Course Structure

For

4-Year B.Tech. Degree

in

Computer Science and Engineering

Indian Institute of Information Technology Kalyani

Webel IT Park Campus

West Bengal 741235, India

1st Year (Semester: I)							
Sl No.	Code No.	Subject	Contact Periods/week				Credit
			L	T	P	Total	
Theoretical Papers							
1	MA 101	Mathematics – I (Linear Algebra)	3	1	0	4	4
2	PH 101	Physics	3	1	0	4	4
3	EC 101	Basic Electrical and Electronics Engineering	3	0	0	3	3
4	CS 101	Programming with C/C++	3	0	0	3	3
5	HU 101	English for Communication	3	0	0	3	3
6	HU 102	Humanities – I (Values & Ethics in Profession)	3	0	0	3	3
Sessional Papers							
7	CS 111	Programming with C/C++	0	0	3	3	2
8	EC 111	Basic Electronics Engineering	0	0	3	3	2
Total			**18**	**2**	**6**	**26**	**24**

1st Year (Semester: II)							
Sl No.	Code No.	Subject	Contact Periods/Week			Total	Credit
			L	T	P		
Theoretical Papers							
1	CS 201	Data Structures and Algorithms	3	1	0	4	4
2	EC 201	Digital Logic Design and Circuit	3	0	0	3	3
3	CS 202	Foundations of Data Science – I (Probability and Statistics)	3	1	0	4	4
4	CS 203	Discrete Mathematics	3	1	0	4	4
5	HU 201	Humanities – II (Economics)	3	0	0	3	3
Sessional Papers							
6	EC 211	Digital Logic Design and Circuit Lab	0	0	3	3	2
7	CS 211	Data Structures and Algorithms Lab	0	0	3	3	2
8	CS 212	Introduction to Environmental Data Science	1	0	2	3	2
Total			**16**	**3**	**8**	**27**	**24**

2nd Year (Semester: III)							
Sl No.	Code No.	Subject	Contact Periods/week				Credit
			L	T	P	Total	
Theoretical Papers							
1	MA 301	Mathematics – II (Calculus and Differential Equation)	3	1	0	4	4
2	CS 301	Computer Organization and Architecture	3	0	0	3	3
3	CS 302	Algorithms – I	3	1	0	4	4
4	CS 303	Formal Languages and Automata Theory	3	1	0	4	4
5	HU 301	Humanities – III (Psychology)	3	0	0	3	3
Sessional Papers							
6	CS 311	Computer Organization and Architecture Lab	0	0	3	3	2
7	CS 312	Algorithm – I Lab	0	0	3	3	2
8	CS 313	Data Science Lab – I (Python/R)	1	0	2	3	2
Total			**16**	**3**	**8**	**27**	**24**

2nd Year (Semester: IV)							
Sl No.	Code No.	Subject	Contact Periods/Week			Total	Credit
			L	T	P		
Theoretical Papers							
1	CS 401	Operating Systems	3	0	0	3	3
2	CS 402	Foundations of Data Science – II (Numerical Analysis and Computing)	3	1	0	4	4
3	CS 403	Object Oriented Programming (JAVA)	3	0	0	3	3
4	EC 401	Data Communications	3	0	0	3	3
5	EC 402	Signals and Systems	3	0	0	3	3
Sessional Papers							
6	CS 411	Operating Systems Lab	0	0	3	3	2
7	CS 412	Data Science Lab – II (R/Sci Lab)	0	0	3	3	2
8	CS 413	Object Oriented Programming (JAVA) Lab	0	0	3	3	2
Total			**15**	**1**	**9**	**25**	**24**

3rd Year (Semester: V)							
Sl No.	Code No.	Subject	Contact Periods/week				Credit
			L	T	P	Total	
Theoretical Papers							
1	CS 501	Compiler Design	3	0	0	3	3
2	CS 502	Artificial Intelligence	3	0	0	3	3
3	EC 501	Microprocessor and Microcontroller System	3	0	0	3	3
4	*	Elective – I	3	0	0	3	3
5	HU 501	Humanities - IV (Financial Management and Organizational Behaviour)	4	0	0	4	4
Sessional Papers							
6	CS 511	Compiler Design Lab	0	0	3	3	2
7	EC 511	Microprocessor and Microcontroller System Lab	0	0	3	3	2
8	CS 591	Project – I (A)	0	0	5	5	3
Total			**16**	**0**	**11**	**27**	**23**

3rd Year (Semester: VI)							
Sl No.	Code No.	Subject	Contact Periods/Week			Total class load/ Week	Credits
			L	T	P		
Theoretical Papers							
1	CS 601	Computer Networks	3	0	0	3	3
2	CS 602	Database Management System	3	0	0	3	3
3	CS 603	Machine Learning	3	0	0	3	3
4	CS 604	Cognitive Science and Technology	3	0	0	3	3
5	*	Elective – II	3	0	0	3	3
Sessional Papers							
6	CS 611	Computer Networks Lab	0	0	3	3	2
7	CS 612	Database Management System Lab	0	0	3	3	2
8	HU 611	Soft Skill Development	0	0	3	3	2
9	CS 614	Project – I (B)	0	0	5	5	3
Total			**15**	**0**	**14**	**29**	**24**

4th Year (Semester: VII)							
Sl No.	Code No.	Subject	Contact Periods/week				Credit
			L	T	P	Total	
Theoretical Papers							
1	CS 701	Algorithms – II	3	0	0	3	3
2	CS 702	Software Engineering	3	0	0	3	3
3	*	Elective – III	3	0	0	3	3
4	*	Elective – IV	3	0	0	3	3
Sessional Papers							
5	CS 711	Algorithms – II Lab	0	0	3	3	2
6	CS 791	Project – II (A)	0	0	15	15	10
Total			**12**	**0**	**18**	**30**	**24**

4th Year (Semester: VIII)							
Theoretical Papers							Credits
Sl No.	Code No.	Subject	Contact Periods/Week			Total class load/ Week	
			L	T	P		
1	*	Elective – V	3	0	0	3	3
2	*	Elective – VI	3	0	0	3	3
3	*	Elective – VII	3	0	0	3	3
Sessional Papers							
4	CS 891	Project – II (B)	0	0	15	15	10
5	CS 892	Comprehensive Viva	0	0	0	0	3
Total			**9**	**0**	**15**	**24**	**22**