BITS Pilani

Semester-wise charts for First degree Programmes.

B.E. (Hons.) Chemical

Semester-wise Pattern for Students Admitted to B.E. (Hons.) Chemical Programme									
Year	First Semester			U	Second Semester			U
I	BIO	F110	Biology Laboratory	1	MATH	F112	Mathematics II	3
	BIO	F111	General Biology	3	ME	F110	Workshop Practice	2
	CHEM	F110	Chemistry Laboratory	1	CS	F111	Computer Programming	4
	CHEM	F111	General Chemistry	3	EEE	F111	Electrical Sciences	3
	MATH	F111	Mathematics I	3	BITS	F112	Technical Report Writing	2
	PHY	F110	Physics Laboratory	1	MATH	F113	Probability and Statistics	3
	PHY	F111	Mechanics, Oscillations and Waves	3	BITS	F111	Thermodynamics	3
	BITS	F110	Engineering Graphics	2				
				17				20
II	MATH	F211	Mathematics III	3	ECON	F211	Principles of Economics	3
			Open/Humanities Electives	3(min)			or	or
	CHE	F211	Chemical Process Calculations	3	MGTS	F211	Principles of Management	3
	CHE	F214	Engineering Chemistry	3			Open/Humanities Electives	3(min)
	CHE	F213	Chemical Engineering Thermodynamics	3	CHE	F241	Heat Transfer	3
	CHE	F212	Fluid Mechanics	3	CHE	F242	Numerical Methods for Chemical Engineers	3
					CHE	F243	Material Science & Engineering	3
					CHE	F244	Separation Processes I	3
				18(min)				18(min)
Summer	BITS C221 Practice School – I (for PS Option Only)							
III			Open/Humanities Electives	3to6			Open/Humanities Electives	3to6
	CHE	F312	Chemical Engineering Laboratory I	3	CHE	F341	Chemical Engineering Laboratory II	3
	CHE	F313	Separation Processes II	3	CHE	F342	Process Dynamics & Control	3
	CHE	F311	Kinetics & Reactor Design	3	CHE	F343	Process Design Principles II	3
	CHE	F314	Process Design Principles I	3			Discipline Electives	6
			Discipline Electives	3				
				18/21				18/21
IV			Open/Humanities Electives	5to11			PS-II (20)	20
			Discipline Electives	6			or	or
							Thesis (16)	16
							or	
							Thesis (9) AND Electives (6 to 9)	15to18
				11/17				15/20

Discipline Core - 45 Units (15 Courses)
Discipline Electives - 15 Units (5 Courses)

List of discipline core courses:

S. No.	Course No.	Course Title	L	P	U
1.	CHE F211	Chemical Process Calculations	3	0	3
2.	CHE F214	Engineering Chemistry	3	0	3
3.	CHE F213	Chemical Engineering Thermodynamics	3	0	3
4.	CHE F212	Fluid Mechanics	3	0	3
5.	CHE F241	Heat Transfer	3	0	3
6.	CHE F242	Numerical Methods for Chemical Engineers	3	0	3

7.	CHE F243	Material Science and Engineering	3	0	3
8.	CHE F244	Separation Processes I	3	0	3
9.	CHE F312	Chemical Engineering Lab I	0	3	3
10.	CHE F313	Separation Processes II	3	0	3
11.	CHE C312	Kinetics and Reactor Design	3	0	3
12.	CHE F314	Process Design Principles I	3	0	3
13.	CHE F341	Chemical Engineering Lab II	0	3	3
14.	CHE F342	Process Dynamics and Control	3	0	3
15.	CHE F343	Process Design Principles II	3	0	3

List of discipline electives courses:

S. No.	Course No.	Course Title	L	P	U
1.	CHE F414	Transport Phenomena	3	0	3
2.	CHE F433	Corrosion Engineering	3	0	3
3.	CHE F419	Chemical Process Technology	3	0	3
4.	CHE F413	Process Plant Safety	3	0	3
5.	CHE F421	Bio-chemical Engineering	3	0	3
6.	CHE F411	Environmental Pollution Control	3	0	3
7.	CHE F412	Process Equipment Design	3	0	3
8.	CHE F471	Advanced Process Control	3	0	3
9.	CHE F415	Molecular and Statistical Thermodynamics	3	0	3
10.	CHE F416	Process Plant Design Project I	0	0	3
11.	CHE F417	Process Plant Design Project II	0	0	3
12.	CHE F418	Modelling and Simulation in Chemical Engineering	3	0	3

B.E. (Hons.) Civil

Semester-wise Pattern for Students Admitted to B.E. (Hons.) Civil Programme									
Year	First Semester			U	Second Semester			U
I	BIO	F110	Biology Laboratory	1	MATH	F112	Mathematics II	3
	BIO	F111	General Biology	3	ME	F110	Workshop Practice	2
	CHEM	F110	Chemistry Laboratory	1	CS	F111	Computer Programming	4
	CHEM	F111	General Chemistry	3	EEE	F111	Electrical Sciences	3
	MATH	F111	Mathematics I	3	BITS	F112	Technical Report Writing	2
	PHY	F110	Physics Laboratory	1	MATH	F113	Probability and Statistics	3
	PHY	F111	Mechanics, Oscillations and Waves	3	BITS	F111	Thermodynamics	3
	BITS	F110	Engineering Graphics	2				
				17				20
II	MATH	F211	Mathematics III	3	ECON	F211	Principles of Economics	3
			Open/Humanities Electives	3 (min)			Or	or
	CE	F211	Mechanics of Solids	3	MGTS	F211	Principles of Management	3
	CE	F212	Transport Phenomena	3			Open/Humanities Electives	3 (min)
	CE	F213	Surveying	4	CE	F241	Analysis of Structures	3
	CE	F214	Construction Materials	3	CE	F242	Construction Planning & Technology	3
					CE	F243	Soil Mechanics	4
					CE	F244	Highway Engineering	4
				19 (min)				17 (min)
Summer	BITS C221 Practice School – I (for PS Option Only)							
III			Open/Humanities Electives	1to4			Open/Humanities Electives	2to5
	CE	F311	Design of Concrete Structures	4	CE	F342	Water & Waste Water Treatment	4
	CE	F312	Hydraulic Engineering	4	CE	F341	Hydrology & Water Resources Engineering	3
	CE	F313	Foundation Engineering	3	CE	F343	Design of Steel Structures	3
			Discipline Electives	6			Discipline Electives	6
				18/21				18/21
IV			Open/Humanities Electives	8to14			PS-II (20)	20
							or	or
							Thesis (16)	16
							or	
							Thesis (9) AND Electives (6 to 9)	15to18
				8/14				15/20

Discipline Core - 48 Units (14 Courses)
Discipline Electives - 12 Units (4 Courses)

List of discipline core courses:

S. No.	Course No.	Course Title	L	P	U
1.	CE F211	Mechanics of Solids	3	0	3
2.	CE F212	Transport Phenomena	3	0	3
3.	CE F213	Surveying	3	1	4
4.	CE F214	Construction Materials	3	0	3
5.	CE F241	Analysis of Structures	3	0	3
6.	CE F242	Construction Planning and Technology	3	0	3
7.	CE F243	Soil Mechanics	3	1	4
8.	CE F244	Highway Engineering	3	1	4
9.	CE F311	Design of Concrete Structures	3	1	4
10.	CE F312	Hydraulics Engineering	3	1	4

11.	CE F313	Foundation Engineering	3	0	3
12.	CE F342	Water & Waste Water Treatment	3	1	4
13.	CE F341	Hydrology & Water Resources Engineering	3	0	3
14.	CE F343	Design of Steel Structures	3	0	3

List of discipline Elective courses:

S. No.	Course No.	Course Title	L	P	U
1.	CE F411	Operation Research for Engineers	3	0	3
2.	CE F414	Introduction to Environmental Engineering	3	0	3
3.	CE F413	Advanced Structural Design	3	0	3
4.	CE F324	Numerical Analysis	3	0	3
5.	CE F425	Airport, Railways and Waterways	3	0	3
6.	CE F432	Structural Dynamics	3	0	3
7.	CE F434	Environmental Impact Assessment	3	0	3
8.	CE F426	Geosynthetics and Reinforced Soil Structure	3	0	3
9.	CE F427	System Modeling and Analysis	3	0	3
10.	CE F415	Design of Prestressed Concrete Structure	3	0	3
11.	CE F428	Earthquake Resistant Design and Construction	3	0	3
12.	CE F429	Design of Foundation Systems	3	0	3
13.	CE F430	Design of Advanced Concrete Structures	3	0	3
14.	CE F431	Principles of Geographical Information Systems	3	1	4
15.	CE F433	Remote Sensing and Image Processing	3	1	4
16.	BITS F 311	Multicriterion Decision Making in Engineering and Management	3	0	3
17.	CE F412	Disaster Management	3	0	3
18.	CE F416	Computer Applications in Civil Engineering	3	1	4
19.	CE F417	Applications of Artificial Intelligence in Civil Engineering	3	0	3
20.	CE F419	Geotechnical Earthquake Engineering and Machine Foundation	3	0	3
21.	CE F420	Introduction to Bridge Engineering	3	0	3
22.	CE F435	Introduction to Finite Element Methods	3	0	3
23.	CE F421	Analysis and Design of FRP Reinforced Concrete Structures	3	0	3
24.	CE F423	Green Buildings and Energy Conservation	3	0	3

B.E. (Hons.) Electrical & Electronics

Semester-wise Pattern for Students Admitted to B.E. (Hons.) Electrical & Electronics Programme									
Year	First Semester			U	Second Semester			U
I	BIO	F110	Biology Laboratory	1	MATH	F112	Mathematics II	3
	BIO	F111	General Biology	3	ME	F110	Workshop Practice	2
	CHEM	F110	Chemistry Laboratory	1	CS	F111	Computer Programming	4
	CHEM	F111	General Chemistry	3	EEE	F111	Electrical Sciences	3
	MATH	F111	Mathematics I	3	BITS	F112	Technical Report Writing	2
	PHY	F110	Physics Laboratory	1	MATH	F113	Probability and Statistics	3
	PHY	F111	Mechanics, Oscillations and Waves	3	BITS	F111	Thermodynamics	3
	BITS	F110	Engineering Graphics	2				
				17				20
II	MATH	F211	Mathematics III	3	ECON	F211	Principles of Economics	3
			Open/Humanities Electives	3(min)			or	or
	EEE	F211	Electrical Machines	4	MGTS	F211	Principles of Management	3
	EEE	F212	Electromagnetic Theory	3			Open/Humanities Electives	3(min)
	EEE	F215	Digital Design	4	EEE	F241	Microprocessors & Interfacing	4
	EEE	F214	Electronic Devices	3	EEE	F242	Control Systems	3
					EEE	F243	Signals & Systems	3
					EEE	F244	Microelectronic Circuits	3
				20 (min)				19 (min)
Summer	BITS C221 Practice School – I (for PS Option Only)							
III			Open/Humanities Electives	4to6			Open/Humanities Electives	3to6
	EEE	F311	Communication Systems	4	EEE	F341	Analog Electronics	4
	MATH	F212	Optimization	3	EEE	F342	Power Electronics	4
			OR					
	ME	F344	Engineering Optimization	2				
	EEE	F313	Analog & Digital VLSI Design	3	EEE	F312	Power Systems	3
			Discipline Electives	5(min)			Discipline Electives	4(min)
				18/21				18/21
IV			Open/Humanities Electives	5to11			PS-II (20)	20
			Discipline Electives	3(min)			Or	or
							Thesis (16)	16
							Or	
							Thesis (9) AND Electives (6 to 9)	15to18
				8/14				15/20

Discipline Core - 47 or 48 Units (14 Courses)
Discipline Electives - 12 Units (4 Courses)

List of discipline core courses:

S. No.	Course No.	Course Title	L	P	U
1.	EEE F211	Electrical Machines	3	1	4
2.	EEE F212	Electromagnetic Theory	3	0	3
3.	EEE F215	Digital Design	3	1	4
4.	EEE F214	Electronic Devices	3	0	3
5.	EEE F241	Microprocessors and interfacing	3	1	4
6.	EEE F242	Control Systems	3	0	3
7.	EEE F243	Signals & Systems	3	0	3
8.	EEE F244	Microelectronic Circuits	3	0	3
9.	EEE F312	Power Systems	3	0	3
10.	EEE F311	Communication Systems	3	1	4
11.	EEE F313	Analog & Digital VLSI Design	3	0	3
12.	EEE F341	Analog Electronics	3	1	4
13.	EEE F342	Power Electronics	3	1	4

14.	MATH F212	Optimization	3	0	3

List of discipline elective courses:

S. No.	Course No.	Course Title	L	P	U
1.	EEE F432	Medical Instrumentation			
2.	BITS F415	Introduction To MEMS	3	1	4
3.	EEE F472	Satellite Communication	3	0	3
4.	EEE F431	Mobile Telecommunication Networks	3	0	3
5.	EEE F345	Power Apparatus & Networks	3	0	3
6.	EEE F414	Telecommunication Switching Systems & Networks	3	0	3
7.	EEE F433	Electromagnetic Fields & Waves	3	0	3
8.	EEE F422	Modern Control Systems	3	0	3
9.	EEE F346	Data Communication Networks	2	0	2
10.	CS F342	Computer Architecture	3	1	4
11.	CS F213	Object Oriented Programming	3	1	4
12.	CS F372	Operating Systems	3	0	3
13.	EEE F434	Digital Signal Processing	3	1	4
14.	EEE F435	Digital Image Processing	3	0	3
15.	EEE F425	Power System Analysis and control	3	0	3
16.	EEE F426	Fiber Optics & Optoelectronics	3	0	3
17.	EEE F416	Digital Communication	3	0	3
18.	EEE F418	Modern Communication Technologies	3	0	3
19.	EEE F427	Electric Power Utilization and Illumination	3	0	3

B.E. (Hons.) Mechanical

Semester-wise Pattern for Students Admitted to B.E. (Hons.) Mechanical Programme								
Year	First Semester			U	Second Semester			U
I	BIO	F110	Biology Laboratory	1	MATH	F112	Mathematics II	3
	BIO	F111	General Biology	3	ME	F110	Workshop Practice	2
	CHEM	F110	Chemistry Laboratory	1	CS	F111	Computer Programming	4
	CHEM	F111	General Chemistry	3	EEE	F111	Electrical Sciences	3
	MATH	F111	Mathematics I	3	BITS	F112	Technical Report Writing	2
	PHY	F110	Physics Laboratory	1	MATH	F113	Probability and Statistics	3
	PHY	F111	Mechanics, Oscillations and Waves	3	BITS	F111	Thermodynamics	3
	BITS	F110	Engineering Graphics	2				
				17				20
II	MATH	F211	Mathematics III	3	ECON	F211	Principles of Economics	3
			Open/Humanities Electives	3(min)			or	or
	ME	F213	Materials Science & Engineering	2	MGTS	F211	Principles of Management	3
	ME	F212	Fluid Mechanics	3			Open/Humanities Electives	3(min)
	ME	F211	Mechanics of Solids	3	ME	F241	Machine Design & Drawing	4
	ME	F214	Applied Thermodynamics	3	ME	F242	IC Engines	2
	ME	F215	Mechanical Engineering Laboratory	2	ME	F243	Production Techniques I	3
					ME	F244	Kinematics & Dynamics of Machinery	3
				19(min)				18(min)
Summer	BITS C221 Practice School – I (for PS Option Only)							
III			Open/Humanities Electives	1to4			Open/Humanities Electives	3to6
	ME	F311	Heat Transfer	4	ME	F341	Prime Movers & Fluid Machines	3
	ME	F312	Advanced Mechanics of Solids	3	ME	F343	Mechanical Vibrations	3
	ME	F313	Production Techniques II	4	ME	F342	Computer Aided Design	4
					ME	F344	Engineering Optimization	2
			Discipline Electives	6(min)			Discipline Electives	3(min)
				18/21				18/21
IV			Open/Humanities Electives	7to13			PS-II (20)	20
			Discipline Electives	3(min)			or	or
							Thesis (16)	16
							or	
							Thesis (9) AND Electives (6 to 9)	15to18
				10/16				15/20

Discipline Core - 48 Units (16 Courses)
Discipline Electives - 12 Units (4 Courses)

List of discipline core courses:

S. No.	Course No.	Course Title	L	P	U
1.	ME F213	Materials Science & Engineering	2	0	2
2.	ME F212	Fluid Mechanics	3	0	3
3.	ME F211	Mechanics of Solids	3	0	3
4.	ME F214	Applied Thermodynamics	3	0	3
5.	ME F215	Mechanical Engineering Laboratory	0	2	2
6.	ME F241	Machine Design & Drawing	3	1	4
7.	ME F242	IC Engines	2	0	2
8.	ME F243	Production Techniques I	2	1	3
9.	ME F244	Kinematics & Dynamics of Machinery	3	0	3
10.	ME F311	Heat Transfer	3	1	4
11.	ME F312	Advanced Mechanics of Solids	3	0	3

12.	ME F313	Production Techniques II	3	1	4
13.	ME F341	Prime Movers & Fluid Machines	2	1	3
14.	ME F343	Mechanical Vibrations	3	0	3
15.	ME F342	Computer Aided Design	3	1	4
16.	ME F344	Engineering Optimization	2	0	2

List of discipline electives courses:

S. No.	Course No.	Course Title	L	P	U
1.	ME F411	Fluid Power Systems	3	1	4
2.	ME F413	Nonlinear Vibrations	3	0	3
3.	ME F419	Total Product Integration Engineering	3	0	3
4.	ME F415	Gas Dynamics	3	0	3
5.	ME F416	Reverse Engineering and Rapid Prototyping	3	0	3
6.	ME F417	Advanced Metal Forming	3	0	3
7.	ME F418	Rocket and Spacecraft Propulsion	3	0	3
8.	ME F420	Power Plant Engineering	3	0	3
9.	ME F432	Computer Aided manufacturing	3	0	3
10.	ME F441	Automotive Vehicles	3	0	3
11.	ME F443	Quality Control, Assurance and Reliability	3	0	3
12.	ME F451	Mechanical Equipment Design	3	0	3
13.	ME F452	Composite Materials & Design	3	0	3
14.	ME F461	Refrigeration and Air conditioning	3	0	3
15.	ME F472	Precision Engineering	3	0	3
16.	ECON F411	Project Appraisal	3	0	3

B.Pharm. (Hons.)

Semester-wise Pattern for Students Admitted to B.Pharm. (Hons.) Programme									
Year	First Semester			U	Second Semester			U
I	BIO	F110	Biology Laboratory	1	MATH	F112	Mathematics II	3
	BIO	F111	General Biology	3	ME	F110	Workshop Practice	2
	CHEM	F110	Chemistry Laboratory	1	CS	F111	Computer Programming	4
	CHEM	F111	General Chemistry	3	EEE	F111	Electrical Sciences	3
	MATH	F111	Mathematics I	3	BITS	F112	Technical Report Writing	2
	PHY	F110	Physics Laboratory	1	MATH	F113	Probability and Statistics	3
	PHY	F111	Mechanics, Oscillations and Waves	3	BITS	F111	Thermodynamics	3
	BITS	F110	Engineering Graphics	2				
				17				20
II	MATH	F211	Mathematics III	3	ECON	F211	Principles of Economics	3
			Open/Humanities Electives	3(min)			or	or
	PHA	F211	Pharmaceutical Analysis	3	MGTS	F211	Principles of Management	3
	PHA	F214	Anatomy, Physiology & Hygiene	3			Open/Humanities Electives	3(min)
	PHA	F212	Dispensing Pharmacy	3	PHA	F241	Pharmaceutical Chemistry	3
	PHA	F213	Microbiology	3	PHA	F242	Biological Chemistry	3
					PHA	F243	Industrial Pharmacy	3
					PHA	F244	Physical Pharmacy	3
				18(min)				18(min)
Summer	BITS C221 Practice School – I (for PS Option Only)							
III			Open/Humanities Electives	2to5			Open/Humanities Electives	4to6
	PHA	F311	Pharmacology I	3	PHA	F341	Pharmacology II	3
	PHA	F312	Medicinal Chemistry I	3	PHA	F342	Medicinal Chemistry II	3
	PHA	F313	Instrumental Methods of Analysis	4	PHA	F343	Forensic Pharmacy	2
	PHA	F314	Pharmaceutical Formulations & Biopharmaceutics	3	PHA	F344	Natural Drugs	3
			Discipline Electives	3(min)			Discipline Electives	3(min)
				18/21				18/20
IV			Open/Humanities Electives	6to11			PS-II (20)	20
			Discipline Electives	6(min)			or	or
							Thesis (16)	16
							or	
							Thesis (9) AND Electives (6 to 9)	15to18
				12/17				15/20

Discipline Core - 48 Units (16 Courses)
Discipline Electives - 12 Units (4 Courses)

List of discipline core courses:

S. No.	Course No.	Course Title	L	P	U
1.	PHA F211	Pharmaceutical Analysis	2	1	3
2.	PHA F214	Anatomy , Physiology & Hygiene	2	1	3
3.	PHA F212	Dispensing Pharmacy	2	1	3
4.	PHA F213	Microbiology	2	1	3
5.	PHA F241	Pharmaceutical Chemistry	2	1	3
6.	PHA F242	Biological Chemistry	2	1	3
7.	PHA F243	Industrial Pharmacy	2	1	3
8.	PHA F244	Physical Pharmacy	2	1	3
9.	PHA F311	Pharmacology I	2	1	3
10.	PHA F341	Pharmacology II	2	1	3
11.	PHA F312	Medicinal Chemistry I	2	1	3
12.	PHA F342	Medicinal Chemistry II	2	1	3
13.	PHA F313	Instrumental Methods of Analysis	2	1	4
14.	PHA F314	Pharmaceutical Formulations and Biopharmaceutics	2	1	3

15.	PHA F343	Forensic Pharmacy	2	-	2
16.	PHA F344	Natural Drugs	2	1	3

List of discipline electives courses:

S. No.	Course No.	Course Title	L	P	U
1.	MATH F212	Optimization			
2.	PHA F413	Pharmaceutical Management and Quality Control	3	0	3
3.	PHA F414	Biopharmaceutics	3	0	3
4.	PHA F415	Pathophysiology	3	0	3
5.	PHA F416	Chemistry of Synthetic Drugs	3	0	3
6.	PHA F417	Pharmacoeconomics	3	0	3
7.	PHA F422	Cosmetic Science	2	1	3
8.	PHA F432	Hospital Pharmacy	3	0	3
9.	PHA F441	Biochemical Engineering	3	0	3
10.	PHA F442	Applied Pharmaceutical Chemistry	3	0	3
11.	PHA F461	Phytochemistry	2	1	3

B. E. (Hons.) Computer Science

Semester-wise Pattern for Students Admitted to B. E. (Hons.) Computer Science Programme									
Year	First Semester			U	Second Semester			U
I	BIO	F110	Biology Laboratory	1	MATH	F112	Mathematics II	3
	BIO	F111	General Biology	3	ME	F110	Workshop Practice	2
	CHEM	F110	Chemistry Laboratory	1	CS	F111	Computer Programming	4
	CHEM	F111	General Chemistry	3	EEE	F111	Electrical Sciences	3
	MATH	F111	Mathematics I	3	BITS	F112	Technical Report Writing	2
	PHY	F110	Physics Laboratory	1	MATH	F113	Probability and Statistics	3
	PHY	F111	Mechanics, Oscillations and Waves	3	BITS	F111	Thermodynamics	3
	BITS	F110	Engineering Graphics	2				
				17				20
II	MATH	F211	Mathematics III	3	ECON	F211	Principles of Economics	3
			Open/Humanities Electives	3(min)			or	or
	CS	F214	Logic in Computer Science	3	MGTS	F211	Principles of Management	3
	CS	F222	Discrete Structures for Computer Science	3			Open/Humanities Electives	3(min)
	CS	F213	Object Oriented Programming	4	CS	F211	Data Structures & Algorithms	4
	CS	F215	Digital Design	4	CS	F241	Microprocessors & Interfacing	4
					CS	F212	Database Systems	4
				20(min)				18(min)
Summer	BITS C221 Practice School – I (for PS Option Only)							
III			Open/Humanities Electives	3to6			Open/Humanities Electives	2to5
	CS	F351	Theory of Computation	3	CS	F363	Compiler Construction	3
	CS	F372	Operating Systems	3	CS	F364	Design & Analysis of Algorithms	3
	CS	F301	Principles of Programming Languages	2	CS	F303	Computer Networks	4
	CS	F342	Computer Architecture	4			Discipline Electives	6(min)
			Discipline Electives	3(min)				
				18/21				18/21
IV			Open/Humanities Electives	6to12			PS-II (20)	20
			Discipline Electives	3(min)			or	or
							Thesis (16)	16
							or	
							Thesis (9) AND Electives (6 to 9)	15to18
				9/15				15/20

Discipline Core - 48 Units (14 Courses)
Discipline Electives - 12 Units (6 Courses)

List of discipline core courses:

S. No.	Course No.	Course Title	L	P	U
1.	CS F214	Logic in Computer Science	3	0	3
2.	CS F222	Discrete Structures for Computer Science	3	0	3
3.	CS F213	Object Oriented Programming	3	1	4
4.	CS F215	Digital Design	3	1	4
5.	CS F211	Data Structures & Algorithms	3	1	4
6.	CS F241	Microprocessors & Interfacing	3	1	4
7.	CS F212	Database Systems	3	1	4
8.	CS F351	Theory of Computation	3	0	3
9.	CS F372	Operating Systems	3	0	3
10.	CS F301	Principles of Programming Languages	2	0	2
11.	CS F342	Computer Architecture	3	1	4
12.	CS F363	Compiler Construction	2	1	3
13.	CS F364	Design & Analysis of Algorithms	3	0	3

14.	CS F303	Computer Networks	3	1	4

List of discipline elective courses:

S. No.	Course No.	Course Title	L	P	U
1.	CS F314	Software Development for Portable Devices	2	1	3
2.	CS F415	Data Mining	3	0	3
3.	CS F422	Parallel Computing	3	0	3
4.	CS F424	Software for Embedded Systems	3	1	4
5.	CS F441	Selected Topics from Computer Science	-	-	3
6.	CS F446	Data Storage Technologies and Networks	3	0	3
7.	MATH F421	Combinatorial Mathematics	3	0	3
8.	MATH C441	Discrete Mathematical Structures	3	0	3
9.	IS F311	Computer Graphics	3	0	3
10.	CS F401	Multimedia Computing	3	0	3
11.	IS F462	Network Programming	3	0	3
12.	BITS F311	Image Processing	3	0	3
13.	CS F413	Internetworking Technologies	3	0	3
14.	CS F407	Artificial Intelligence	3	0	3
15.	BITS F312	Neural Networks and Fuzzy Logic	3	0	3
16.	BITS F343	Fuzzy Logic and Applications	3	0	3
17.	BITS F364	Human – Computer Interaction	3	0	3
18.	BITS F386	Quantum Information and Computation	3	0	3
19.	IS F341	Software Engineering	3	0	3
20.	BITS F463	Cryptography	3	0	3
21.	BITS F464	Machine Learning	3	0	3
22.	MATH F231	Number Theory	3	0	3

B.E. (Hons.) Electronics and Instrumentation

Semester-wise Pattern for Students Admitted to B.E. (Hons) Electronics and Instrumentation Programme

Year	First Semester			U	Second Semester			U
I	BIO	F110	Biology Laboratory	1	MATH	F112	Mathematics II	3
	BIO	F111	General Biology	3	ME	F110	Workshop Practice	2
	CHEM	F110	Chemistry Laboratory	1	CS	F111	Computer Programming	4
	CHEM	F111	General Chemistry	3	EEE	F111	Electrical Sciences	3
	MATH	F111	Mathematics I	3	BITS	F112	Technical Report Writing	2
	PHY	F110	Physics Laboratory	1	MATH	F113	Probability and Statistics	3
	PHY	F111	Mechanics, Oscillations and Waves	3	BITS	F111	Thermodynamics	3
	BITS	F110	Engineering Graphics	2				
				17				20
II	MATH	F211	Mathematics III	3	ECON	F211	Principles of Economics	3
			Open/Humanities Electives	3(min)			Or	or
	INSTR	F211	Electrical Machines	4	MGTS	F211	Principles of Management	3
	INSTR	F212	Electromagnetic Theory	3			Open/Humanities Electives	3(min)
	INSTR	F215	Digital Design	4	INSTR	F241	Microprocessors & Interfacing	4
	INSTR	F214	Electronic Devices	3	INSTR	F242	Control Systems	3
					INSTR	F243	Signals & Systems	3
					INSTR	F244	Microelectronic Circuits	3
				20(min)				19(min)
Summer			BITS C221 Practice School – I (for PS Option Only)					
III			Open/Humanities Electives	3to6			Open/Humanities Electives	3to6
	INSTR	F311	Electronic Instruments & Instrumentation Technology	4	INSTR	F341	Analog Electronics	4
	INSTR	F312	Transducers & Measurement Systems	3	INSTR	F342	Power Electronics	4
	INSTR	F313	Analog & Digital VLSI Design	3	INSTR	F343	Industrial Instrumentation & Control	3
			Discipline Electives	5(min)			Discipline Electives	4(min)
				18/21				18/21
IV			Open/Humanities Electives	5to11			PS-II (20)	20
			Discipline Electives	3			Or	or
							Thesis (16)	16
							Or	
							Thesis (9) AND Electives (6 to 9)	15to18
				8/14				15/20

Discipline Core - 48 Units (14 Courses)
Discipline Electives - 12 Units (4 Courses)

List of discipline core courses:

S. No.	Course No.	Course Title	L	P	U
1.	INSTR F211	Electrical Machines	3	1	4
2.	INSTR F212	Electromagnetic Theory	3	0	3
3.	INSTR F215	Digital Design	3	1	4
4.	INSTR F214	Electronic Devices	3	0	3
5.	INSTR F241	Microprocessors and interfacing	3	1	4
6.	INSTR F242	Control Systems	3	0	3
7.	INSTR F243	Signals & Systems	3	0	3
8.	INSTR F244	Microelectronic Circuits	3	0	3
9.	INSTR F311	Electronic Instrumentation & Instrumentation Technology	3	1	4
10.	INSTR F312	Transducers and Measurement Systems	3	0	3
11.	INSTR F313	Analog & Digital VLSI Design	3	0	3
12.	INSTR F341	Analog Electronics	3	1	4
13.	INSTR F342	Power Electronics	3	1	4

14.	INSTR F343	Industrial Instrumentation & Control	3	0	3

List of discipline elective courses:

S. No.	Course No.	Course Title	L	P	U
1.	INSTR F432	Medical Instrumentation	3	0	3
2.	BITS F415	Introduction To MEMS	3	1	4
3.	EEE F472	Satellite Communication	3	0	3
4.	EEE F431	Mobile Telecommunication Networks	3	0	3
5.	EEE F345	Power Apparatus & Networks	3	0	3
6.	INSTR F414	Telecommunication Switching Systems & Networks	3	0	3
7.	EEE F433	Electromagnetic Fields & Waves	3	0	3
8.	EEE F422	Modern Control Systems	3	0	3
9.	EEE F346	Data Communication Networks	2	0	2
10.	CS F342	Computer Architecture	3	1	4
11.	CS F213	Object Oriented Programming	3	1	4
12.	CS F372	Operating Systems	3	0	3
13.	EEE F434	Digital Signal Processing	3	1	4
14.	EEE F435	Digital Image Processing (check number and description with BITS Image Processing)	3	0	3
15.	INSTR F412	Analysis Instrumentation	3	0	3
16.	EEE F426	Fiber optics & Optoelectronics	3	0	3
17.	INSTR F413	Advanced Process Control	3	0	3
18.	INSTR F415	Digital Control	3	0	3
19.	INSTR F419	Virtual Instrumentation	3	1	4
20.	INSTR F420	Design of Instrumentation Systems	3	0	3
21.	INSTR F422	Instrumentation for Petrochemical Industry	3	0	3
22.	BITS F312	Neural Network & Fuzzy Logic	3	0	3

B.E. (Hons.) Biotechnology

Semester-wise Pattern for Students Admitted to B.E. (Hons.) Biotechnology Programme									
Year	First Semester			U	Second Semester			U
I	BIO	F110	Biology Laboratory	1	MATH	F112	Mathematics II	3
	BIO	F111	General Biology	3	ME	F110	Workshop Practice	2
	CHEM	F110	Chemistry Laboratory	1	CS	F111	Computer Programming	4
	CHEM	F111	General Chemistry	3	EEE	F111	Electrical Sciences	3
	MATH	F111	Mathematics I	3	BITS	F112	Technical Report Writing	2
	PHY	F110	Physics Laboratory	1	MATH	F113	Probability and Statistics	3
	PHY	F111	Mechanics, Oscillations and Waves	3	BITS	F111	Thermodynamics	3
	BITS	F110	Engineering Graphics	2				
				17				20
II	MATH	F211	Mathematics III	3	ECON	F211	Principles of Economics	3
			Open/Humanities Electives	3(min)			or	or
	BIOT	F211	Biological Chemistry	3	MGTS	F211	Principles of Management	3
	BIOT	F212	Microbiology	4			Open/Humanities Electives	3(min)
	BIOT	F215	Biophysics	3	BIOT	F241	Genetic Engineering Techniques	4
	BIOT	F213	Cell Biology	3	BIOT	F243	Genetics	3
					BIOT	F245	Introduction to Environmental Biotechnology	3
					BIOT	F244	Instrumental Methods of Analysis	4
				19				20
Summer	BITS C221 Practice School – I (for PS Option Only)							
III			Open/Humanities Electives	3to6			Open/Humanities Electives	3to6
					BIOT	F342	Immunology	3
	BIOT	F311	Recombinant DNA Technology	3	BIOT	F343	Experiments in Biotechnology	3
	BIOT	F314	Industrial Microbiology & Bioprocess Engineering	4	BIOT	F344	Downstream Processing	3
			Discipline Electives	8			Discipline Electives	6
				18/21				18/21
IV			Open/Humanities Electives	5to11			PS-II (20)	20
			Discipline Electives	3			or	or
							Thesis (16)	16
							or	
							Thesis (9) AND Electives (6 to 9)	15to18
				8/14				15/20

Discipline Core - 43 Units (13 Courses)
Discipline Electives - 17 Units (5 Courses)

List of discipline core courses:

S. No.	Course No.	Course Title	L	P	U
1.	BIOT F211	Biological Chemistry	3	0	3
2.	BIOT F212	Microbiology	3	1	4
3.	BIOT F243	Genetics	3	0	3
4.	BIOT F213	Cell biology	3	0	3
5.	BIOT F241	Genetic Engineering Techniques	1	3	4
6.	BIOT F215	Biophysics	3	0	3
7.	BIOT F245	Intro to Environmental Biotechnology	3	0	3
8.	BIOT F244	Instrumental Methods of Analysis	1	3	4
9.	BIOT F311	Recombinant DNA Technology	3	0	3
10.	BIOT F314	Industrial Microbiology and Bioprocess Engineering	2	2	4
11.	BIOT F342	Immunology	3	0	3
12.	BIOT F343	Experiments in Biotechnology	0	3	3
13.	BIOT F344	Downstream Processing	2	1	3

List of discipline elective courses:

S. No.	Course No.	Course Title	L	P	U
1.	BIOT F242	Introduction to Bioinformatics	3	0	3
2.	BIOT F345	Proteomics	3	0	3
3.	BIOT F417	Biomolecular Modeling	3	0	3
4.	BIOT F413	Molecular Biology of the Cell	3	0	3
5.	BIOT F 352	Cell and Tissue Culture Technology	3	0	3
6.	BIOT F346	Genomics	3	0	3
7.	BIOT F347	Immunotechnology	3	0	3
8.	BIOT F416	Introduction to Pharmaceutical Biotechnology	3	0	3
9.	BIOT F424	Food Biotechnology	3	0	3
10.	BIOT F420	Introduction to Plant Biotechnology	3	0	3
11.	BIOT F422	Nanobiotechnology	3	0	3
12.	BIOT F423	Drug design and delivery	3	0	3
13.	BITS F467	Bioethics and Biosafety	3	0	3

B.E. (Hons.) Electronics & Communication

Semester-wise Pattern for Students Admitted to B.E. (Hons.) Electronics & Communication Programme									
Year	First Semester			U	Second Semester			U
I	BIO	F110	Biology Laboratory	1	MATH	F112	Mathematics II	3
	BIO	F111	General Biology	3	ME	F110	Workshop Practice	2
	CHEM	F110	Chemistry Laboratory	1	CS	F111	Computer Programming	4
	CHEM	F111	General Chemistry	3	EEE	F111	Electrical Sciences	3
	MATH	F111	Mathematics I	3	BITS	F112	Technical Report Writing	2
	PHY	F110	Physics Laboratory	1	MATH	F113	Probability and Statistics	3
	PHY	F111	Mechanics, Oscillations and Waves	3	BITS	F111	Thermodynamics	3
	BITS	F110	Engineering Graphics	2				
				17				20
II	MATH	F211	Mathematics III	3	ECON	F211	Principles of Economics	3
			Open/Humanities Electives	3(min)			Or	or
	ECE	F211	Electrical Machines	4	MGTS	F211	Principles of Management	3
	ECE	F212	Electromagnetic Theory I	3			Open/Humanities Electives	3(min)
	ECE	F215	Digital Design	4	ECE	F241	Microprocessors and Interfacing	4
	ECE	F214	Electronic Devices	3	ECE	F242	Control Systems	3
					ECE	F243	Signals & Systems	3
					ECE	F244	Microelectronic Circuits	3
				20(min)				19(min)
Summer	BITS C221 Practice School – I (for PS Option Only)							
III			Open/Humanities Electives	3to6			Open/Humanities Electives	3to6
	ECE	F311	Communication Systems	4	ECE	F341	Analog Electronics	4
	ECE	F314	Electromagnetic Fields & Microwave Engineering	3	ECE	F343	Communication Networks	3
	ECE	F315	Digital Signal Processing	4	ECE	F344	Information Theory & Coding	3
			Discipline Electives	4(min)			Discipline Electives	5(min)
				18/21				18/21
IV			Open/Humanities Electives	5to11			PS-II (20)	20
			Discipline Electives	3			Or	or
							Thesis (16)	16
							Or	
							Thesis (9) AND Electives (6 to 9)	15to18
				8/14				15/20

Discipline Core - 48 Units (14 Courses)
Discipline Electives - 12 Units (4 Courses)

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List of discipline core courses:

S. No.	Course No.	Course Title	L	P	U
1.	ECE F211	Electrical Machines	3	1	4
2.	ECE F211	Electromagnetic Theory	3	0	3
3.	ECE F215	Digital Design	3	1	4
4.	ECE F214	Electronic Devices	3	0	3
5.	ECE F241	Microprocessors and interfacing	3	1	4
6.	ECE F242	Control Systems	3	0	3
7.	ECE F243	Signals & Systems	3	0	3
8.	ECE F244	Microelectronic Circuits	3	0	3
9.	ECE F314	Electromagnetic Fields & Microwave Engineering	3	0	3
10.	ECE F343	Communication Systems	3	1	4
11.	ECE F344	Information Theory & Coding	3	0	3
12.	ECE F341	Analog Electronics	3	1	4
13.	ECE F434	Digital Signal Processing	3	1	4

14.	ECE F344	Information Theory & Coding	3	0	3

List of discipline elective courses:

S. No.	Course No.	Course Title	L	P	U
1.	EEE F432	Medical Instrumentation	3	0	3
2.	BITS F415	Introduction To MEMS	3	1	4
3.	ECE F472	Satellite Communication	3	0	3
4.	ECE F431	Mobile Telecommunication Networks	3	0	3
5.	EEE F345	Power Apparatus & Networks	3	0	3
6.	ECE F414	Telecommunication Switching Systems & Networks	3	0	3
7.	EEE F422	Modern Control Systems	3	0	3
8.	EEE F346	Data Communication Networks	2	0	2
9.	CS F342	Computer Architecture	3	1	4
10.	CS F213	Object Oriented Programming	3	1	4
11.	CS F372	Operating Systems	3	0	3
12.	EEE F434	Digital Signal Processing	3	1	4
13.	EEE F435	Digital Image Processing	3	0	3
14.	INSTR F412	Analysis Instrumentation	3	0	3
15.	INSTR F411	OptoElectronic Instruments	3	0	3
16.	ECE F416	Digital Communication	3	0	3
17.	ECE F418	Modern Communication Technologies	3	0	3
18.	EEE F313	Analog & Digital VLSI Design	3	0	3
19.	BITS F463	Cryptography	3	0	3

B.E. (Hons.) Manufacturing

Semester-wise Pattern for Students Admitted to B.E. (Hons.) Manufacturing Programme									
Year	First Semester			U	Second Semester			U
I	BIO	F110	Biology Laboratory	1	MATH	F112	Mathematics II	3
	BIO	F111	General Biology	3	ME	F110	Workshop Practice	2
	CHEM	F110	Chemistry Laboratory	1	CS	F111	Computer Programming	4
	CHEM	F111	General Chemistry	3	EEE	F111	Electrical Sciences	3
	MATH	F111	Mathematics I	3	BITS	F112	Technical Report Writing	2
	PHY	F110	Physics Laboratory	1	MATH	F113	Probability and Statistics	3
	PHY	F111	Mechanics, Oscillations and Waves	3	BITS	F111	Thermodynamics	3
	BITS	F110	Engineering Graphics	2				
				17				20
II	MATH	F211	Mathematics III	3	ECON	F211	Principles of Economics	3
			Open/Humanities Electives	3(min)			or	or
	MF	F213	Materials Science & Engineering	2	MGTS	F211	Principles of Management	3
	MF	F212	Fluid Mechanics	3			Open/Humanities Electives	3(min)
	MF	F211	Mechanics of Solids	3	MF	F241	Machine Design & Drawing	4
	MF	F214	Applied Thermodynamics	3	MF	F242	Manufacturing Management	2
	MF	F215	Mechanical Engineering Laboratory	2	MF	F243	Manufacturing Processes	3
					MF	F244	Kinematics & Dynamics of Machinery	3
				19(min)				18(min)
Summer	BITS C221 Practice School – I (for PS Option Only)							
III			Open/Humanities Electives	2to5			Open/Humanities Electives	2to5
	MF	F311	Mechatronics & Automation	3	MF	F341	Design of Machine Tools	3
	MF	F312	Tool & Fixture Design	3	MF	F343	Casting & Welding	4
	MF	F313	Metal Forming & Machining	4	MF	F342	Computer Aided Design	4
			Discipline Electives	6(min)	MF	F344	Engineering Optimization	2
							Discipline Electives	3(min)
				18/21				18/21
IV			Open/Humanities Electives	7to13			PS-II (20)	20
			Discipline Electives	3(min)			or	or
							Thesis (16)	16
							or	
							Thesis (9) AND Electives (6 to 9)	15to18
				10/16				15/20

Discipline Core - 48 Units (16 Courses)
Discipline Electives - 12 Units (4 Courses)

List of discipline core courses:

S. No.	Course No.	Course Title	L	P	U
1.	MF F213	Materials Science & Engineering	2	0	2
2.	MF F212	Fluid Mechanics	3	0	3
3.	MF F211	Mechanics of Solids	3	0	3
4.	MF F214	Applied Thermodynamics	3	0	3
5.	MF F215	Mechanical Engineering Laboratory	0	2	2
6.	MF F241	Machine Design & Drawing	3	1	4
7.	MF F242	Manufacturing Management	2	0	2
8.	MF F243	Manufacturing Processes	2	1	3
9.	MF F244	Kinematics & Dynamics of Machinery	3	0	3

10.	MF F311	Mechatronics & Automation	2	1	3
11.	MF F312	Tool & Fixture Design	3	0	3
12.	MF F313	Metal Forming & Machining	3	1	4
13.	MF F341	Design of Machine Tools	3	0	3
14.	MF F343	Casting & Welding	3	1	4
15.	MF F342	Computer Aided Design	3	1	4
16.	MF F344	Engineering Optimization	2	0	2

List of discipline electives courses:

S. No.	Course No.	Course Title	L	P	U
1.	MF F411	Fluid Power Systems	3	1	4
2.	ME F419	Total Product Integration Engineering	3	0	3
3.	ME F416	Reverse Engineering and Rapid Prototyping	3	0	3
4.	ME F417	Advanced Metal Forming	3	0	3
5.	MF F471	Instrumentation and Control	3	0	3
6.	MF F463	Maintenance and Safety	3	0	3
7.	MF F412	Automotive Systems	3	0	3
8.	MF F413	Mechanical Vibrations and Acoustics	3	0	3
9.	MF F414	Manufacturing Excellence	3	0	3
10.	ME F415	Noise Engineering	3	0	3
11.	ME F416	Work System Design	3	0	3
12.	MF F418	Lean Manufacturing	3	0	3
13.	MF F421	Supply Chain Management			4
14.	ME F432	Computer Aided Manufacturing	3	0	3
15.	ME F443	Quality Control Assurance and Reliability	3	0	3
16.	MF F442	Advances in Materials Science	3	0	3
17.	MF F453	Industrial Relations	3	0	3
18.	MF F472	Precision Engineering	3	0	3
19.	MF F473	Product Design and Development	3	0	3
20.	MF F474	Product Design and Development Projects	-	-	3
21.	ECON F411	Project Appraisal	3	0	3

M.Sc. (Hons.) Biological Sciences

Semester-wise Pattern for Students Admitted to M.Sc. (Hons.) Biological Sciences Programme									
Year	First Semester			U	Second Semester			U
I	BIO	F110	Biology Laboratory	1	MATH	F112	Mathematics II	3
	BIO	F111	General Biology	3	ME	F110	Workshop Practice	2
	CHEM	F110	Chemistry Laboratory	1	CS	F111	Computer Programming	4
	CHEM	F111	General Chemistry	3	EEE	F111	Electrical Sciences	3
	MATH	F111	Mathematics I	3	BITS	F112	Technical Report Writing	2
	PHY	F110	Physics Laboratory	1	MATH	F113	Probability and Statistics	3
	PHY	F111	Mechanics, Oscillations and Waves	3	BITS	F111	Thermodynamics	3
	BITS	F110	Engineering Graphics	2				
				17				20
II	MATH	F211	Mathematics III	3	ECON	F211	Principles of Economics	3
			Open/Humanities Electives	3(min)			Or	or
	BIO	F211	Biological Chemistry	3	MGTS	F211	Principles of Management	3
	BIO	F213	Cell Biology	3			Open/Humanities Electives	3(min)
	BIO	F212	Microbiology	4	BIO	F241	Ecology & Environmental Science	3
	BIO	F214	Integrated Biology	3	BIO	F242	Introduction to Bioinformatics	3
					BIO	F243	Genetics	3
					BIO	F244	Instrumental Methods of Analysis	4
				19(min)				19(min)
Summer	BITS C221 Practice School – I (for PS Option Only)							
III			Open/Humanities Electives	3to6			Open/Humanities Electives	0to3
	BIO	F311	Recombinant DNA Technology	3	BIO	F341	Developmental Biology	3
	BIO	F312	Plant Physiology	3	BIO	F342	Immunology	3
	BIO	F313	Animal Physiology	3	BIO	F215	Biophysics	3
			Discipline Electives	6(min)			Discipline Electives	9(min)
				18/21				18/21
IV			Open/Humanities Electives	8to14			PS-II (20)	20
							Or	or
							Thesis (16)	16
							Or	
							Thesis (9) AND Electives (6 to 9)	15to18
				8/14				15/20

Discipline Core - 44 Units (14 Courses)
Discipline Electives - 15 Units (5 Courses)

List of discipline core courses:

S. No.	Course No.	Course Title	L	P	U
1.	BIO F211	Biological Chemistry	3	0	3
2.	BIO F213	Cell Biology	3	0	3
3.	BIO F212	Microbiology	3	1	4
4.	BIO F214	Integrated Biology	3	0	3
5.	BIO F241	Ecology & Environmental Science	3	0	3
6.	BIO F215	Biophysics	3	0	3
7.	BIO F243	Genetics	3	0	3
8.	BIO F244	Instrumental Methods of Anal	1	3	4
9.	BIO F311	Recombinant DNA Technology	3	0	3
10.	BIO F312	Plant Physiology	3	0	3
11.	BIO F313	Animal Physiology	3	0	3
12.	BIO F341	Developmental Biology	3	0	3
13.	BIO F342	Immunology	3	0	3
14.	BIO F242	Introduction to Bioinformatics	3	0	3

List of discipline electives courses for First degree Students

S. No.	Course No.	Course Title	L	P	U
1.	BIO F417	Biomolecular Modelling	3	0	3
2.	BIO F418	Genetic Engineering Techniques	1	3	4
3.	BIO F419	Molecular Evolution	3	0	3
4.	BIO F421	Enzymology	3	0	3
5.	BIO F441	Biochemical Engineering	3	0	3
6.	BIO F451	Bioprocess Technology	3	0	3
7.	BITS F467	Bioethics and Biosafety	3	0	3
8.	BIO F352	Cell and Tissue Culture Technology	3	1	4
9.	BIO F413	Molecular Biology of Cell	3	0	3
10.	BIO F431	Reproductive Physiology	3	0	3
11.	CHEM F212	Organic Chemistry I	3	0	3
12.	CHEM F213	Physical Chemistry II	3	0	3
13.	MATH F212	Optimization	3	0	3

M.Sc. (Hons.) Chemistry

Semester-wise Pattern for Students Admitted to M.Sc. (Hons.) Chemistry Programme									
Year	First Semester			U	Second Semester			U
I	BIO	F110	Biology Laboratory	1	MATH	F112	Mathematics II	3
	BIO	F111	General Biology	3	ME	F110	Workshop Practice	2
	CHEM	F110	Chemistry Laboratory	1	CS	F111	Computer Programming	4
	CHEM	F111	General Chemistry	3	EEE	F111	Electrical Sciences	3
	MATH	F111	Mathematics I	3	BITS	F112	Technical Report Writing	2
	PHY	F110	Physics Laboratory	1	MATH	F113	Probability and Statistics	3
	PHY	F111	Mechanics, Oscillations and Waves	3	BITS	F111	Thermodynamics	3
	BITS	F110	Engineering Graphics	2				
				17				20
II	MATH	F211	Mathematics III	3	ECON	F211	Principles of Economics	3
			Open/Humanities Electives	3(min)			or	or
	CHEM	F211	Physical Chemistry I	3	MGTS	F211	Principles of Management	3
	CHEM	F212	Organic Chemistry I	3			Open/Humanities Electives	3(min)
	CHEM	F213	Physical Chemistry II	3	CHEM	F241	Inorganic Chemistry II	
	PHY	F212	Electromagnetic Theory I	3	CHEM	F242	Chemical Experimentation I	3
	CHEM	F214	Inorganic Chemistry I	3	CHEM	F243	Organic Chemistry II	3
					CHEM	F244	Physical Chemistry III	3
				21(min)				18(min)
Summer	BITS C221 Practice School – I (for PS Option Only)							
III			Open/Humanities Electives	2to5			Open/Humanities Electives	2to5
	CHEM	F313	Instrumental Methods of Analysis	4	CHEM	F341	Chemical Experimentation II	4
	CHEM	F311	Organic Chemistry III	3	CHEM	F342	Organic Chemistry IV	3
	CHEM	F312	Physical Chemistry IV	3	CHEM	F343	Inorganic Chemistry III	3
			Discipline Electives	6(min)			Discipline Electives	6(min)
				18/21				18/21
IV			Open/Humanities Electives	7to13			PS-II (20)	20
							or	or
							Thesis (16)	16
							or	
							Thesis (9) AND Electives (6 to 9)	15to18
				7/13				15/20

Discipline Core - 47 Units (15 Courses)
Discipline Electives - 12 Units (4 Courses)

List of discipline core courses:

S. No.	Course No.	Course Title	L	P	U
1.	CHEM F211	Physical Chemistry I	3	0	3
2.	CHEM F212	Organic Chemistry I	3	0	3
3.	CHEM F213	Physical Chemistry II	3	0	3
4.	CHEM F214	Inorganic Chemistry I	3	0	3
5.	CHEM F241	Inorganic Chemistry II	3	0	3
6.	CHEM F242	Chemical Experimentation I	0	3	3
7.	CHEM F243	Organic Chemistry II	3	0	3
8.	CHEM F244	Physical Chemistry III	3	0	3
9.	CHEM F313	Instrumental Methods of Analysis	3	1	4
10.	CHEM F311	Organic Chemistry III	3	0	3
11.	CHEM F312	Physical Chemistry IV	3	0	3
12.	CHEM F341	Chemical Experimentation II	0	4	4
13.	CHEM F342	Organic Chemistry IV	3	0	3

14.	CHEM F343	Inorganic Chemistry III	3	0	3
15.	PHY F212	Electromagnetic Theory I	3	0	3

List of discipline elective courses:

S. No.	Course No.	Course Title	L	P	U
1.	CHEM F223	Colloid and Surface Chemistry	3	0	3
2.	CHEM F323	Biophysical Chemistry	3	0	3
3.	CHEM F324	Numerical Methods in Chemistry	3	3	4
4.	CHEM F325	Polymer Chemistry	3	0	3
5.	CHEM F412	Photochemistry and Laser Spectroscopy	3	0	3
6.	CHEM F422	Statistical Thermodynamics	3	0	3
7.	CHEM F326	Solid State Chemistry	3	0	3
8.	CHEM F413	Electron Correlation In Atoms And Molecules	3	1	4
9.	CHEM F327	Electrochemistry: Fundamentals and Applications	3	0	3
10.	CHEM F414	Bio and Chemical Sensors	3	0	3
11.	CHEM F328	Supramolecular Chemistry	3	0	3
12.	CHEM F329	Analytical Chemistry	3	1	4
13.	CHEM F415	Frontiers in Organic Synthesis	3	0	3
14.	CHEM F330	Photophysical Chemistry	3	1	4
15.	CHEM F333	Chemistry of Materials	3	0	3
16.	CHEM F334	Magnetic Resonance	3	0	3
17.	CHEM F335	Organic Chemistry and Drug Design	3	0	3
18.	CHEM F336	Nanochemistry	3	1	4
19.	CHEM F337	Green Chemistry and Catalysis	3	0	3

M.Sc. (Hons.) Economics

Semester-wise Pattern for Students Admitted to M. Sc (Hons.) Economics Programme									
Year	First Semester			U	Second Semester			U
I	BIO	F110	Biology Laboratory	1	MATH	F112	Mathematics II	3
	BIO	F111	General Biology	3	ME	F110	Workshop Practice	2
	CHEM	F110	Chemistry Laboratory	1	CS	F111	Computer Programming	4
	CHEM	F111	General Chemistry	3	EEE	F111	Electrical Sciences	3
	MATH	F111	Mathematics I	3	BITS	F112	Technical Report Writing	2
	PHY	F110	Physics Laboratory	1	MATH	F113	Probability and Statistics	3
	PHY	F111	Mechanics, Oscillations and Waves	3	BITS	F111	Thermodynamics	3
	BITS	F110	Engineering Graphics	2				
				17				20
II	MATH	F211	Mathematics III	3	MGTS	F211	Principles of Management	3
			Open/Humanities Electives	3(min)			Open/Humanities Electives	3(min)
	ECON	F211	Principles of Economics	3	ECON	F241	Econometric Methods	3
	ECON	F212	Fundamentals of Finance & Accounts	3	ECON	F242	Microeconomics	3
	ECON	F213	Mathematical & Statistical Methods	3	ECON	F243	Macroeconomics	3
	ECON	F214	Economic Environment of Business	3	ECON	F244	Economics of Growth & Development	3
				18(min)				18(min)
Summer	BITS C221 Practice School – I (for PS Option Only)							
III			Open/Humanities Electives	3 to 6			Open/Humanities Electives	3 to 6
	ECON	F311	International Economics	3	ECON	F341	Public Finance Theory & Policy	3
	ECON	F312	Money Banking & Financial Markets	3	ECON	F342	Applied Econometrics	3
	ECON	F313	Issues in Economic Development	3	ECON	F343	Economic Analysis of Public Policy	3
			Discipline Electives	6(min)			Discipline Electives	6(min)
				18/21				18/21
IV			Open/Humanities Electives	5 to 11			PS-II (20)	20
			Discipline Electives	6			or	or
							Thesis (16)	16
							or	
							Thesis (9) AND Electives (6 to 9)	15to18
				11/17				15/20

Discipline Core - 42 Units (14 Courses)
Discipline Electives - 18 Units (6 Courses)

List of discipline core courses:

S. No.	Course No.	Course Title	L	P	U
1.	ECON F211	Principles of Economics	3	0	3
2.	ECON F212	Fundamentals of Finance and Accounts	3	0	3
3.	ECON F213	Mathematical and Statistical Methods	3	0	3
4.	ECON F214	Economic Environment of Business	3	0	3
5.	ECON F241	Econometric Methods	3	0	3
6.	ECON F242	Microeconomics	3	0	3
7.	ECON F243	Macroeconomics	3	0	3
8.	ECON F244	Economics of Growth and Development	3	0	3
9.	ECON F311	International Economics	3	0	3
10.	ECON F312	Money, Banking and Financial Markets	3	0	3
11.	ECON F313	Issues in Economic Development	3	0	3
12.	ECON F341	Public Finance Theory and Policy	3	0	3

13.	ECON F342	Applied Econometrics	3	0	3
14.	ECON F343	Economic Analysis of Public Policy	3	0	3

List of discipline elective courses:

S. No.	Course No.	Course Title	L	P	U
1.	ECON F351	Indian Economic Development	3	0	3
2.	ECON F352	Management of Banks and Financial Institutions	3	0	3
3.	ECON F471	Resources and Environmental Economics	3	0	3
4.	ECON F353	Energy Economics and Policy	3	0	3
5.	ECON F411	Project Appraisal	3	0	3
6.	ECON F412	Security Analysis and Portfolio Management	3	0	3
7.	ECON F422	Functions and Working of Stock Exchanges	3	0	3
8.	ECON F354	Derivatives and Risk Management	3	0	3
9.	ECON F413	Financial Engineering	3	0	3
10.	ECON F414	Creating and Leading Entrepreneurial Organizations	3	0	3
11.	ECON F415	New Venture Creation	3	0	3
12.	ECON F355	Business Analysis and Valuation	3	0	3
13.	ECON F356	Strategic Financial Management	3	0	3
14.	ECON F357	Management Control System	3	0	3

M.Sc. (Hons.) Mathematics

Semester-wise Pattern for Students Admitted to M.Sc. (Hons.) Mathematics Programme									
Year	First Semester			U	Second Semester			U
I	BIO	F110	Biology Laboratory	1	MATH	F112	Mathematics II	3
	BIO	F111	General Biology	3	ME	F110	Workshop Practice	2
	CHEM	F110	Chemistry Laboratory	1	CS	F111	Computer Programming	4
	CHEM	F111	General Chemistry	3	EEE	F111	Electrical Sciences	3
	MATH	F111	Mathematics I	3	BITS	F112	Technical Report Writing	2
	PHY	F110	Physics Laboratory	1	MATH	F113	Probability and Statistics	3
	PHY	F111	Mechanics, Oscillations and Waves	3	BITS	F111	Thermodynamics	3
	BITS	F110	Engineering Graphics	2				
				17				20
II	MATH	F211	Mathematics III	3	ECON	F211	Principles of Economics	3
			Open/Humanities Electives	3(min)			or	or
	MATH	F212	Optimization	3	MGTS	F211	Principles of Management	3
	MATH	F213	Discrete Mathematics	3			Open/Humanities Electives	3(min)
	MATH	F214	Elementary Real Analysis	3	MATH	F241	Mathematical Methods	3
	MATH	F215	Algebra I	3	MATH	F242	Operations Research	3
					MATH	F243	Graphs & Networks	3
					MATH	F244	Measure & Integration	3
				18(min)				18(min)
Summer	BITS C221 Practice School – I (for PS Option Only)							
III			Open/Humanities Electives	3to6			Open/Humanities Electives	0to3
	MATH	F311	Introduction to Topology	3	MATH	F341	Introduction to Functional Analysis	3
	MATH	F312	Ordinary Differential Equations	3	MATH	F342	Differential Geometry	3
	MATH	F313	Numerical Analysis	3	MATH	F343	Partial Differential Equations	3
			Discipline Electives	6			Discipline Electives	9
				18/21				18/21
IV			Open/Humanities Electives	8to14			PS-II (20)	20
							or	or
							Thesis (16)	16
							or	
							Thesis (9) AND Electives (6 to 9)	15to18
				8/14				15/20

Discipline Core - 42 Units (14 Courses)
Discipline Electives - 15 Units (5 Courses)

List of discipline core courses

S. No.	Course No.	Course Title	L	P	U
1.	MATH F212	Optimization	3	0	3
2.	MATH F213	Discrete Mathematics	3	0	3
3.	MATH F214	Elementary Real Analysis	3	0	3
4.	MATH F215	Algebra-I	3	0	3
5.	MATH F241	Mathematical Methods	3	0	3
6.	MATH F242	Operations Research	3	0	3

7.	MATH F243	Graphs and Networks	3	0	3
8.	MATH F244	Measure & Integration	3	0	3
9.	MATH F311	Introduction to Topology	3	0	3
10.	MATH F312	Ordinary Differential Equations	3	0	3
11.	MATH F313	Numerical Analysis	3	0	3
12.	MATH F341	Introduction to Functional Analysis	3	0	3
13.	MATH F342	Differential Geometry	3	0	3
14.	MATH F343	Partial Differential Equations	3	0	3

List of discipline elective courses:

S. N.	Course No	Course Title	L	P	U
1.	BITS F343	Fuzzy Logic and Applications	3	0	3
2	MATH F231	Number Theory	3	0	3
3	MATH F441	Discrete Mathematical Structures	3	0	3
4	MATH F314	Algebra-II	3	0	3
5	MATH F471	Nonlinear Optimization	3	0	3
6	MATH F481	Commutative Algebra	3	0	3
7	MATH F354	Complex Analysis	3	0	3
8	CS F364	Design and Analysis of Algorithms	3	0	3
9	MATH F353	Statistical Inference and Applications	3	0	3
10	BITS F463	Cryptography	3	0	3
11	MATH F421	Combinatorial Mathematics	3	0	3
12	MATH F431	Distribution Theory	3	0	3

M.Sc. (Hons.) Physics

Semester-wise Pattern for Students Admitted to M. Sc (Hons.) Physics Programme									
Year	First Semester			U	Second Semester			U
I	BIO	F110	Biology Laboratory	1	MATH	F112	Mathematics II	3
	BIO	F111	General Biology	3	ME	F110	Workshop Practice	2
	CHEM	F110	Chemistry Laboratory	1	CS	F111	Computer Programming	4
	CHEM	F111	General Chemistry	3	EEE	F111	Electrical Sciences	3
	MATH	F111	Mathematics I	3	BITS	F112	Technical Report Writing	2
	PHY	F110	Physics Laboratory	1	MATH	F113	Probability and Statistics	3
	PHY	F111	Mechanics, Oscillations and Waves	3	BITS	F111	Thermodynamics	3
	BITS	F110	Engineering Graphics	2				
				17				20
II	MATH	F211	Mathematics III	3	ECON	F211	Principles of Economics	3
			Open/Humanities Electives	3(min)			or	or
	PHY	F211	Classical Mechanics	4	MGTS	F211	Principles of Management	3
	PHY	F212	Electromagnetic Theory I	3			Open/Humanities Electives	3(min)
	PHY	F213	Optics	3	PHY	F241	Electromagnetic Theory II	4
	PHY	F214	Electricity, Magnetism & Optics Laboratory	2	PHY	F242	Quantum Mechanics I	3
					PHY	F243	Mathematical Methods of Physics	3
					PHY	F244	Modern Physics Laboratory	2
				18(min)				18(min)
Summer	BITS C221 Practice School – I (for PS Option Only)							
III			Open/Humanities Electives	3to6			Open/Humanities Electives	3to6
	PHY	F311	Quantum Mechanics II	3	PHY	F341	Solid State Physics	3
	PHY	F312	Statistical Mechanics	3	PHY	F342	Atomic & Molecular Physics	3
	PHY	F313	Computational Physics	3	PHY	F343	Nuclear & Particle Physics	3
			Discipline Electives	6(min)	PHY	F344	Advanced Physics Laboratory	3
							Discipline Electives	3(min)
				18/21				18/21
IV			Open/Humanities Electives	5to11			PS-II (20)	20
			Discipline Electives	6(min)			or	or
							Thesis (16)	16
							or	
							Thesis (9) AND Electives (6 to 9)	15to18
				11/17				15/20

Discipline Core - 45 Units (15 Courses)
Discipline Electives - 15 Units (5 Courses)

List of discipline core courses:

S. No.	Course No.	Course Title	L	P	U
1.	PHY F211	Classical Mechanics	3	1	4
2.	PHY F212	Electromagnetic Theory I	3	0	3
3.	PHY F213	Optics	3	0	3
4.	PHY F214	Electricity, Magnetism & Optics Laboratory	0	2	2
5.	PHY F241	Electromagnetic Theory II	3	1	4
6.	PHY F242	Quantum Mechanics I	3	0	3
7.	PHY F243	Mathematical Methods of Physics	3	0	3
8.	PHY F244	Modern Physics Laboratory	0	2	2
9.	PHY F311	Quantum Mechanics II	3	0	3
10.	PHY F312	Statistical Mechanics	3	0	3

11.	PHY F313	Computational physics	3	0	3
12.	PHY F341	Solid State Physics	3	0	3
13.	PHY F342	Atomic & Molecular Physics	3	0	3
14.	PHY F343	Nuclear & Particle Physics	3	0	3
15.	PHY F344	Advanced Physics Laboratory	0	3	3

List of discipline elective courses:

S. No.	Course No.	Course Title	L	P	U
1.	PHY F215	Introduction to Astronomy & Astrophysics	3	0	3
2.	PHY F315	Theory of Relativity	3	0	3
3.	PHY F412	Introduction To Quantum Field Theory	3	1	4
4.	PHY F413	Particle Physics	3	1	4
5.	PHY F414	Physics of Advanced Materials	3	1	4
6.	PHY F415	General Theory of Relativity and Cosmology	3	1	4
7.	PHY F416	Soft Condensed Matter Physics	3	1	4
8.	PHY F417	Experimental Methods of Physics	3	1	4
9.	PHY F418	Lasers and Applications	3	1	4
10.	PHY F419	Advanced Solid State Physics	3	1	4
11.	PHY F422	Group Theory and Applications	3	1	4
12.	BITS F386	Quantum Information and Computation	3	0	3
13.	PHY F420	Quantum Optics	3	1	4
14.	BITS F316	Nonlinear Dynamics and Chaos	3	0	3
15.	PHY F421	Advanced Quantum Mechanics	3	1	4
16.	PHY F423	Special Topics in Statistical Mechanics	3	1	4
17.	PHY F424	Advanced Electrodynamics	3	1	4
18.	PHY F425	Advanced Mathematical Methods of Physics	3	1	4
19.	PHY F426	Physics of Semiconductor Devices	3	1	4
20.	PHY F427	Atmospheric Physics	3	0	3

M.Sc. (Tech.) General Studies
(Developmental Studies Stream)

Semester-wise Pattern for Students Admitted to M.Sc. (Tech.) General Studies – Developmental Studies Programme									
Year	First Semester			U	Second Semester			U
I	BIO	F110	Biology Laboratory	1	MATH	F112	Mathematics II	3
	BIO	F111	General Biology	3	ME	F110	Workshop Practice	2
	CHEM	F110	Chemistry Laboratory	1	CS	F111	Computer Programming	4
	CHEM	F111	General Chemistry	3	EEE	F111	Electrical Sciences	3
	MATH	F111	Mathematics I	3	BITS	F112	Technical Report Writing	2
	PHY	F110	Physics Laboratory	1	MATH	F113	Probability and Statistics	3
	PHY	F111	Mechanics, Oscillations and Waves	3	BITS	F111	Thermodynamics	3
	BITS	F110	Engineering Graphics	2				
				17				20
II	MATH	F211	Mathematics III	3	MGTS	F211	Principles of Management	3
			Open/Humanities Electives	3(min)			Open/Humanities Electives	3(min)
	GS	F211	Modern Political Concepts	3	GS	F231	Dynamics of Social Change	3
	GS	F212	Environment, Development & Climate Change	3	GS	F232	Introductory Psychology	3
	GS	F213	Development Theories	3	GS	F233	Public Policy	3
	ECON	F211	Principles of Economics	3	GS	F234	Development Economics	3
				18(min)				18(min)
Summer	BITS C221 Practice School – I (for PS Option Only)							
III			Open/Humanities Electives	3to6			Open/Humanities Electives	0to3
	GS	F311	Introduction to Conflict Management	3	GS	F331	Techniques in Social Research	3
	GS	F312	Applied Philosophy	3	GS	F332	Contemporary India	3
			Discipline Electives	9(min)	GS	F333	Public Administration	3
					GS	F334	Global Business	3
							Technology & Knowledge Sharing	
							Discipline Electives	6(min)
				18/21				18/21
IV			Open/Humanities Electives	8to14			PS-II (20)	20
							or	Or
							Thesis (16)	16
							or	
							Thesis (9) AND Electives (6 to 9)	15to18
				8/14				15/20

Discipline Core - 42 Units (14 Courses)
Discipline Electives - 15 Units (5 Courses)

List of discipline core courses:

S. No.	Course No.	Course Title	L	P	U
1.	GS F211	Modern Political Concepts	3	0	3
2.	GS F212	Environment, Development & Climate Change	3	0	3
3.	GS F213	Development Theories	3	0	3
4.	ECON F211	Principles of Economics	3	0	3
5.	GS F231	Dynamics of Social Change	3	0	3
6.	GS F232	Introductory Psychology	3	0	3
7.	GS F233	Public Policy	3	0	3
8.	GS F234	Development Economics	3	0	3
9.	GS F311	Introduction to Conflict Management	3	0	3
10.	GS F312	Applied Philosophy	3	0	3
11.	GS F331	Techniques in Social Research	3	0	3
12.	GS F332	Contemporary India	3	0	3
13.	GS F333	Public Administration	3	0	3

14.	GS F334	Global Business Technology & Knowledge Sharing	3	0	3

List of discipline electives courses:

S. No.	Course No.	Course Title	L	P	U
1.	BITS F385	Introduction to Gender Studies	3	0	3
2.	PHIL F221	Symbolic Logic	3	0	3
3.	HUM F411	Professional Ethics	3	0	3
4.	HUM F412	Heritage of India	3	0	3
5.	POL F311	Gandhian Thoughts	3	0	3
6.	POL F321	International Relations	3	0	3
7.	HIST F112	Main Trends in Indian History	3	0	3
8.	HIST F211	Main Currents of Modern History	3	0	3
9.	HSS F312	Bureaucracy	3	0	3
10.	PHIL F211	Introductory Philosophy	3	0	3
11.	HSS F315	Society, Business, and Politics	3	0	3

M.Sc. (Tech.) General Studies
(Communication & Media Studies Stream)

Semester-wise Pattern for Students Admitted to M.Sc. (Tech.) General Studies –Media & Communication & Media Studies Stream									
Year	First Semester			U	Second Semester			U
I	BIO	F110	Biology Laboratory	1	MATH	F112	Mathematics II	3
	BIO	F111	General Biology	3	ME	F110	Workshop Practice	2
	CHEM	F110	Chemistry Laboratory	1	CS	F111	Computer Programming	4
	CHEM	F111	General Chemistry	3	EEE	F111	Electrical Sciences	3
	MATH	F111	Mathematics I	3	BITS	F112	Technical Report Writing	2
	PHY	F110	Physics Laboratory	1	MATH	F113	Probability and Statistics	3
	PHY	F111	Mechanics, Oscillations and Waves	3	BITS	F111	Thermodynamics	3
	BITS	F110	Engineering Graphics	2				
				17				20
II	MATH	F211	Mathematics III	3	ECON	F211	Principles of Economics	3
			Open/Humanities Electives	3(min)			Or	or
	GS	F221	Business Communication	3	MGTS	F211	Principles of Management	3
	GS	F222	Language Lab Practice	3			Open/Humanities Electives	3(min)
	GS	F223	Introduction to Mass Communication	3	GS	F244	Reporting & Writing for Media	3
	GS	F224	Print & Audio Visual Advertising	3	GS	F241	Creative Writing	3
					GS	F245	Effective Public Speaking	3
					GS	F243	Current Affairs	3
				18(min)				18(min)
Summer	BITS C221 Practice School – I (for PS Option Only)							
III			Open/Humanities Electives	3to6			Open/Humanities Electives	3to6
	GS	F321	Mass Media Content & Design	3	GS	F342	Computer Mediated Communication	3
	GS	F322	Critical Analysis of Literature & Cinema	3	GS	F343	Short Film & Video Production	3
			Discipline Electives	9(min)			Discipline Electives	9(min)
				18/21				18/21
IV			Open/Humanities Electives	5to11			PS-II (20)	20
			Discipline Electives	3(min)			Or	or
							Thesis (16)	16
							Or	
							Thesis (9) AND Electives (6 to 9)	15to18
				8/14				15/20

Discipline Core - 36 Units (12 Courses)
Discipline Electives - 21 Units (7 Courses)

List of discipline core courses:

S.No	Course No.	Course Title	L	P	U
1	GS F221	Business Communication	3	0	3
2	GS F222	Language Lab Practice	0	3	3
3	GS F223	Introduction to Mass Communication	3	0	3
4	GS F224	Print and Audio Visual Advertising	2	1	3
5	GS F322	Critical Analysis of Literature and Cinema	3	0	3
6	GS F241	Creative Writing	2	1	3

7	GS F243	Current Affairs	3	0	3
8	GS F244	Reporting and Writing for Media	2	1	3
9	GS F321	Mass Media Content and Design	2	1	3
10	GS F342	Computer Mediated Communication	3	0	3
11	GS F245	Effective Public Speaking	2	1	3
12	GS F343	Short Film and Video Production	2	1	3

List of discipline electives courses:

S. No.	Course No.	Course Title	L	P	U
1	GS F325	Journalism	3	0	3
2	GS F326	Creative Thinking	2	1	3
3	GS F327	Selected Reading	3	0	3
4	GS F242	Cultural Studies	3	0	3
5	GS F341	Copywriting	2	1	3
6	GS F232	Introductory Psychology	3	0	3
7	HUM F411	Professional Ethics	3	0	3
8	BITS F385	Introduction to Gender Studies	3	0	3

M.Sc. (Tech.) Information Systems

Semester-wise Pattern for Students Admitted to M.Sc. (Tech.) Information Systems Programme									
Year	First Semester			U	Second Semester			U
I	BIO	F110	Biology Laboratory	1	MATH	F112	Mathematics II	3
	BIO	F111	General Biology	3	ME	F110	Workshop Practice	2
	CHEM	F110	Chemistry Laboratory	1	CS	F111	Computer Programming	4
	CHEM	F111	General Chemistry	3	EEE	F111	Electrical Sciences	3
	MATH	F111	Mathematics I	3	BITS	F112	Technical Report Writing	2
	PHY	F110	Physics Laboratory	1	MATH	F113	Probability and Statistics	3
	PHY	F111	Mechanics, Oscillations and Waves	3	BITS	F111	Thermodynamics	3
	BITS	F110	Engineering Graphics	2				
				17				20
II	MATH	F211	Mathematics III	3	ECON	F211	Principles of Economics	3
			Open/Humanities Electives	3(min)			or	or
	IS	F214	Logic in Computer Science	3	MGTS	F211	Principles of Management	3
	IS	F222	Discrete Structures for Computer Science	3			Open/Humanities Electives	3(min)
	IS	F213	Object Oriented Programming	4	IS	F211	Data Structures & Algorithms	4
	IS	F241	Digital Electronics & Microprocessors	4	IS	F242	Computer Organization	4
					IS	F243	Database Systems & Applications	4
				20(min)				18(min)
Summer	BITS C221 Practice School – I (for PS Option Only)							
III			Open/Humanities Electives	3to6			Open/Humanities Electives	2to5
	IS	F341	Software Engineering	4	IS	F342	Compiler Design	3
	IS	F372	Operating Systems	3	IS	F322	Software Testing	3
	IS	F301	Principles of Programming Languages	2	IS	F303	Computer Networks	4
	IS	F311	Computer Graphics	3			Discipline Electives	6(min)
			Discipline electives	3(min)				
				18/21				18/21
IV			Open/Humanities Electives	6to12			PS-II (20)	20
			Discipline Electives	3(min)			or	or
							Thesis (16)	16
							or	
							Thesis (9) AND Electives (6 to 9)	15to18
				9/15				15/20

Discipline Core - 48 Units (14 Courses)
Discipline Electives - 12 Units (4 Courses)

List of discipline core courses:

S. No.	Course No.	Course Title	L	P	U
1.	IS F214	Logic in Computer Science	3	0	3
2.	IS F222	Discrete Structures for Computer Science	3	0	3
3.	IS F213	Object Oriented Programming	3	1	4
4.	IS F241	Digital Electronics & Microprocessors	3	1	4
5.	IS F211	Data Structures & Algorithms	3	1	4
6.	IS F242	Computer Organization	3	1	4
7.	IS F243	Database Systems & Applications	3	1	4
8.	IS F341	Software Engineering	3	1	4
9.	IS F372	Operating Systems	3	0	3
10.	IS F301	Principles of Programming Languages	2	0	2
11.	IS F311	Computer Graphics	3	0	3
12.	IS F342	Compiler Design	2	1	3

13.	IS F303	Computer Networks	3	1	4
14.	IS F322	Software Testing	2	1	3

List of discipline elective courses:

S. No.	Course No.	Course Title	L	P	U
1.	CS F314	Software Development for Portable Devices	2	1	3
2.	CS F415	Data Mining	3	0	3
3.	CS F364	Design and Analysis of Algorithms	3	0	3
4.	CS F422	Parallel Computing	3	0	3
5.	CS F424	Software for Embedded Systems	3	1	4
6.	CS F441	Selected Topics from Computer Science	-	-	3
7.	CS F446	Data Storage Technologies and Networks	3	0	3
8.	MATH F421	Combinatorial Mathematics	3	0	3
9.	MATH C441	Discrete Mathematical Structures	3	0	3
10.	CS F401	Multimedia Computing	3	0	3
11.	IS F462	Network Programming	3	0	3
12.	BITS F311	Image Processing	3	0	3
13.	CS F413	Internetworking Technologies	3	0	3
14.	CS F407	Artificial Intelligence	3	0	3
15.	BITS F312	Neural Networks and Fuzzy Logic	3	0	3
16.	BITS F343	Fuzzy Logic and Applications	3	0	3
17.	BITS F364	Human – Computer Interaction	3	0	3
18.	BITS F386	Quantum Information and Computation	3	0	3
19.	BITS F463	Cryptography	3	0	3
20.	BITS F464	Machine Learning	3	0	3
21.	MATH F231	Number Theory	3	0	3

M.Sc. (Tech.) Finance

Semester-wise Pattern for Students Admitted to M. Sc (Tech.) Finance Programme									
Year	First Semester			U	Second Semester			U
I	BIO	F110	Biology Laboratory	1	MATH	F112	Mathematics II	3
	BIO	F111	General Biology	3	ME	F110	Workshop Practice	2
	CHEM	F110	Chemistry Laboratory	1	CS	F111	Computer Programming	4
	CHEM	F111	General Chemistry	3	EEE	F111	Electrical Sciences	3
	MATH	F111	Mathematics I	3	BITS	F112	Technical Report Writing	2
	PHY	F110	Physics Laboratory	1	MATH	F113	Probability and Statistics	3
	PHY	F111	Mechanics, Oscillations and Waves	3	BITS	F111	Thermodynamics	3
	BITS	F110	Engineering Graphics	2				
				17				20
II	MATH	F211	Mathematics III	3			Open/Humanities Electives	3(min)
			Open/Humanities Electives	3(min)	MGTS	F211	Principles of Management	3
	ECON	F211	Principles of Economics	3	FIN	F242	Introduction to Financial Mathematics	3
	FIN	F212	Fundamentals of Finance & Accounts	3	FIN	F243	Functions & Working of Stock Exchanges	3
	FIN	F213	Mathematical & Statistical Methods	3	FIN	F244	Indian Financial System	3
	ECON	F214	Economic Environment of Business	3	ECON	F241	Econometric Methods	3
				18(min)				18(min)
Summer	BITS C221 Practice School – I (for PS Option Only)							
III			Open/Humanities Electives	3to6			Open/Humanities Electives	3to6
	FIN	F311	Derivatives & Risk Management	3	FIN	F313	Security Analysis & Portfolio Management	3
	FIN	F312	Fundamentals of Taxation & Audit	3	FIN	F341	International Financial Markets & Services	3
	FIN	F315	Financial Management	3	FIN	F342	Project Finance	3
	FIN	F314	Investment Banking & Financial Services	3				
			Discipline Electives	3(min)			Discipline Electives	6(min)
				18/21				18/21
IV			Open/Humanities Electives	5 to 11			PS-II (20)	20
			Discipline Electives	6(min)			or	or
							Thesis (16)	16
							or	
							Thesis (9) AND Electives (6 to 9)	15to18
				11/17				15/20

Discipline Core - 45 Units (15 Courses)
Discipline Electives - 15 Units (5 Courses)

List of discipline core courses:

S. No.	Course No.	Course Title	L	P	U
1.	ECON F211	Principles of Economics	3	0	3
2.	FIN F212	Fundamentals of Finance and Accounts	3	0	3
3.	FIN F213	Mathematical and Statistical Methods	3	0	3
4.	FIN F214	Economic Environment of Business	3	0	3
5.	FIN F244	Indian Financial System	3	0	3
6.	FIN F242	Introduction to Financial Mathematics	3	0	3
7.	FIN F243	Functions and Working of Stock Exchanges	3	0	3
8.	ECON F241	Econometric Methods	3	0	3
9.	FIN F312	Fundamental of Taxation & Audit	3	0	3
10.	FIN F311	Derivatives & Risk management	3	0	3
11.	FIN F315	Financial Management	3	0	3
12.	FIN F314	Investment banking and Financial Services	3	0	3

13.	FIN F341	International Financial markets and Services	3	0	3
14.	FIN F342	Project Finance	3	0	3
15.	FIN F313	Security Analysis and Portfolio Management	3	0	3

List of discipline electives courses:

S. No.	Course No.	Course Title	L	P	U
1.	ECON F352	Management of Banks and Financial Institutions	3	0	3
2.	ECON F411	Project Appraisal	3	0	3
3.	ECON F413	Financial Engineering	3	0	3
4.	ECON F414	Creating and Leading Entrepreneurial Organizations	3	0	3
5.	ECON F415	New Venture Creation	3	0	3
6.	ECON F355	Business Analysis and Valuation	3	0	3
7.	ECON F356	Strategic Financial Management	3	0	3
8.	ECON F357	Management Control System	3	0	3
9.	ECON F312	Money, Banking and Financial Markets	3	0	3
10	ECONF416	Regional Economics	3	0	3