



G H RAISONI COLLEGE OF ENGINEERING NAGPUR

(An Autonomous Institute affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)

CRPF Gate No.3, Hingna Road, Digdoh Hills, Nagpur. Maharashtra-440016 (India)

Course wise Teaching Plan for Session : Winter 2019

Course : ARTIFICIAL INTELLIGENCE

Faculty : nikita.ghodpage@raisoni.net -

Nikita Ghodpage

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Aim and objective of AI, AI problems	17/06/2019	BCSP210	A
1	2	AI technique, Production system Characteristics	17/06/2019	BCSP210	A
1	3	Basics of problem solving: problem representation paradigms	20/06/2019	BCSP210	A
1	4	defining problem as a state space representation	20/06/2019	BCSP210	A
1	5	Intelligent Agents, Performance Measure	24/06/2019	BCSP210	A
1	6	Rationality, Structure of Agents, Problem-solving agents	24/06/2019	BCSP210	A
1	7	Rationality, Structure of Agents, Problem-solving agents	27/06/2019	BCSP210	A
1	8	Problem Formulation	27/06/2019	BCSP210	A
1	9	Search Techniques: Uninformed Search Strategies Problem size	01/07/2019	BCSP210	A
1	10	Search Techniques: Uninformed Search Strategies Problem size	01/07/2019	BCSP210	A
2	11	complexity, approximation and search	04/07/2019	BCSP210	A
2	12	depth, breadth and best search	04/07/2019	BCSP210	A
2	13	Informed Heuristic Based Search: Informed (Heuristic) Search and Exploration	08/07/2019	BCSP210	A
2	14	Greedy best first search, Memory bounded heuristic search	08/07/2019	BCSP210	A
2	15	Heuristic functions, inventing admissible heuristic functions	11/07/2019	BCSP210	A
2	16	Constraint Satisfaction Problems	11/07/2019	BCSP210	A
2	17	Backtracking Search	15/07/2019	BCSP210	A
2	18	variable and value ordering, constraint propagation	15/07/2019	BCSP210	A
2	19	intelligent backtracking, local search for CSPs	18/07/2019	BCSP210	A
2	20	The minimax algorithm	18/07/2019	BCSP210	A



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Course : ARTIFICIAL INTELLIGENCE

Faculty : nikita.ghodpage@raisoni.net -

Nikita Ghodpage

Unit	Topic Code	Topic Covered	Date	Course	Section
3	21	Structured Knowledge Representation: Semantic Nets	22/07/2019	BCSP210	A
3	22	Frames, and Scripts. Learning: Block architecture of learning system	22/07/2019	BCSP210	A
3	23	Types of learning, performance Measures First order logic	25/07/2019	BCSP210	A
3	24	Unification, and Resolution in Predicate Logic Uncertainty Treatment: formal and empirical approaches including Exact and Approximate inference in Bayesian Networks	25/07/2019	BCSP210	A
3	25	Bayesian theory, belief functions, certainty factors	29/07/2019	BCSP210	A
3	26	Bayesian theory, belief functions, certainty factors	29/07/2019	BCSP210	A
3	27	Inference Techniques: Types of reasoning deductive	01/08/2019	BCSP210	A
3	28	inductive, abductive, analogical, common-sense and non-monotonic	01/08/2019	BCSP210	A
4	29	types of inference forward and backward chaining	05/08/2019	BCSP210	A
4	30	types of inference forward and backward chaining	05/08/2019	BCSP210	A
4	31	types of inference forward and backward chaining	08/08/2019	BCSP210	A
4	32	inference using full joint distributions, fuzzy logic	08/08/2019	BCSP210	A
4	33	inference using full joint distributions, fuzzy logic	19/08/2019	BCSP210	A
4	34	inference using full joint distributions, fuzzy logic	19/08/2019	BCSP210	A
4	35	Recent advances in Artificial Intelligence	22/08/2019	BCSP210	A
5	36	Algorithms for artificial intelligence	22/08/2019	BCSP210	A
5	37	Algorithms for artificial intelligence	26/08/2019	BCSP210	A
5	38	Algorithms for artificial intelligence	26/08/2019	BCSP210	A
5	39	Genetic algorithms.	29/08/2019	BCSP210	A



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Course : ARTIFICIAL INTELLIGENCE

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Unit	Topic Code	Topic Covered	Date	Course	Section
5	40	Genetic algorithms.	29/08/2019	BCSP210	A
5	41	Genetic algorithms.	05/09/2019	BCSP210	A
5	42	Tools for development of Artificial Intelligence:	09/09/2019	BCSP210	A
6	43	Tools for development of Artificial Intelligence:	09/09/2019	BCSP210	A
6	44	Open Neural network library	12/09/2019	BCSP210	A
6	45	Applications of artificial Intelligence	12/09/2019	BCSP210	A



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Course wise Teaching Plan for Session : Winter 2019

Course : Big Data and Hadoop

Faculty : ashlesha.nagdive@raisoni.net

Ms. Ashlesha Sudhir Nagdive

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Introduction to Hadoop and Big Data	19/06/2019	BCSL422	A
1	2	Big data	21/06/2019	BCSL422	A
1	3	challenges for processing big data	22/06/2019	BCSL422	A
1	4	technologies support big data	22/06/2019	BCSL422	A
1	5	History of Hadoop	26/06/2019	BCSL422	A
1	6	Use cases of Hadoop	28/06/2019	BCSL422	A
1	7	RDBMS vs Hadoop	29/06/2019	BCSL422	A
1	8	When to use and when not to use Hadoop	29/06/2019	BCSL422	A
2	9	Hadoop Distributed File System	03/07/2019	BCSL422	A
2	10	Significance of HDFS in Hadoop	05/07/2019	BCSL422	A
2	11	Features of HDFS, Data Storage in HDFS	06/07/2019	BCSL422	A
2	12	Introduction about Blocks, Data replication	06/07/2019	BCSL422	A
2	13	Accessing HDFS: CLI (Command Line Interface)	10/07/2019	BCSL422	A
2	14	admin commands, Java Based Approach	12/07/2019	BCSL422	A
2	15	Fault tolerance	13/07/2019	BCSL422	A
2	16	Download Hadoop, Installation and set-up of Hadoop	13/07/2019	BCSL422	A
2	17	Start-up	17/07/2019	BCSL422	A
2	18	Shut down process.	19/07/2019	BCSL422	A
3	19	Introduction to Map Reduce	20/07/2019	BCSL422	A
3	20	Map Reduce Story	20/07/2019	BCSL422	A
3	21	Map Reduce Architecture	24/07/2019	BCSL422	A
3	22	How Map Reduce works	26/07/2019	BCSL422	A



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Course wise Teaching Plan for Session : Winter 2019

Course : Big Data and Hadoop

Faculty : ashlesha.nagdive@raisoni.net

~~Ms. Ashlesha Sudhir Nagdive~~

Unit	Topic Code	Topic Covered	Date	Course	Section
3	23	Developing Map Reduce	27/07/2019	BCSL422	A
3	24	Map Reduce Programming Model	27/07/2019	BCSL422	A
4	25	Different phases of Map Reduce Algorithm	02/08/2019	BCSL422	A
4	26	Different Data types in Map Reduce	03/08/2019	BCSL422	A
4	27	PIG: Introduction to Apache Pig	03/08/2019	BCSL422	A
4	28	Map Reduce Vs. Apache Pig	07/08/2019	BCSL422	A
4	29	Modes of Execution in Pig	09/08/2019	BCSL422	A
5	30	Loading data	10/08/2019	BCSL422	A
5	31	Loading data1	10/08/2019	BCSL422	A
5	32	Exploring Pig Latin commands	14/08/2019	BCSL422	A
5	33	HIVE:Hive introduction	16/08/2019	BCSL422	A
5	34	Data types and schemas	17/08/2019	BCSL422	A
5	35	HBASE Introduction	17/08/2019	BCSL422	A
5	36	HBASE Architecture	21/08/2019	BCSL422	A
6	37	Schema design	24/08/2019	BCSL422	A
6	38	Spark introduction	28/08/2019	BCSL422	A
6	39	Spark Shell	30/08/2019	BCSL422	A
6	40	Spark Shell	04/09/2019	BCSL422	A
6	41	Flume introduction & application	06/09/2019	BCSL422	A
6	42	SQOOP introduction & application	07/09/2019	BCSL422	A
6	43	Hive architecture	07/09/2019	BCSL422	A
6	44	Partitions and buckets.	11/09/2019	BCSL422	A



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Course wise Teaching Plan for Session : Winter 2019

Course : Big Data and Hadoop

Faculty : ashlesha.nagdive@raisoni.net

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Unit	Topic Code	Topic Covered	Date	Course	Section
6	45	Mini Project	13/09/2019	BCSL422	A



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Course wise Teaching Plan for Session : Winter 2019

Course : **COMPUTER NETWORKS**

Faculty : **nikita.ghodpage@raisoni.net -**

Nikita Ghodpage

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Introduction: The use of computer networks. Network hardware. LAN's, Man's, WAN's	18/06/2019	BITL302	A
1	2	Internet works, network software, protocol hierarchies	19/06/2019	BITL302	A
1	3	Design issues for layers, interfaces and services	20/06/2019	BITL302	A
1	4	Connectionless oriented and connectionless services, service primitives	21/06/2019	BITL302	A
1	5	Relationship of services to protocols, the OSI reference model	25/06/2019	BITL302	A
1	6	TCP/IP reference model	26/06/2019	BITL302	A
1	7	TAE 1: Technical Seminar Presentation	27/06/2019	BITL302	A
1	8	Comparison of OSI and TCP/IP reference model	28/06/2019	BITL302	A
2	9	Physical Layer: The theoretical basis for data communication-Fourier analysis,	02/07/2019	BITL302	A
2	10	TAE 1: Survey and Discussion on different types of Networks	03/07/2019	BITL302	A
2	11	Bandwidth-limited signals, maximum data rate of a channel, transmission media-magnetic media	04/07/2019	BITL302	A
2	12	Twisted pair coaxial cable, fiber optics. Wireless transmission, microwave transmission	05/07/2019	BITL302	A
2	13	Multiplexing, switching, narrowband ISDN - services, architecture	09/07/2019	BITL302	A
2	14	Interface, perspective on N-ISDN, broadband ISDN & ATM-	10/07/2019	BITL302	A
2	15	Virtual circuits versus circuit switching	11/07/2019	BITL302	A
2	16	Transmission in ATM networks, ATM switches	12/07/2019	BITL302	A
2	17	Data Link Layer: design issues - services provided to the network Layer	16/07/2019	BITL302	A
3	18	TAE 2: Technical Quiz on GATE Questions	17/07/2019	BITL302	A



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Course wise Teaching Plan for Session : Winter 2019

Course : **COMPUTER NETWORKS**

Faculty : **nikita.ghodpage@raisoni.net -**

Nikita Ghodpage

Unit	Topic Code	Topic Covered	Date	Course	Section
3	19	Framing, error control, flow control, error correcting & detecting codes	18/07/2019	BITL302	A
3	20	Elementary data link protocols, simplex stop and wait simplex protocol for noisy channel	19/07/2019	BITL302	A
3	21	Sliding window protocols-one bit protocol,	23/07/2019	BITL302	A
3	22	Go back protocol, selective repeat protocol.	24/07/2019	BITL302	A
3	23	The medium access sub layer - static and dynamic channel allocation in lans and mans	25/07/2019	BITL302	A
3	24	Multiple access protocols - ALOHA. CSMA, collision free protocols	26/07/2019	BITL302	A
3	25	TAE3: Technical Seminar Presentation on different types of Networks	30/07/2019	BITL302	A
3	26	Limited contention protocols, IEEE 802.11 wireless LAN protocols,	31/07/2019	BITL302	A
3	27	IEEE Standards 802 for LAN and mans-802.3, Ethernet, token bus. Token ring	01/08/2019	BITL302	A
3	28	TAE 5: Report on MOOCs	02/08/2019	BITL302	A
4	29	The Network Layer: Design issues, services provided to the transport layer,	06/08/2019	BITL302	A
4	30	Internal organization, comparison of virtual circuit and datagram subnets	07/08/2019	BITL302	A
4	31	Routing algorithms. Optimality principle, shortest path routing	08/08/2019	BITL302	A
4	32	Flooding, flow-based routing, distance vector routing, link state routing,	09/08/2019	BITL302	A
4	33	Hierarchical routing, broadcast & multicast routing	13/08/2019	BITL302	A
4	34	Congestion control algorithms, general principles prevention policies,	14/08/2019	BITL302	A
4	35	Traffic shaping. Flow specifications, congestion control in virtual circuit subnets	16/08/2019	BITL302	A



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Course : COMPUTER NETWORKS

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Unit	Topic Code	Topic Covered	Date	Course	Section
4	36	Choke packets, load shedding, jitter control., IP protocol, IP address. Subnets	20/08/2019	BITL302	A
4	37	Internet control protocols, OSPF. BGP	21/08/2019	BITL302	A
5	38	Transport And Application Layer: Transport and Application Layer - services provided to the upper layer	22/08/2019	BITL302	A
5	39	Quality of Service, transport service primitives, elements of transport protocols, addressing, establishing a connection,	23/08/2019	BITL302	A
6	40	Trends And Applications: Bluetooth protocol stack,	27/08/2019	BITL302	A
6	41	Bluetooth connections, piconets and scatternets, WiFi and	28/08/2019	BITL302	A
6	42	WiMAX Standard. Recent trends	29/08/2019	BITL302	A



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Course wise Teaching Plan for Session : Winter 2019

Course : DATABASE MANAGEMENT SYSTEM

Faculty : ashlesha.nagdive@raisoni.net

Ms. Ashlesha Sudhir Nagdive

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Database system concepts	18/06/2019	BCSL303	A
1	2	Concept of relational database	21/06/2019	BCSL303	A
1	3	Architecture	21/06/2019	BCSL303	A
1	4	Relational data model	24/06/2019	BCSL303	A
1	5	introduction to PL/SQL	25/06/2019	BCSL303	A
1	6	Database Design Theory	28/06/2019	BCSL303	A
1	7	Functional dependencies and normalization	28/06/2019	BCSL303	A
1	8	TAE I	01/07/2019	BCSL303	A
2	9	relational database design algorithms	02/07/2019	BCSL303	A
2	10	practical database design	08/07/2019	BCSL303	A
2	11	demoralization	09/07/2019	BCSL303	A
2	12	programmatic ways for implementing constraints.	12/07/2019	BCSL303	A
2	13	triggers	12/07/2019	BCSL303	A
2	14	Physical Database Design	15/07/2019	BCSL303	A
2	15	Memory Management in database	16/07/2019	BCSL303	A
2	16	TAE2	19/07/2019	BCSL303	A
2	17	Concept of physical and logical hierarchy	19/07/2019	BCSL303	A
2	18	storage, concepts of index, B trees	26/07/2019	BCSL303	A
3	19	index, function index, bitmap index.	26/07/2019	BCSL303	A
3	20	database buffer management, log buffer management code reuse	29/07/2019	BCSL303	A
3	21	Query Optimization and Performance Tuning	30/07/2019	BCSL303	A
3	22	Various techniques for query optimization	02/08/2019	BCSL303	A



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Course : DATABASE MANAGEMENT SYSTEM

Faculty : ashlesha.nagdive@raisoni.net

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Unit	Topic Code	Topic Covered	Date	Course	Section
3	23	strong and weak equivalence	02/08/2019	BCSL303	A
3	24	cost base optimization	05/08/2019	BCSL303	A
3	25	Use of different storage structures in query optimization	06/08/2019	BCSL303	A
3	26	Transaction Management	09/08/2019	BCSL303	A
4	27	Transaction Processing	09/08/2019	BCSL303	A
4	28	Transaction and system concepts, Desirable properties of transaction	12/08/2019	BCSL303	A
4	29	Schedules and recoverability, serializability of schedules	13/08/2019	BCSL303	A
4	30	concurrency control, lockbased protocols	16/08/2019	BCSL303	A
4	31	Trends in Database Management	16/08/2019	BCSL303	A
4	32	Revision	19/08/2019	BCSL303	A
4	33	What is NoSql	20/08/2019	BCSL303	A
4	34	History of NoSQL,	26/08/2019	BCSL303	A
4	35	Important characteristics of NoSQL	27/08/2019	BCSL303	A
5	36	categories of NoSQL	30/08/2019	BCSL303	A
5	37	Google Database	02/09/2019	BCSL303	A
5	38	Twitter	03/09/2019	BCSL303	A
5	39	Social networking databases	06/09/2019	BCSL303	A
5	40	Aries Algorithm for recovery	06/09/2019	BCSL303	A
6	41	Database recovery technique	09/09/2019	BCSL303	A
6	42	RDBMS	10/09/2019	BCSL303	A
6	43	1NF,2NF 3NF & boycee	13/09/2019	BCSL303	A
6	44	concurrent transaction	13/09/2019	BCSL303	A



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Course : DATABASE MANAGEMENT SYSTEM

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Unit	Topic Code	Topic Covered	Date	Course	Section
6	45	recoverability	16/09/2019	BCSL303	A



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Course wise Teaching Plan for Session : Winter 2019

Course : DATA STRUCTURES AND ALGORITHMS

Faculty : nikita.ghodpage@raisoni.net -

Nikita Ghodpage

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Common Operations on Data Structures	18/06/2019	BCSL203	A
1	2	Types of Data Structures	19/06/2019	BCSL203	A
1	3	Data Structures & Programming	20/06/2019	BCSL203	A
1	4	Program Design	24/06/2019	BCSL203	A
1	5	Complexities, Time Complexity	25/06/2019	BCSL203	A
1	6	Order of Growth, Asymptotic Notation	26/06/2019	BCSL203	A
2	7	Binary Trees- Representation	27/06/2019	BCSL203	A
2	8	Operations: Insert, Delete	01/07/2019	BCSL203	A
2	9	Traversal: Preorder, Inorder, Postorder	02/07/2019	BCSL203	A
2	10	Traversal Algorithms Using Stacks	03/07/2019	BCSL203	A
2	11	Header Nodes	04/07/2019	BCSL203	A
2	12	Threads, Threaded Binary Trees	08/07/2019	BCSL203	A
2	13	Binary Search Trees	09/07/2019	BCSL203	A
2	14	Searching and Inserting in a Binary Search Trees	10/07/2019	BCSL203	A
2	15	Deleting in a Binary Search Tree	11/07/2019	BCSL203	A
2	16	Balanced Binary Trees	15/07/2019	BCSL203	A
2	17	AVL Search Trees	16/07/2019	BCSL203	A
2	18	Insertion in an AVL Search Tree	17/07/2019	BCSL203	A
2	19	Deletion in an AVL Search Tree	18/07/2019	BCSL203	A
2	20	m-way Search Trees, Searching in m-way search tree	22/07/2019	BCSL203	A
2	21	Insertion and Deletion in m-way search tree	23/07/2019	BCSL203	A
2	22	B-Trees, Searching in a B-Trees	24/07/2019	BCSL203	A



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Course : DATA STRUCTURES AND ALGORITHMS

Faculty : nikita.ghodpage@raisoni.net -

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Unit	Topic Code	Topic Covered	Date	Course	Section
2	23	Insertion and Deletion in a B-tree	25/07/2019	BCSL203	A
2	24	B+ Trees Graph Algorithms	29/07/2019	BCSL203	A
3	25	Graphs and their Applications: Introduction	30/07/2019	BCSL203	A
3	26	Graph theory terminology	31/07/2019	BCSL203	A
3	27	Sequential Representation of Graphs	01/08/2019	BCSL203	A
3	28	Adjacency Matrix, Path Matrix	05/08/2019	BCSL203	A
3	29	Warshall's Algorithms	06/08/2019	BCSL203	A
3	30	Shortest Paths	07/08/2019	BCSL203	A
3	31	Linked Representation of a graph	08/08/2019	BCSL203	A
3	32	Operations on graphs, Traversing a Graph	13/08/2019	BCSL203	A
3	33	Posets	14/08/2019	BCSL203	A
3	34	Topological Sorting	19/08/2019	BCSL203	A
3	35	Spanning Trees	20/08/2019	BCSL203	A
4	36	Greedy Algorithm	21/08/2019	BCSL203	A
4	37	Divide and Conquer	22/08/2019	BCSL203	A
4	38	Dynamic Programming	26/08/2019	BCSL203	A
4	39	Randomized Algorithms	27/08/2019	BCSL203	A
4	40	Backtracking Algorithms	28/08/2019	BCSL203	A



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Course wise Teaching Plan for Session : Winter 2019

Course : REAL TIME OPERATING SYSTEM

Faculty :

urmila.shrawankar@raisoni.net - Dr. Urmila Shrawankar

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Introduction to Real Time system	24/06/2019	BITL413	A
1	2	Real Time Vs Conventional Software	24/06/2019	BITL413	A
1	3	Real Time Applications	25/06/2019	BITL413	A
1	4	Types Of Real-Time Systems	01/07/2019	BITL413	A
1	5	Reference Model Of Real-Time Systems	01/07/2019	BITL413	A
2	6	Software Architectures:	02/07/2019	BITL413	A
2	7	Commonly Used Approaches to Real-Time Scheduling,	08/07/2019	BITL413	A
2	8	Periodic,	08/07/2019	BITL413	A
2	9	Periodic And Sporadic Jobs Scheduling	09/07/2019	BITL413	A
2	10	Priority-Driven Systems,	12/07/2019	BITL413	A
2	11	Resources And Resource Access Control,	15/07/2019	BITL413	A
2	12	Other Operating Systems Issues.	15/07/2019	BITL413	A
3	13	Requirements And Design Specifications:	16/07/2019	BITL413	A
3	14	Concept and Fundamentals of RTOS,	19/07/2019	BITL413	A
3	15	Real-Time Applications,	26/07/2019	BITL413	A
3	16	Types Of Real-Time Systems,	29/07/2019	BITL413	A
3	17	Reference Model Of Real-Time Systems,	29/07/2019	BITL413	A
3	18	Essential features,	30/07/2019	BITL413	A
3	19	RTOS Kernel Function,	02/08/2019	BITL413	A
3	20	Communicating Real Time State Machine- Basic features,	05/08/2019	BITL413	A
3	21	Timing and clocks.	05/08/2019	BITL413	A
4	22	Threads And Task Communication:	06/08/2019	BITL413	A



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Course wise Teaching Plan for Session : Winter 2019

Course : REAL TIME OPERATING SYSTEM

Faculty :

urmila.shrawankar@raisoni.net - Dr. Urmila Shrawankar

Unit	Topic Code	Topic Covered	Date	Course	Section
4	23	Threads,	09/08/2019	BITL413	A
4	24	Context Switching overheads,	13/08/2019	BITL413	A
4	25	Scalability,	16/08/2019	BITL413	A
4	26	Embedding with application code.	19/08/2019	BITL413	A
4	27	Task Scheduling, Interrupt handling,	19/08/2019	BITL413	A
4	28	Inter task communication Issues in Task management- Processes and Threads,	20/08/2019	BITL413	A
4	29	Scheduling,	26/08/2019	BITL413	A
4	30	Synchronization and communication.	27/08/2019	BITL413	A
5	31	Execution Time Prediction :	30/08/2019	BITL413	A
5	32	Prosperities of Real and ideal clocks,	03/09/2019	BITL413	A
5	33	Clock Servers - Lamport's Logical clocks,	09/09/2019	BITL413	A
5	34	Monotonic Clock service, A software Clock server,	09/09/2019	BITL413	A
5	35	Clock Synchronization-	10/09/2019	BITL413	A
5	36	Centralized Synchronization,	13/09/2019	BITL413	A
5	37	Distributed Synchronization.	16/09/2019	BITL413	A
6	38	Emerging Trends In RTOS:	16/09/2019	BITL413	A
6	39	Real Time Functions and Services,	17/09/2019	BITL413	A
6	40	OS Architectures-Real Time UNIX and POSIX,	20/09/2019	BITL413	A



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Course wise Teaching Plan for Session : Winter 2019

Course : OBJECT ORIENTED PROGRAMMING

Faculty : ashlesha.nagdive@raisoni.net

~~Ms. Ashlesha Sudhir Nagdive~~

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Introduction to Object Oriented Programming	24/06/2019	BCSP205	A
1	2	Introduction to Object Oriented Programming	25/06/2019	BCSP205	A
1	3	Define a POINT class for two-dimensional points (x, y). Include a default constructor, a copy constructor, a negate() function to transform the point into its negative, a norm() function to return the point's distance from the origin (0,0), and a print() function besides the functions to input and d	26/06/2019	BCSP205	A
1	4	Define a POINT class for two-dimensional points (x, y). Include a default constructor, a copy constructor, a negate() function to transform the point into its negative, a norm() function to return the point's distance from the origin (0,0), and a print() function besides the functions to input and d	26/06/2019	BCSP205	A
3	8	Overload + operator to carry out the concatenation of strings. Overload = operator to carry out string copy.	01/07/2019	BCSP205	A
2	5	Implement a class string containing the following functions: Overload + operator to carry out the concatenation of strings. Overload = operator to carry out string copy.	02/07/2019	BCSP205	A
2	6	Overload + operator to carry out the concatenation of strings. Overload = operator to carry out string copy.	03/07/2019	BCSP205	A
2	7	Overload + operator to carry out the concatenation of strings. Overload = operator to carry out string copy.	03/07/2019	BCSP205	A
3	9	Function to display the length of a string.	08/07/2019	BCSP205	A
3	10	Function tolower() to convert upper case letters to lower case.	09/07/2019	BCSP205	A



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Course wise Teaching Plan for Session : Winter 2019

Course : OBJECT ORIENTED PROGRAMMING

Faculty : ashlesha.nagdive@raisoni.net

~~Ms. Ashlesha Sudhir Nagdive~~

Unit	Topic Code	Topic Covered	Date	Course	Section
3	11	Create three classes Person, Professor and Student. The class Person should have data members name and age. The classes Professor and Student should inherit from the class Person.	10/07/2019	BCSP205	A
3	12	Create three classes Person, Professor and Student. The class Person should have data members name and age. The classes Professor and Student should inherit from the class Person.	10/07/2019	BCSP205	A
4	13	Develop an application to create a super class Employee with information first name and last name and methods getFirstName()	15/07/2019	BCSP205	A
4	14	print the salary and to set department name and designation of the corresponding sub-class objects respectively.	16/07/2019	BCSP205	A
5	15	Write object-oriented C++ program Create two classes Minutes that stores time in minutes and Seconds that stores time in seconds. Read values for the class objects and add one object of Minutes with another object of Seconds. Use friend function to carry out the addition operation and display the re	17/07/2019	BCSP205	A
4	16	Write object-oriented C++ program Create two classes Minutes that stores time in minutes and Seconds that stores time in seconds. Read values for the class objects and add one object of Minutes with another object of Seconds. Use friend function to carry out the addition operation and display the re	17/07/2019	BCSP205	A



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Course wise Teaching Plan for Session : Winter 2019

Course : OBJECT ORIENTED PROGRAMMING

Faculty : ashlesha.nagdive@raisoni.net

~~Ms. Ashlesha Sudhir Nagdive~~

Unit	Topic Code	Topic Covered	Date	Course	Section
5	17	Write a problem to enforce user to enter password based on following condition. The password should be at least 8 character long Should contain first letter as capital Should contain at least 1 special symbol and 1 numeric value. Use exception handling concept to implement above constraint for passwo	24/07/2019	BCSP205	A
5	18	Write a problem to enforce user to enter password based on following condition. The password should be at least 8 character long Should contain first letter as capital Should contain at least 1 special symbol and 1 numeric value. Use exception handling concept to implement above constraint for passwo	24/07/2019	BCSP205	A
5	19	Create a base class called SHAPE. Use this class to store two double type values. Derive two specific classes called TRIANGLE and RECTANGLE from the base class. Add to the base class, a member function getdata to initialize base class data members and another member function display to compute and dis	05/08/2019	BCSP205	A
5	20	Create a base class called SHAPE. Use this class to store two double type values. Derive two specific classes called TRIANGLE and RECTANGLE from the base class. Add to the base class, a member function getdata to initialize base class data members and another member function display to compute and dis	06/08/2019	BCSP205	A
6	21	Write a program to read the class object of student info such as name , age ,sex ,height and weight from the keyboard and to store them on a specified file using read() and write() functions. Again the same file is opened for reading and displaying the contents of the file on the screen	07/08/2019	BCSP205	A



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Course wise Teaching Plan for Session : Winter 2019

Course : OBJECT ORIENTED PROGRAMMING

Faculty : ashlesha.nagdive@raisoni.net

~~Ms. Ashlesha Sudhir Nagdive~~

Unit	Topic Code	Topic Covered	Date	Course	Section
6	22	Write a program to read the class object of student info such as name , age ,sex ,height and weight from the keyboard and to store them on a specified file using read() and write() functions. Again the same file is opened for reading and displaying the contents of the file on the screen	07/08/2019	BCSP205	A
7	24	A blood bank maintains a data file that contains the following information for every donor: Name, Date of Birth, Telephone number, Blood group. Write a program in C++ to do the following: Given a blood group, display name, date of birth and phone number of all the persons of the given blood group.App	12/08/2019	BCSP205	A
7	23	Create a base class called SHAPE. Use this class to store two double type values	13/08/2019	BCSP205	A



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Course wise Teaching Plan for Session : Winter 2019

Course : OPERATING SYSTEMS

Faculty : puja.gudadhe@raisoni.net -

Puja Gudadhe

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Introduction	18/06/2019	BCSL304	A
1	2	Evolution of OS, Types of OS, Basic h/w support necessary for modern operating systems	20/06/2019	BCSL304	A
1	3	services provided by OS, system programs and system calls	20/06/2019	BCSL304	A
1	4	services provided by OS, system programs and system calls	24/06/2019	BCSL304	A
1	5	system design and implementation	24/06/2019	BCSL304	A
1	6	File systems: File concept, Access methods	25/06/2019	BCSL304	A
1	7	File systems: File concept, Access methods	27/06/2019	BCSL304	A
1	8	Disk space management and space allocation strategies	27/06/2019	BCSL304	A
1	9	Disk space management and space allocation strategies	01/07/2019	BCSL304	A
1	10	directory structures, Recovery, Log-structured File System	01/07/2019	BCSL304	A
2	11	disk arm scheduling strategies	02/07/2019	BCSL304	A
2	12	Process concept, process control block	04/07/2019	BCSL304	A
2	13	Process concept, process control block	08/07/2019	BCSL304	A
2	14	Types of scheduler	08/07/2019	BCSL304	A
2	15	context switch, threads	09/07/2019	BCSL304	A
2	16	multithreading model, goals of scheduling and different scheduling algorithms	11/07/2019	BCSL304	A
2	17	multithreading model, goals of scheduling and different scheduling algorithms	15/07/2019	BCSL304	A
2	18	Contiguous allocation, Relocation	15/07/2019	BCSL304	A
2	19	Paging, Segmentation, Segmentation with paging	16/07/2019	BCSL304	A



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Course wise Teaching Plan for Session : Winter 2019

Course : OPERATING SYSTEMS

Faculty : puja.gudadhe@raisoni.net -

Puja Gudadhe

Unit	Topic Code	Topic Covered	Date	Course	Section
2	20	demand paging	18/07/2019	BCSL304	A
3	21	Virtual Memory Concepts	18/07/2019	BCSL304	A
3	22	page faults and instruction restart	22/07/2019	BCSL304	A
3	23	page replacement algorithms	22/07/2019	BCSL304	A
3	24	working sets , Locality of reference	23/07/2019	BCSL304	A
3	25	working sets , Locality of reference	25/07/2019	BCSL304	A
3	26	Thrashing, Garbage Collection	25/07/2019	BCSL304	A
3	27	Concurrency conditions	29/07/2019	BCSL304	A
3	28	Critical section problem	29/07/2019	BCSL304	A
4	29	Critical section problem	30/07/2019	BCSL304	A
4	30	Critical section problem	01/08/2019	BCSL304	A
4	31	software and hardware solution	01/08/2019	BCSL304	A
4	32	semaphores	05/08/2019	BCSL304	A
4	33	conditional critical regions and monitors	05/08/2019	BCSL304	A
4	34	classical inter process communication problems	06/08/2019	BCSL304	A
4	35	classical inter process communication problems	08/08/2019	BCSL304	A
5	36	Deadlocks detection & avoidanc	08/08/2019	BCSL304	A
5	37	Deadlock definitions	13/08/2019	BCSL304	A
5	38	Prevention, Avoidance	19/08/2019	BCSL304	A
5	39	detection and Recovery	19/08/2019	BCSL304	A
5	40	Goals of Protection	20/08/2019	BCSL304	A
5	41	access matrix, Deadlock implementation	22/08/2019	BCSL304	A



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Course wise Teaching Plan for Session : Winter 2019

Course : OPERATING SYSTEMS

Faculty : puja.gudadhe@raisoni.net -

Puja Gudadhe

Unit	Topic Code	Topic Covered	Date	Course	Section
5	42	access matrix, Deadlock implementation	22/08/2019	BCSL304	A
6	43	Recent trends in Operating System	26/08/2019	BCSL304	A
6	44	Introduction to Advanced OS & its Application	26/08/2019	BCSL304	A
6	45	Introduction to Advanced OS & its Application	27/08/2019	BCSL304	A



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Course wise Teaching Plan for Session : Winter 2019

Course : DATA STRUCTURES AND ALGORITHMS

Faculty : puja.gudadhe@raisoni.net -

Puja Gudadhe

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Common Operations on Data Structures	18/06/2019	BCSL203	A
1	2	Types of Data Structures	19/06/2019	BCSL203	A
1	3	Data Structures & Programming	20/06/2019	BCSL203	A
1	4	Program Design	24/06/2019	BCSL203	A
1	5	Complexities, Time Complexity	25/06/2019	BCSL203	A
1	6	Order of Growth, Asymptotic Notation	26/06/2019	BCSL203	A
2	7	Binary Trees- Representation	27/06/2019	BCSL203	A
2	8	Operations: Insert, Delete	01/07/2019	BCSL203	A
2	9	Traversal: Preorder, Inorder, Postorder	02/07/2019	BCSL203	A
2	10	Traversal Algorithms Using Stacks	03/07/2019	BCSL203	A
2	11	Header Nodes	04/07/2019	BCSL203	A
2	12	Threads, Threaded Binary Trees	08/07/2019	BCSL203	A
2	13	Binary Search Trees	09/07/2019	BCSL203	A
2	14	Searching and Inserting in a Binary Search Trees	10/07/2019	BCSL203	A
2	15	Deleting in a Binary Search Tree	11/07/2019	BCSL203	A
2	16	Balanced Binary Trees	15/07/2019	BCSL203	A
2	17	AVL Search Trees	16/07/2019	BCSL203	A
2	18	Insertion in an AVL Search Tree	17/07/2019	BCSL203	A
2	19	Deletion in an AVL Search Tree	18/07/2019	BCSL203	A
2	20	m-way Search Trees, Searching in m-way search tree	22/07/2019	BCSL203	A
2	21	Insertion and Deletion in m-way search tree	23/07/2019	BCSL203	A
2	22	B-Trees, Searching in a B-Trees	24/07/2019	BCSL203	A



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Course wise Teaching Plan for Session : Winter 2019

Course : DATA STRUCTURES AND ALGORITHMS

Faculty : puja.gudadhe@raisoni.net -

Puja Gudadhe

Unit	Topic Code	Topic Covered	Date	Course	Section
2	23	Insertion and Deletion in a B-tree	25/07/2019	BCSL203	A
2	24	B+ Trees Graph Algorithms	29/07/2019	BCSL203	A
3	25	Graphs and their Applications: Introduction	30/07/2019	BCSL203	A
3	26	Graph theory terminology	31/07/2019	BCSL203	A
3	27	Sequential Representation of Graphs	01/08/2019	BCSL203	A
3	28	Adjacency Matrix, Path Matrix	05/08/2019	BCSL203	A
3	29	Warshall's Algorithms	06/08/2019	BCSL203	A
3	30	Shortest Paths	07/08/2019	BCSL203	A
3	31	Linked Representation of a graph	08/08/2019	BCSL203	A
3	32	Operations on graphs, Traversing a Graph	13/08/2019	BCSL203	A
3	33	Posets	14/08/2019	BCSL203	A
3	34	Topological Sorting	19/08/2019	BCSL203	A
3	35	Spanning Trees	20/08/2019	BCSL203	A
4	36	Greedy Algorithm	21/08/2019	BCSL203	A
4	37	Divide and Conquer	22/08/2019	BCSL203	A
4	38	Dynamic Programming	26/08/2019	BCSL203	A
4	39	Randomized Algorithms	27/08/2019	BCSL203	A
4	40	Backtracking Algorithms	28/08/2019	BCSL203	A



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Course wise Teaching Plan for Session : Winter 2019

Course : **PROBLEM IDENTIFICATION AND DESIGN THINKING**

Faculty : **ashlesha.nagdive@raisoni.net**

Ms. Ashlesha Sudhir Nagdive

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Why Design Thinking and The Design Process provides context and an introduction to key concepts	18/06/2019	BCSL207	A
1	2	terminology, and structure for the course, Scoping	18/06/2019	BCSL207	A
1	3	The Design Brief and Visualization introduces ways to clarify the scope of a project	25/06/2019	BCSL207	A
1	4	its intent , questions to explore, target stakeholders	25/06/2019	BCSL207	A
1	5	establishes the importance of pictures and storytelling in the overall process	25/06/2019	BCSL207	A
1	6	Fundamentals of Ethnography and Identifying Insights reviews how to observe users in their natural habitats	02/07/2019	BCSL207	A
1	7	efficiently extract useful patterns from collected data Establishing Design Criteria	02/07/2019	BCSL207	A
2	8	Brainstorming shows how to develop a succinct expression of the ideal end state of a project,	09/07/2019	BCSL207	A
2	9	deliberately generate many fresh alternatives to the status quo	09/07/2019	BCSL207	A
2	10	Concept Development and The Napkin Pitch details how to choose the best ideas, assemble them into detailed solutions	16/07/2019	BCSL207	A
2	11	rationally evaluate them, as well introduce a simple, consistent format for summarizing and communicating new concepts	16/07/2019	BCSL207	A
2	12	Assumptions Testing and Prototyping introduces a tool for surfacing key assumptions underlying the attractiveness of a new concept	23/07/2019	BCSL207	A
2	13	using data to assess the likelihood that they are true,	23/07/2019	BCSL207	A
2	14	ways to create visual manifestations of concepts..	30/07/2019	BCSL207	A
2	15	Revision	30/07/2019	BCSL207	A



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Course wise Teaching Plan for Session : Winter 2019

Course : SYSTEM PROGRAMMING

Faculty :

sampada.wazalwar@raisoni.net

Unit	Topic Code	Topic Covered	Date	Course	Faculty
1	1	INtroduction to subject	24/06/2019	BCSL302	A
1	2	Concept of assembler	25/06/2019	BCSL302	A
1	3	design of single pass and two pass assembler.	26/06/2019	BCSL302	A
1	4	detail pass 1 & pass2 assembler	01/07/2019	BCSL302	A
2	5	Macroprocessor Macroprocessor- Concept of macro,	02/07/2019	BCSL302	A
2	6	macro call within macro, macro definition within macro	03/07/2019	BCSL302	A
2	7	Recursive macro calls, design of macro processor.	08/07/2019	BCSL302	A
2	8	Single pass macroprocessor	09/07/2019	BCSL302	A
3	9	INtroduction to linker & Loader	10/07/2019	BCSL302	A
3	10	Concept of static and dynamic relocation, external symbo	15/07/2019	BCSL302	A
3	11	design of linker, design of object file for different loading schemes.	16/07/2019	BCSL302	A
3	12	Dynamic loading scheme	17/07/2019	BCSL302	A
3	13	Loader	29/07/2019	BCSL302	A
4	14	Common Object file format & System Utilities	30/07/2019	BCSL302	A
4	15	Common Object file format & System Utilities	31/07/2019	BCSL302	A
4	16	Structure of object file and executable file, section or segment headers	05/08/2019	BCSL302	A
4	17	symbol table, concept of storage class,	06/08/2019	BCSL302	A
4	18	data types line insert, character, arrays structures	07/08/2019	BCSL302	A
4	19	. Source code control system, make, link editor, symbolic debugger.	13/08/2019	BCSL302	A
4	20	COFF	14/08/2019	BCSL302	A



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Course wise Teaching Plan for Session : Winter 2019

Course : SYSTEM PROGRAMMING

Faculty :

sampada.wazalwar@raisoni.net

Unit	Topic Code	Topic Covered	Date	Course	Faculty
5	21	Unix Device Drivers	19/08/2019	BCSL302	A
5	22	Anatomy and Types , Device programming, Installation	20/08/2019	BCSL302	A
5	23	Incorporation of driver routines, Basic device driver operation	26/08/2019	BCSL302	A
5	24	Implementation with Line Printer & Disk ,Comparative study between device drivers for UNIX & Windows.	27/08/2019	BCSL302	A
5	25	Implementation with Line Printer & Disk ,Comparative study between device drivers for UNIX & Windows.	28/08/2019	BCSL302	A
6	26	Linux System programming	03/09/2019	BCSL302	A
6	27	Basics, Concepts, Writing, implementation of virtual machines	04/09/2019	BCSL302	A
6	28	Recent trends in System Programming & its Applications	09/09/2019	BCSL302	A
6	29	Revision	10/09/2019	BCSL302	A
6	30	Revision	11/09/2019	BCSL302	A



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Course wise Teaching Plan for Session : Winter 2019

Course : SOFT COMPUTING

Faculty :

sampada.wazalwar@raisoni.net

Unit	Topic Code	Topic Covered	Date	Course	Faculty
1	1	Introduction to subject & its application	22/06/2019	BCSL410	A
1	2	Neural networks, Fuzzy Logic,	22/06/2019	BCSL410	A
1	3	Algorithm with Conventional Artificial Intelligence [hard computing]	24/06/2019	BCSL410	A
1	4	Least-Square methods for System Identification, recursive least square estimator, LSE for Nonlinear Models.	24/06/2019	BCSL410	A
2	5	Neural Networks Different Architectures, Back-propagation Algorithm, Hybrid Learning Rule,	29/06/2019	BCSL410	A
2	6	Supervised Learning- Perceptrons, Adaline,	29/06/2019	BCSL410	A
2	7	Back-propagation Multilayer Perceptrons, Radial Basis function Networks	01/07/2019	BCSL410	A
2	8	Unsupervised Learning – Competitive Learning Network	01/07/2019	BCSL410	A
2	9	Kohonen Self-Organizing Networks, Hebbian Learning, The Hopfield Network	08/07/2019	BCSL410	A
2	10	Kohonen Self-Organizing Networks, Hebbian Learning, The Hopfield Network	08/07/2019	BCSL410	A
3	11	Fuzzy Set Theory Basic Definition and terminology, Basic Concepts of Fuzzy Logic	13/07/2019	BCSL410	A
3	12	Set Theory Operators, Membership functions- formulation and parameterization	13/07/2019	BCSL410	A
3	13	Fuzzy Union, Intersection, and Complement	15/07/2019	BCSL410	A
3	14	Fuzzy Rules and Fuzzy Reasoning	15/07/2019	BCSL410	A
3	15	Fuzzy Inference Systems- Mamdani and Sugeno Fuzzy models. Fuzzy Associative Memories, Fuzzy Arithmetic's	20/07/2019	BCSL410	A
3	16	Fuzzy Inference Systems- Mamdani and Sugeno Fuzzy models. Fuzzy Associative Memories, Fuzzy Arithmetic's	20/07/2019	BCSL410	A



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Course wise Teaching Plan for Session : Winter 2019

Course : SOFT COMPUTING

Faculty :

sampada.wazalwar@raisoni.net

Unit	Topic Code	Topic Covered	Date	Course	Faculty
4	17	Neuro-Fuzzy Modelling	27/07/2019	BCSL410	A
4	18	Adaptive Neuro-fuzzy Inference Systems,	27/07/2019	BCSL410	A
4	19	Neuro-Fuzzy Controller- Feedback control, Expert control	29/07/2019	BCSL410	A
4	20	Back propagation tough time and real-time recurrent learning	29/07/2019	BCSL410	A
4	21	Gradient-free optimization.	05/08/2019	BCSL410	A
4	22	Nero Fuzzy applications	05/08/2019	BCSL410	A
5	23	Neuro-Fuzzy Controller in Engineering Applications	10/08/2019	BCSL410	A
5	24	Fuzzy Logic in Control Engineering- Mamdani and Sugeno Architecture for Fuzzy Control	10/08/2019	BCSL410	A
5	25	, Analytical Issues in Fuzzy Logic Control	17/08/2019	BCSL410	A
5	26	Fuzzy Logic in Intelligent Agents, Fuzzy Logic in Mobile Robot Navigation	17/08/2019	BCSL410	A
5	27	Applications of Fuzzy Logic in Medical Image segmentation.	19/08/2019	BCSL410	A
5	28	Applications of Fuzzy Logic in Medical Image segmentation.	19/08/2019	BCSL410	A
6	29	Basics of Genetic Algorithms, Design issues in Genetic Algorithm	26/08/2019	BCSL410	A
6	30	Genetic Algorithm	26/08/2019	BCSL410	A
6	31	Genetic Modelling, Hybrid Approach	31/08/2019	BCSL410	A
6	32	Genetic Modelling, Hybrid Approach,	31/08/2019	BCSL410	A
6	33	Genetic Modelling, Hybrid Approach,	09/09/2019	BCSL410	A
6	34	GA based Fuzzy Model Identification	09/09/2019	BCSL410	A
6	35	Fuzzy Logic controlled Genetic Algorithm, Neuro- Genetic Hybrids & Fuzzy – Genetic Hybrids	16/09/2019	BCSL410	A



G H RAISONI COLLEGE OF ENGINEERING NAGPUR

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Course wise Teaching Plan for Session : Winter 2019

Course : SOFT COMPUTING

Faculty :

Unit	Topic Code	Topic Covered	Date	Course	Faculty
6	36	Fuzzy Logic controlled Genetic Algorithm, Neuro- Genetic Hybrids & Fuzzy – Genetic Hybrids	16/09/2019	BCSL410	A
6	37	latest applications of soft computing.	21/09/2019	BCSL410	A
6	38	latest applications of soft computing.	21/09/2019	BCSL410	A