केन्द्रीय प्रौद्योगिकी संस्थान कोकराझार

CENTRAL INSTITUTE OF TECHNOLOGY

(Centrally Funded Institute Under the Ministry of HRD, Govt. of India)
Bodoland Territorial Areas Districts :: Kokrajhar :: Assam :: 783370
Website: www.cit.ac.in

Syllabus
of
Information Technology (IT)

B.Tech Programme

STUDY PLAN

Total Credit Requirements : 233

Total Number of Semesters: 8

1st YEAR: 1st SEMESTER (JULY-DEC)

A. Theory

	Code	Subjects	Contacts (periods per week)				Credit points
			L	T	P	Total	
1.	MA101	Engineering Mathematics -I	3	1	0	4	4
2.	PH101	Engineering Physics	3	1	0	4	4
3.	CS101	Introduction to Computer Programming	3	1	0	4	4
4.	HU101	Communication Skills	3	1	0	4	4
5.	ES101	Environmental Engineering	3	1	0	4	4
		Total of theory					**20**

B. Practicals

	Code	Subjects	Contacts (periods per week)				Credit points
			L	T	P	Total	
1.	PH171	Physics Lab	0	0	3	3	2
2.	CE171	Engineering Graphics Lab	0	0	3	2	2
3.	WS171	Workshop Practice -I	0	1	3	4	3
4.	CS171	Computing Lab	0	0	3	3	2
		Total of practicals					**9**

Total of 1st Semester: 29

1st YEAR: 2nd SEMESTER (JAN-JUNE)

	Code	Subjects	L	T	P	Total	Credit points
A. Theory							
			L	T	P	Total	
1.	MA201	Engineering Mathematics -II	3	1	0	4	4
2.	CY201	Engineering Chemistry	3	1	0	4	4
3.	EE201	Basic Electrical Engineering	3	1	0	4	4
4.	ME201	Engineering Mechanics	3	1	0	4	4
5.	EC201	Basic Electronics	3	1	0	4	4
6.	HU201	Professional Ethics and Human value	2	0	0	2	2
		Total of Theory					**22**

	Code	Subjects	L	T	P	Total	Credit points
B. Practicals							
			L	T	P	Total	
1.	CY271	Engineering Chemistry Lab	0	0	3	3	2
2.	WS271	Workshop Practice -II	0	1	3	4	3
3.	EE271	Basic Electrical and Electronics Lab	0	0	3	3	2
		Total of Practicals					**7**

Total of 2nd Semester: 29

2nd YEAR: 3rd SEMESTER (JULY-DEC)

	Code	Subjects	Contacts (periods per week)				Credit points
A. Theory							
			L	**T**	**P**	**Total**	
1.	MA301	Engineering Mathematics-III	3	1	0	4	4
2.	MA302	Discrete Mathematics	3	1	0	4	4
3.	IT301	Computer Organization and Architecture	3	0	0	3	3
4.	IT302	Data Communication	3	0	0	3	3
5.	IT303	Digital Logic Design	3	0	0	3	3
6.	IT304	Data structure	3	0	0	3	3
Total of Theory							**20**

	Code	Subjects	Contacts (periods per week)				Credit points
B. Practicals							
			L	**T**	**P**	**Total**	
1.	IT371	Computer Organization and Architecture Lab	0	0	2	2	2
2.	IT373	Logic Design Lab	0	0	2	2	2
3.	IT374	Data structure Lab	0	0	2	2	2
4.	HU371	Language Lab	0	0	2	2	2
Total of Practical							**8**

Total of 3rd Semester: 28

2nd YEAR: 4th SEMESTER (JAN-JUNE)

	Code	Subjects	Contacts (periods per week)				Credit points
A. Theory							
			L	T	P	Total	
1.	HU401	Engineering Economics	3	0	0	3	3
2.	IT401	Object Oriented Programming & Design	3	1	0	4	4
3.	IT402	Database Management systems	3	1	0	4	4
4.	IT403	Computer Networks	3	1	0	4	4
5.	IT404	System programming	3	0	0	3	3
6.	MA401	Numerical Methods & Computer Programming	3	1	0	4	4
Total of Theory							22

	Code	Subjects	Contacts (periods per week)				Credit points
B. Practicals							
			L	T	P	Total	
1.	MA471	NMCP Lab	0	0	2	2	2
2.	IT471	OOP Lab	0	0	2	2	2
3.	IT472	Database Management systems Lab	0	0	2	2	2
4.	IT473	Network Lab	0	0	2	2	2
Total of Practicals							8

Total of 4th Semester: 30

3ʳᵈ YEAR: 5ᵗʰ SEMESTER (JULY-DEC)

		A. Theory					
	Code	**Subjects**	**Contacts (periods per week)**				**Credit points**
			L	**T**	**P**	**Total**	
1.	HU501	Industrial Management and Entrepreneurship	3	0	0	3	3
2.	IE501	Microprocessor and Microcontrollers	3	1	0	4	4
3.	IT501	Java Programming	3	1	0	4	4
4.	IT502	Operating System	3	1	0	4	4
5.	IT503	Theory of Computation	3	1	0	4	4
6.	IT504	Design and analysis algorithm	3	0	0	3	3
Total of Theory							**22**

		B. Practicals					
	Code	**Subjects**	**Contacts (periods per week)**				**Credit points**
			L	**T**	**P**	**Total**	
1.	IE571	Microprocessor Lab	0	0	2	2	2
2.	IT571	Java Programming Lab	0	0	2	2	2
3.	IT572	Operating System Lab	0	0	2	2	2
Total of Practicals							**6**

Total of 5ᵗʰ Semester: 28

3rd YEAR: 6th SEMESTER (JAN-JUNE)

	Code	Subjects	Contacts (periods per week)				Credit points
A. Theory							
			L	T	P	Total	
1.	HU601	**Professional Communication**	2	0	0	2	2
2.	IT601	**E-commerce & ERP**	3	0	0	3	3
3	IT602	**Computer Graphics & Multimedia**	3	1	0	4	4
4.	IT603	**Compiler Design**	3	1	0	4	4
5.	IT604	**Web Technology**	3	1	0	4	4
6	IT605	**Software Engineering**	3	0	0	3	3
Total of Theory							**20**

	Code	Subjects	Contacts (periods per week)				Credit points
B. Practical							
			L	T	P	Total	
1.	IT672	**Computer Graphics Lab**	0	0	2	2	2
2.	IT673	**Compiler Design Lab**	0	0	2	2	2
3	IT674	**Web Technology Lab**	0	0	2	2	2
4	IT670	**Mini Project**	0	0	2	2	2
Total of Practical							**8**

Total of 6th Semester: 28

4th YEAR: 7th SEMESTER (JULY-DEC)

	A. Theory						
	Code	**Subjects**	**Contacts (periods per week)**				**Credit points**
			L	**T**	**P**	**Total**	
1.	IT701	Data Mining & Data Warehousing	3	0	0	3	3
2.	IT702	Information Security and Cyber Laws	3	1	0	4	4
3.	IT71*	Elective-I	3	0	0	3	3
4.	IT71*	Elective-II	3	0	0	3	3
Total of Theory							**13**

	B. Sessionals						
	Code	**Subjects**	**Contacts (periods per week)**				**Credit points**
			L	**T**	**P**	**Total**	
1.	IT791	Major Project –I	0	0	12	12	8
2.	IT792	Report and Presentation on Practical Training – II	-	-	-	-	3
3.	IT770	Seminar	0	0	2	2	2
4	IT772	Information Security Lab	0	0	2	2	2
Total of Practicals							**15**

Total of 7th Semester: 28

4th YEAR: 8th SEMESTER (JAN-JUNE)

	A. Theory						
	Code	**Subjects**	**Contacts (periods per week)**				**Credit points**
			L	**T**	**P**	**Total**	
1.	IT81*	Elective-III	3	0	0	3	3
2.	IT81*	Elective-IV	3	0	0	3	3
3	IT81*	Elective-V	3	0	0	3	3
Total of Theory							9

	B. Sessionals						
	Code	**Subjects**	**Contacts (periods per week)**				**Credit points**
			L	**T**	**P**	**Total**	
1.	IT891	Major project -II	0	0	18	18	12
2.	IT892	Project Defense	-	-	-	-	4
3.	IT893	Comprehensive Viva Voce	-	-	-	-	8
Total of Practicals							24

Total of 8th Semester: 33

List of Elective Courses in Information Technology

IT-Elective-I
IT711: Software Quality Engineering
IT712: Distributed System
IT713: Image Processing and Pattern Recognition
IT 714: Advanced Computer Architecture

IT-Elective-II
IT715: Artificial Intelligence
IT716: Parallel Computing
IT717: Graph Theory
IT718: Bioinformatics

IT-Elective-III
IT811: Cryptography and Network Security
IT812: Software Testing
IT813: Robotics and Computer Vision
IT814: Natural Language Processing

IT-Elective-IV
IT815: Mobile Computing
IT816: Real Time and Embedded Systems
IT817: IT in Forensic Science
IT818: GIS and Remote sensing

IT-Elective-V
IT 819: Fuzzy logic and neural networks
IT 820: Intrusion Detection System
IT 821: Internet Protocol
IT 822: Cloud Computing
IT 823: C# and .NET framework.