Department of Computer Science
B.I.T., Mesra, Ranchi

Revised MCA Course Structure – 2007 (Modified)

SEMESTER – I
Theory:

		Unit
CS 7001	Introduction to Computer Science & Applications	1
CS 7002	Problem Solving and Program Design with C	1
CS 7003	Data Structures	1
CS 7004	Discrete Mathematics	1
CS 7005	Numerical & Statistical Methods	1

Sessional:

CS 7501	C Programming Lab.	0.5
CS 7502	Data Structure Lab.	0.5
CS 7503	Numerical & Statistical Methods Lab.	0.5

6.5

SEMESTER – II
Theory:

CS 7006	Object Oriented Design & Programming	1
CS 7007	Computer Organization & Architecture	1
CS 7008	Fundamentals of Computer Algorithms	1
CS 7009	Database Management Systems	1
CS 7010	Operating Systems	1

Sessional :

CS 7504	C++ Programming Lab.	0.5
CS 7505	RDBMS Lab.	0.5
CS 7506	Operating System Lab.	0.5

6.5

SEMESTER – III
Theory:

CS 7011	Java Programming	1
CS 7012	Data Communications	1
CS 7013	Automata Theory	1
CS 7014	Software Engineering	1
	Elective – I	1

Sessional :

CS 7507	Java Programming Lab.	0.5
CS 7508	Software Engineering Lab.	0.5
	Lab on Elective	0.5

6.5

SEMESTER – IV
Theory:

Code	Theory	Unit
CS 7015	Compiler Design	1
CS 7016	Soft Computing	1
CS 7017	Computer Networks	1
CS 7018	Computerized Financial Accounting	1
	Elective – II	1

Sessional :

Code	Theory	Unit
CS 7509	Compiler Design Lab.	0.5
CS 7510	Computer Networking Lab.	0.5
	Lab on Elective	0.5

		6.5

SEMESTER – V
Theory:

Code	Theory	Unit
CS 7019	Principles of Management	1
CS 7020	Computer Graphics	1
CS 7021	System Simulation & Modelling	1
CS 7022	Optimization Theory	1
	Elective – III	1

Sessional :

Code	Theory	Unit
CS 7511	Computer Graphics Lab.	0.5
	Lab. on Elective	0.5

		6.0

SEMESTER – VI

Code	Theory	Unit
CS 7030	Project	4.0

Total Units = 36

NOTE :-   **(i)**   **Students are required to choose at least two electives from the same group.**

          (ii)   **Students are advised to do their projects on the areas where major electives are chosen.**

List of Electives

Group I :   **Database Technology**
       Theory:
CS 7031	Distributed Databases
CS 7032	Multimedia Databases
CS 7033	Decision Support Systems
CS 7034	Enterprise Resource Planning
CS 7035	Data Mining and Data Warehousing

       Sessional:
CS 7531	Distributed Database Lab.
CS 7532	Multimedia Databases Lab.
CS 7533	Decision Support System Lab.
CS 7534	Enterprise Resource Planning Lab.
CS 7535	Data Mining and Data Warehousing Lab.

Group II : **Software Technology**
       Theory:
CS 7041	Advanced Java Programming
CS 7042	Web Programming
CS 7043	Systems Programming
CS 7044	Software Project Management
CS 7045	Programming Language Design and Concepts
CS 7046	Assembly Language Programming

       Sessional:
CS 7541	Advanced Java Programming Lab.
CS 7542	Web Programming Lab.
CS 7543	Systems Programming Lab.
CS 7544	Software Project Management Lab.
CS 7545	Programming Language Design and Concepts Lab.
CS 7546	Assembly Language Programming Lab.

Group III : **Cognitive Sciences and Intelligent Systems**
       Theory:
CS 7051	Natural Language Processing
CS 7052	Artificial Intelligence
CS 7053	Fuzzy Logic
CS 7054	Artificial Neural Networks
CS 7055	Genetic Algorithms & Swarm Intelligence
CS 7056	Image Processing

       Sessional:
CS 7551	Natural Language Processing Lab.
CS 7552	Artificial Intelligence Lab.
CS 7553	Fuzzy Logic Lab.
CS 7554	Artificial Neural Networks Lab.
CS 7555	Genetic Algorithms & Swarm Intelligence Lab.
CS 7556	Image Processing Lab.

Group IV : Networking and Distributed Systems

Theory:

CS 7061	Network Security and Cryptography
CS 7062	Parallel & Distributed Computing
CS 7063	Grid Computing
CS 7064	Mobile Computing
CS 7065	Wireless Technology

Sessional:

CS 7561	Network Security and Cryptography Lab.
CS 7562	Parallel & Distributed Computing Lab.
CS 7563	Grid Computing Lab.
CS 7564	Mobile Computing Lab.
CS 7565	Wireless Technology Lab.

Group V : Applications of Information Technology

Theory:

CS 7071	Bioinformatics
CS 7072	Multimedia and Animation
CS 7073	Virtual Reality & Modeling
CS 7074	E-Commerce
CS 7075	Supply Chain Management

Sessional:

CS 7571	Bioinformatics Lab.
CS 7572	Multimedia and Animation Lab.
CS 7573	Virtual Reality & Modeling Lab.
CS 7574	E-Commerce Lab.
CS 7575	Supply Chain Management Lab.