

BITS, Pilani
Department of Computer Science & Information Systems

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	
	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
			20(min)	CS	F212	Database Systems	4	
							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	
							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