



Department of Computer Science & Engineering
Birla Institute of Technology, Mesra, Ranchi - 835215

(India) Master of Computer Application

PROGRAMME COURSE STRUCTURE (ALL SEMESTERS)

BIRLA INSTITUTE OF TECHNOLOGY - MESRA, RANCHI
NEW COURSE STRUCTURE – Proposed from Monsoon
2020 Based on CBCS & OBE model
Recommended scheme of study for MCAP Programme

Semester	Course Level	Category of Course	Course Code	Courses	Mode of delivery & credits			Total Credits
					L (periods/week)	T (periods/week)	P (periods/week)	
Theory								
First/Monsoon	FOURTH	Programme Core(PC)	CA403	Computer Organization & Architecture	3	0	0	3
	FOURTH	Programme Core(PC)	CA405	Data Structures and Algorithms	3	0	0	3
	FOURTH	Programme Core(PC)	CA407	Database Design Concepts	3	0	0	3
	FOURTH	Programme Core(PC)	CA409	Object Oriented Design using Java	3	0	0	3
	FOURTH	Programme Core(PC)	CA411	Modern Operating Systems	3	0	0	3
Laboratories								
	FOURTH	Programme Core(PC)	CA406	Data Structures and Algorithms Lab	0	0	3	1.5
	FOURTH	Programme Core(PC)	CA408	Database Design Concepts Lab	0	0	3	1.5
	FOURTH	Programme Core(PC)	CA410	Object Oriented Design using Java Lab	0	0	3	1.5
	FOURTH		MT132	Communication Skill-I	0	0	3	1.5
		Total						

Semester	Course Level	Category of Course	Course Code	Courses	Mode of delivery & credits			Total Credits
					L (periods/week)	T (periods/week)	P (periods/week)	
Theory								
Second/Spring	FIRST	HSS	MT114	Fundamentals of management & Organization Behaviour	3	0	0	3

	FOURTH	Programme Core(PC)	CA413	Data Communication & Computer Networks	3	0	0	3
	FOURTH	Programme Core(PC)	CA415	Software Engineering Principles	3	0	0	3
	FOURTH	Programme Core(PC)	CA417	Theory of Computation	3	0	0	3
	FOURTH	Programme Core(PC)	CA419	Analysis of Algorithms	3	0	0	3
	FOURTH	Program Elective	-	Program Elective-I	3	0	0	3
Laboratories								
	FOURTH	Programme Core(PC)	CA414	DCCN Lab	0	0	3	1.5
	FOURTH	Programme Core(PC)	CA416	Software Engineering Lab	0	0	3	1.5
	FOURTH	Programme Core(PC)	CA422	IT Tools & Techniques Lab	0	0	3	1.5
	FOURTH		MT133	Communication Skill-II	0	0	3	1.5
	Total							24

Semester	Course Level	Category of Course	Course Code	Courses	Mode of delivery & credits			Total Credits
					L (periods/week)	T (periods/week)	P (periods/week)	
Theory								
Third/Monsoon	FIFTH	Programme Core(PC)	CA511	Basics of Machine Learning	3	0	0	3
	FIFTH	Programme Core(PC)	CA513	Compiler Design	3	1	0	4
	FIFTH	Programme Core(PC)	CA515	Soft Computing	3	0	0	3
	FIFTH	SIT / Soft Skill Course / Extra OE	CA550	Small Industrial Training / Small Project / MOOC				6
	FIFTH	Program Elective	-	Program Elective-II	3	0	0	3
	FIFTH	Program Elective	-	Program Elective-III	3	0	0	3
Laboratories								
	FIFTH	Programme Core(PC)	CA512	Basics of Machine Learning Lab	0	0	3	1.5
	FIFTH	Programme Core(PC)	CA514	Compiler Design Lab	0	0	3	1.5
	Total							25

Semester	Course Level	Category of Course	Course Code	Courses	Mode of delivery & credits			Total Credits
					L (periods/week)	T (periods/week)	P (periods/week)	
Project								
Fourth/Spring	FIFTH	Project	CA590	Project				20
	Total							20

Total Credits: 90

List of Program Electives

PE/L EVEL		Course Code	Name of the PE courses	L	T	P	Credit
4	PE1	CA431	Distributed Databases Concepts	3	0	0	3
4		CA433	Intrusion Detection System	3	0	0	3
4		CA435	Modern Artificial Intelligence	3	0	0	3
4		CA437	Information Retrieval	3	0	0	3
4		CA439	Image Processing	3	0	0	3
4		CA441	Data Mining Techniques	3	0	0	3
5	PE2	CA519	Mobile Computing	3	0	0	3
5		CA521	Cyber Security	3	0	0	3
5		CA523	Cloud Computing	3	0	0	3
5		CA525	Deep Learning	3	0	0	3
5		CA527	Computer Vision	3	0	0	3
5		CA529	Network Security & Cryptography	3	0	0	3
5	PE3	CA539	Parallel Computing	3	0	0	3
5		CA541	Digital Forensic	3	0	0	3
5		CA543	Internet of Things (IOT)	3	0	0	3
5		CA545	Natural Language Processing	3	0	0	3
5		CA547	Big Data Analytics	3	0	0	3
5		CA549	Block Chain Technology	3	0	0	3