Degree Program

**DSC: Discipline Specific Core** where DSC 1A, DSC 2A and DSC 3A denote three different subjects. Students should choose any one group consisting of three subjects

- Group 1 : Physics, Chemistry, Mathematics
  - Group 2 : Physics, Botany, Mathematics
  - Group 3 : Physics, Zoology, Mathematics
  - Group 4 : Physics, Chemistry, Botany
  - Group 5 : Physics, Chemistry, Zoology
  - Group 6 : Chemistry, Botany, Mathematics
  - Group 7 : Chemistry, Zoology, Mathematics
  - Group 8 : Chemistry, Botany, Zoology
  - Group 9 : Botany, Physics, Zoology
- Students should choose the core courses given above at the time of admission. In addition, it is also mandatory for students to take an Ability Enhancement Core Course (AECC) and a Generic Elective (GE).

### B. Sc. Semester I

GROUP	DSC	CODE	COURSES	CREDITS	TOTAL
<b>GROUP 1: PHYSICS, CHEMISTRY, MATHEMATICS</b>					
1	1A	PYC101	Mathematical Methods and Mechanics Electrical Circuit Theory	4+2	6
	2A	CHC101	Inorganic Chemistry and Organic Chemistry	4+2	6
	3A	MTC101:	Calculus and Numerical Methods	4+2	6
<b>OR</b>					
<b>GROUP 4: PHYSICS, CHEMISTRY, BOTANY</b>					
4	1A	PYC101	Mathematical Methods and Mechanics Electrical Circuit Theory	4+2	6
	2A	CHC101	Inorganic Chemistry and Organic Chemistry	4+2	6

	3A	BOC101	Biodiversity I (Microbes, Algae, Fungi and Bryophytes)	4+2	6
<b>OR</b>					
<b>GROUP 5: PHYSICS, CHEMISTRY, ZOOLOGY</b>					
5	1A	PYC101	Mathematical Methods and Mechanics Electrical Circuit Theory	4+2	6
	2A	CHC101	Inorganic Chemistry and Organic Chemistry	4+2	6
	3A	ZOC101	Diversity of Non-Chordates & Cell Biology	4+2	6
<b>OR</b>					
<b>GROUP 6: CHEMISTRY, BOTANY, MATHEMATICS</b>					
6	1A	CHC101	Inorganic Chemistry and Organic Chemistry	4+2	6
	2A	BOC101	Biodiversity I (Microbes, Algae, Fungi and Bryophytes)	4+2	6
	3A	MTC101:	Calculus and Numerical Methods	4+2	6
<b>OR</b>					
<b>GROUP 7: CHEMISTRY, ZOOLOGY, MATHEMATICS</b>					
7	1A	CHC101	Inorganic Chemistry and Organic Chemistry	4+2	6
	2A	ZOC101	Diversity of Non-Chordates & Cell Biology	4+2	6
	3A	MTC101:	Calculus and Numerical Methods	4+2	6
<b>OR</b>					
<b>CHEMISTRY, BOTANY, ZOOLOGY</b>					
8	1A	CHC101	Inorganic Chemistry and Organic Chemistry	4+2	6
	2A	BOC101	Biodiversity I (Microbes, Algae, Fungi and Bryophytes)	4+2	6
	3A	ZOC101	Diversity of Non-Chordates & Cell Biology	4+2	6
<b>AND</b>					
AECC 1 (Any one)			Environmental Studies OR	4	4
		ENA101	Spoken English /Hindi / Konkani		
<b>AND</b>					
<b>AND</b>					

GE 1 (Any one)	GE-01	Probability and Statistics	4	4
	PYG101	Basic Physics		
	ENG101	Literature and Cinema		
	HNG101	Jansanchar Madhyam: Mudrit Madhyam		
	KOG101	Vevharantli Konkani Bhas		
	HSG101	Goan Heritage		
	PSG101	Child Psychology		
	POG 101	Contemporary Issues in India		
	ECO GE1	Entrepreneurship Development -I		

## B. Sc. Semester II

GROUP	DSC	CODE	COURSES	CREDITS	TOTAL
<b>GROUP 1: PHYSICS, CHEMISTRY, MATHEMATICS</b>					
1	1B	PYC102	Heat and Thermodynamics Properties of Matter and Acoustics	4+2	6
	2B	CHC102	Physical Chemistry and Organic Chemistry	4+2	6
	3B	MTC102	Matrices and Linear Algebra	4+2	6
<b>OR</b>					
<b>GROUP 4 : PHYSICS, CHEMISTRY, BOTANY</b>					
4	1B	PYC102	Heat and Thermodynamics Properties of Matter and Acoustics	4+2	6
	2B	CHC102	Physical Chemistry and Organic Chemistry	4+2	6
	3B	BOC102	Biodiversity II (Vascular Plants)	4+2	6
<b>OR</b>					
<b>GROUP 5: PHYSICS, CHEMISTRY, ZOOLOGY</b>					
5	1B	PYC102	Heat and Thermodynamics Properties of Matter and Acoustics	4+2	6
	2B	CHC102	Physical Chemistry and Organic Chemistry	4+2	6

	3B	ZOC102	Diversity of Chordates and Genetics	4+2	6
<b>OR</b>					
<b>GROUP 6: PHYSICS, BOTANY, MATHEMATICS</b>					
6	1B	CHC102	Physical Chemistry and Organic Chemistry	4+2	6
	2B	BOC102	Biodiversity II (Vascular Plants)	4+2	6
	3B	MTC102	Matrices and Linear Algebra	4+2	6
<b>OR</b>					
<b>GROUP 7: CHEMISTRY, ZOOLOGY, MATHEMATICS</b>					
7	1B	CHC102	Physical Chemistry and Organic Chemistry	4+2	6
	2B	ZOC102	Diversity of Chordates and Genetics	4+2	6
	3B	MTC102	Matrices and Linear Algebra	4+2	6
<b>OR</b>					
<b>GROUP 8: CHEMISTRY, BOTANY, ZOOLOGY</b>					
8	1B	CHC102	Physical Chemistry and Organic Chemistry	4+2	6
	2B	BOC102	Biodiversity II (Vascular Plants)	4+2	6
	3B	ZOC102	Diversity of Chordates and Genetics	4+2	6
<b>AND</b>					
AECC 2 (Any one)		Environmental Studies OR Spoken English /Hindi / Konkani		4	4
<b>AND</b>					
GE 2 (Any one)	GE-02	Numerical Computations		4	4
	PYG102	Optics and Instrumentation			
	ENG102	Culture Studies through Films			
	HNG102	Jansanchar Madhyam: Electronic Madhyam			
	KOG102	Sampark Madhyamanchi Konkani Bhas			
	HSG106	Goa Since Liberation (1962-2012)			
	PSG102	Psychology of Adolescence			

	POG102	MK Gandhi's Political and Economic Thought		
	ECOGE2	Entrepreneurship Development II		

### B. Sc. Semester III

GROUP	DSC	CODE	COURSES	CREDITS	TOTAL
<b>GROUP 1: PHYSICS, CHEMISTRY, MATHEMATICS</b>					
1	1C	PYC103	Waves and Oscillation Electronics	4+2	6
	2C	CHC103	Physical Chemistry and Organic Chemistry	4+2	6
	3C	MTC103	Ordinary Differential Equations and Discrete Mathematics	4+2	6
<b>OR</b>					
<b>GROUP 4: PHYSICS, CHEMISTRY, BOTANY</b>					
4	1C	PYC103	Waves and Oscillation Electronics	4+2	6
	2C	CHC103	Physical Chemistry and Organic Chemistry	4+2	6
	3C	BOC103	Plant Anatomy and Embryology	4+2	6
<b>OR</b>					
<b>GROUP 5: PHYSICS, CHEMISTRY, ZOOLOGY</b>					
5	1C	PYC103	Waves and Oscillation Electronics	4+2	6
	2C	CHC103	Physical Chemistry and Organic Chemistry	4+2	6
	3C	ZOC103	Anatomy of Animal Body Systems	4+2	6
<b>OR</b>					
<b>GROUP 6: CHEMISTRY, BOTANY, MATHEMATICS</b>					
6	1C	CHC103	Physical Chemistry and Organic Chemistry	4+2	6
	2C	BOC103	Plant Anatomy and Embryology	4+2	6
	3C	MTC103	Ordinary Differential Equations and Discrete Mathematics	4+2	6

<b>OR</b>					
<b>GROUP 7: CHEMISTRY, ZOOLOGY, MATHEMATICS</b>					
7	1C	CHC103	Physical Chemistry and Organic Chemistry	4+2	6
	2C	ZOC103	Anatomy of Animal Body Systems	4+2	6
	3C	MTC103	Ordinary Differential Equations and Discrete Mathematics	4+2	6
<b>OR</b>					
<b>GROUP 8: CHEMISTRY, BOTANY, ZOOLOGY</b>					
8	1C	CHC103	Physical Chemistry and Organic Chemistry	4+2	6
	2C	BOC103	Plant Anatomy and Embryology	4+2	6
	3C	ZOC103	Anatomy of Animal Body Systems	4+2	6
<b>AND</b>					
<b>SEC1 (ANY ONE)</b>		CHS101	Natural Resources and Analysis	4	4
		ZOS 101	Aquarium Fish Keeping		
		BOS101	Floriculture		
		SEC-01	Statistical Methods		
		PYS 101	Network Analysis		

### B. Sc. Semester IV

GROUP	DSC	CODE	COURSES	CREDITS	TOTAL
<b>GROUP 1: PHYSICS, CHEMISTRY, MATHEMATICS</b>					
1	1D	PYC104	Optics and Modern Physics	4+2	6
	2D	CHC104	Physical Chemistry and Inorganic Chemistry	4+2	6
	3D	MTC104	Analysis and Operations Research	4+2	6
<b>OR</b>					
<b>GROUP 4: PHYSICS, CHEMISTRY, BOTANY</b>					
4	1D	PYC104	Optics and Modern Physics	4+2	6
	2D	CHC104	Physical Chemistry and Inorganic Chemistry	4+2	6
	3D	BOC104	Plant Physiology	4+2	6

<b>OR</b>					
<b>GROUP 5: PHYSICS, CHEMISTRY, ZOOLOGY</b>					
5	1D	PYC104	Optics and Modern Physics	4+2	6
	2D	CHC104	Physical Chemistry and Inorganic Chemistry	4+2	6
	3D	ZOC104	Animal Physiology and Biochemistry	4+2	6
<b>OR</b>					
<b>GROUP 6: CHEMISTRY, BOTANY, MATHEMATICS</b>					
6	1D	CHC104	Physical Chemistry and Inorganic Chemistry	4+2	6
	2D	BOC104	Plant Physiology	4+2	6
	3D	MTC104	Analysis and Operations Research	4+2	6
<b>OR</b>					
<b>GROUP 7 : CHEMISTRY, ZOOLOGY, MATHEMATICS</b>					
7	1D	CHC104	Physical Chemistry and Inorganic Chemistry	4+2	6
	2D	ZOC104	Animal Physiology and Biochemistry	4+2	6
	3D	MTC104	Analysis and Operations Research	4+2	6
<b>OR</b>					
<b>GROUP 8: CHEMISTRY, BOTANY, ZOOLOGY</b>					
8	1D	CHC104	Physical Chemistry and Inorganic Chemistry	4+2	6
	2D	BOC104	Plant Physiology	4+2	6
	3D	ZOC104	Animal Physiology and Biochemistry	4+2	6
<b>AND</b>					
<b>SEC2 (ANY ONE)</b>	CHS102	Chemistry of Cosmetics and Perfumes		4	4
	ZOS 102	Wildlife and Eco-tourism			
	BOS102	Herbal Technology			
	SEC-02	Analytical Geometry			
	PYS 102	Electrical and Electronic Instrumentation			

### B.Sc.Semester V

Sr. No.	Subjects	Credits	Total
1	C.C: DSC 1 A	4+2	6
2	C.C: DSC 2 A	4+2	6
3	C.C: DSC 3 A	4+2	6
4	<b>DSE</b>	3+1	4
5	<b>DSE</b>	3+1	4
	<b>Total</b>		<b>26 credits</b>

### B.Sc.Semester VI

Sr. No.	Subjects	Credits	
1	C.C: DSC 1 B*	4+2	6
2	C.C: DSC 2 B*	4+2	6
3	C.C: DSC 3 B*	4+2	6
4	<b>DSE</b>	3+1	4
	<b>DSP : Project</b>	4	4
	<b>Total</b>		<b>26 credits</b>

Semester	V		VI	
Paper	Code	Name	Code	Name
<b>DSC</b>	CHC105	Physical Chemistry	CHC108	Physical Chemistry
	CHC106	Inorganic Chemistry	CHC109	Inorganic Chemistry
	CHC107	Organic Chemistry	CHC110	Organic Chemistry
<b>DSE</b>	CHD101	Basic Topics in Analytical Chemistry	CHD103	Selected Instrumentation in Chemistry
	CHD102	Green Methods and Safety Aspects in Chemistry		
			<b>CHP101</b>	<b>Project</b>