13. COURSES OF STUDY AND SCHEME OF ASSESSMENT

BSc APPLIED SCIENCE

(2015 Regulations)

Minimum Credits to be Earned:143

Code No.	Course	Hours/Week				Maximum Marks			
		Lecture	Tutorial	Practical	Credits	CA	FE	Total	CAT
SEMESTER I									
15S101	Calculus and its Applications	3	2	-	4	50	50	100	PC
15S102	C Programming	3	-	2	4	50	50	100	PC
15S103	Properties of Matter	3	-	-	3	50	50	100	PC
15S104	General Chemistry I	3	-	-	3	50	50	100	PC
15S105	Physical Chemistry I	3	-	-	3	50	50	100	PC
15S106	English	3	-	-	3	50	50	100	HS
15S107	Properties of Matter Laboratory	-	-	4	2	100	-	100	PC
15S108	Chemistry Laboratory	-	-	4	2	100	-	100	PC
15S109	Personality and Character Development	0	0	**	Refer Sem 2 and footnote				MC
	Total 30 hrs	**18**	**2**	**10**	**24**	**500**	**300**	**800**	
SEMESTER II									
15S201	Linear Algebra	3	2	-	4	50	50	100	PC
15S202	Object Oriented Programming and C++	3	-	2	4	50	50	100	PC
15S203	Electricity and Magnetism	2	2	-	3	50	50	100	PC
15S204	Atomic and Nuclear Physics	3	-	-	3	50	50	100	PC
15S205	General Chemistry II	3	-	-	3	50	50	100	PC
15S206	Physical Chemistry II	3	-	-	3	50	50	100	PC
15S207	Electricity and Magnetism Laboratory	-	-	4	2	100	-	100	PC
15S208	Physical Chemistry Laboratory	-	-	4	2	100	-	100	PC
15S109	Personality and Character Development	0	0	**	Refer Sem 2 and footnote				MC
	Total 31 hrs	**17**	**4**	**10**	**24**	**500**	**300**	**800**	

CA - Continuous Assessment
FE - Final Examination
** - Total 40 hrs in semesters I and II put together.
Grade: Completed/Not Completed

CAT-Category; HS – Humanities & Social Sciences; PC – Professional Core; PE – Professional Elective; OE- Open Elective; MC – Mandatory Course. EEC - Employability Enhancement course

BSc APPLIED SCIENCE (2015 Regulations)

Code No.	Course	Hours/Week				Maximum Marks			
		Lecture	Tutorial	Practical	Credits	CA	FE	Total	CAT
SEMESTER III									
15S301	Complex variables and Transforms	2	2	-	3	50	50	100	PC
15S302	Data Structures	2	-	2	3	50	50	100	PC
15S303	Acoustics and Optics	3	-	-	3	50	50	100	PC
15S304	Mathematical Physics	2	2	-	3	50	50	100	PC
15S305	Organic Chemistry I	3	-	-	3	50	50	100	PC
15S306	Inorganic Chemistry I	3	-	-	3	50	50	100	PC
15S307	Acoustics and Optics Laboratory	-	-	4	2	100	-	100	PC
15S308	Inorganic Chemistry Laboratory	-	-	4	2	100	-	100	PC
15S0__	Skill Enhancement Course I*	2	-	-	2	50	50	100	SEC
	Total 31 hrs	**17**	**4**	**10**	**24**	**550**	**350**	**900**	
SEMESTER IV									
15S401	Probability and Statistics	2	2	-	3	50	50	100	PC
15S402	Mathematical Structures	2	2	-	3	50	50	100	PC
15S403	Mechanics, Waves and Oscillations	2	2	-	3	50	50	100	PC
15S404	Analog and Digital Electronics	3	-	-	3	50	50	100	PC
15S405	Organic Chemistry II	3	-	-	3	50	50	100	PC
15S406	Inorganic Chemistry II	3	-	-	3	50	50	100	PC
15S407	Analog and Digital Electronics Laboratory	-	-	4	2	100	-	100	PC
15S408	Organic Chemistry Laboratory	-	-	4	2	100	-	100	PC
15S0__	Skill Enhancement Course II*	2	-	-	2	50	50	100	SEC
	Total 31 hrs	**17**	**6**	**8**	**24**	**550**	**350**	**900**	

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FE - Final Examination
* - Should be selected from the same cluster

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BSc APPLIED SCIENCE (2015 Regulations)

Code No.	Course	Hours/Week				Maximum Marks			
		Lecture	Tutorial	Practical	Credits	CA	FE	Total	CAT
SEMESTER V									
15S501	Operations Research	2	2	-	3	50	50	100	PC
15S502	Graph Theory	2	2	-	3	50	50	100	PC
15S503	Solid State Physics	3	-	-	3	50	50	100	PC
15S504	Quantum Mechanics	2	2	-	3	50	50	100	PC
15S505	Applied Chemistry	3	-	-	3	50	50	100	PC
15S506	Professional English	3	-	-	3	50	50	100	HS
15S507	Solid State Physics Laboratory	-	-	4	2	100	-	100	PC
15S508	Applied Chemistry Laboratory	-	-	4	2	100	-	100	PC
15S0__	Skill Enhancement Course III*	2	-	-	2	50	50	100	SEC
	Total 31 hrs	**17**	**6**	**8**	**24**	**550**	**350**	**900**	
SEMESTER VI									
15S0__	Professional Elective I*	3	-	-	3	50	50	100	PE
15S0__	Professional Elective II*	3	-	-	3	50	50	100	PE
15S0__	Professional Elective III*	3	-	-	3	50	50	100	PE
15S0__	Professional Elective IV*	3	-	-	3	50	50	100	PE
15S0__	Open Elective	2	2	0	3	50	50	100	OE
15S601	Project Work and Viva Voce	-	-	12	6	50	50	100	EEC
15S0__	Skill Enhancement Course IV *	2	-	-	2	50	50	100	SEC
	Total 30 hrs	**16**	**-**	**14**	**23**	**350**	**350**	**700**	

CA - Continuous Assessment
FE - Final Examination
* - All electives in the respective category must be opted from the same cluster

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PROFESSIONAL ELECTIVES (PE)

Mathematics and Computer Science Cluster

15S001	Numerical Methods
15S002	Differential Equations
15S003	Discrete Mathematics
15S004	Mathematical Analysis
15S005	Algebraic Number Theory
15S006	Stochastic Models
15S007	Computer Networks and TCP/IP
15S008	Cyber Security
15S009	Database Management Systems
15S010	Web Programming
15S011	Advanced Data Structures
15S012	Design and Analysis of Algorithms

Physics Cluster

15S016	Laser Technology
15S017	Semiconductor Technology and Devices
15S018	Ceramics and Composites
15S019	Science of colour
15S020	Nanomaterials and Applications
15S021	Plasma Technology
15S022	Linear Integrated Circuits
15S023	Experimental Techniques in Materials Science
15S024	Crystal Growth Techniques
15S025	Ferroelectric Materials and Devices
15S026	Measurement and Instrumentation

Chemistry Cluster

15S031	Polymer Chemistry
15S032	Environmental Chemistry
15S033	Applied Electrochemistry
15S034	Analytical Chemistry
15S035	Chemistry of Nanomaterials
15S036	Corrosion Science and Engineering
15S037	Pharmaceutical Chemistry
15S038	Textile Chemistry and Textile chemical processing
15S039	Industrial Chemistry
15S040	Biochemistry
15S041	Organic Spectroscopy
15S042	Environmental Science
15S043	Green Chemistry

OPEN ELECTIVES (OE)

15OS01	PYTHON Programming Laboratory
15OS02	Mathematical Computing using MATLAB
15OS03	UNIX Architecture
15OS04	Mobile Computing
15OS05	Engineering Graphics
15OS06	Virtual Instrumentation
15OS07	Vacuum Science and Thin Film Physics
15OS08	Corrosion Protection by Organic Coatings
15OS09	Dye Chemistry
15OS10	Materials Chemistry
15OS11	English and Soft Skills for Employability
15OS12	Mathematical Finance

SKILL ENHANCEMENT COURSES (SEC)

Physics Cluster

15S058 Measurements for Science and Engineering with Open Source Tools
15S059 Thermal Properties
15S060 Optical Measurements
15S061 Electrical Measurements
15S062 Magnetic Measurements
15S063 Surface Physics And Modification

Chemistry Cluster

15S068 Chemistry of Water Technology
15S069 Instrumental Methods of Chemical Analysis
15S070 Polymer Science and Technology
15S071 Food Chemistry
15S072 Chemistry of Industrially Important Materials
15S073 Synthesis of Corrosion Inhibitors and Applications
15S074 Ceramic Materials

Mathematics and Computer Science Cluster

15S078 Applied Statistics
15S079 Statistical Quality Control and Reliability
15S080 Open Sources Systems
15S081 Java Programming
15S082 Linux Operating Systems
15S083 Software Engineering
15S084 Computer Architecture
15S085 Optimization Techniques

Summary of Credit Distribution

BSc APPLIED SCIENCE								
S. No	**Course Work subject Area**	**Credits Per Semester**						**Total Credits**
		I	**II**	**III**	**IV**	**V**	**VI**	
1	**HS**	3	0	0	0	3	0	6
2	**PC**	21	24	22	22	19	0	108
3	**PE**	0	0	0	0	0	12	12
5	**OE**	0	0	0	0	0	3	3
6	**SEC**	0	0	2	2	2	2	8
7	**EEC**	0	0	0	0	0	6	6
	Total	24	24	24	24	24	23	**143**

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