

Matsyodari Shikshan Sanstha's
Ankushrao Tope College, Jalna (M.S.)

Department of English
Course : M.Sc. (Computer Science)
First Year - Semester I

Program name	Semester	Course Code	Name of the paper / Course
M.Sc. (Computer Science)	I	CSC401:	Advance Java
Course Outcomes : On successful completion of the course the student will be able to-			
CO 1:	Learn to access database through Java programs, using Java Data Base Connectivity (JDBC) enterprise applications using Enterprise JavaBeans (EJB).		
CO 2:	Create dynamic web pages, using Servlets and JSP		
CO 3:	Understand the multi-tier architecture of web-based		
CO 4:	Invoke the remote methods in an application using Remote Method Invocation (RMI)		
CO 5:			

Signature of Teacher

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Department of English
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First Year - Semester I

Program name	Semester	Course Code	Name of the paper / Course
M.Sc. (Computer Science)	I	CSC402	Neural Network
Course Outcomes : On successful completion of the course the student will be able to-			
CO 1:	Should be able to understand relationship of Biological Neurons with Artificial Neurons along with the Neural Network Architectures using Multi-layered Neural Network		
CO 2:	Implement various learning algorithms for classification of the inputs given to the system to get decisions based on probabilities.		
CO 3:	Ability to use classifier such as Support Vector Machine and studying the Radial Basis Function Networks.		
CO 4:			
CO 5:			

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Department of English
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Program name	Semester	Course Code	Name of the paper / Course
M.Sc. (Computer Science)	I	CSC403	Digital Signal Processing
Course Outcomes : On successful completion of the course the student will be able to-			
CO 1:	Ability to perform conversions according to analog system or digital system and implement the Multirate Signal Processing on digital signals.		
CO 2:	Ability to detect the Power Spectral values of digital signals using the Non-Parametric and Parametric Methods.		
CO 3:	. Implement the concept of Linear Prediction of signals using Various Algorithms.		
CO 4:			
CO 5:			

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Department of English
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Program name	Semester	Course Code	Name of the paper / Course
M.Sc. (Computer Science)	I	CSC404	Advanced Operating System
Course Outcomes : On successful completion of the course the student will be able to-			
CO 1:	Understand types of operating systems, history of operating system, memory management, implement page replacement strategies.		
CO 2:	Understand cache management, process management, various process & implement processor scheduling algorithms.		
CO 3:	Understand I/O subsystem, mass storage structure, file system interface, file system implementation and directory structure.		
CO 4:	Understand protection & security principles, distributed system structure, distributed file system & distributed coordination.		
CO 5:	Understand Linux and Windows operating system in detail.		

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Department of English
Course : M.Sc. (Computer Science)
First Year - Semester II

Program name	Semester	Course Code	Name of the paper / Course
M.Sc. (Computer Science)	II	CSC405	Data Structure and Analysis of Algorithm
Course Outcomes : On successful completion of the course the student will be able to-			
CO 1:	Ability to design searching and sorting algorithms		
CO 2:	Ability to write computer programs for implementation of stacks, queues, arrays, linked lists		
CO 3:	Ability to understand Np-hard problems, collision resolution		
CO 4:	Ability to understand dynamic programing, and program string matching algorithms.		
CO 5:			

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Department of English
Course : M.Sc. (Computer Science)
First Year - Semester II

Program name	Semester	Course Code	Name of the paper / Course
M.Sc. (Computer Science)	II	CSC406	Advanced Neural Network and Fuzzy System
Course Outcomes : On successful completion of the course the student will be able to-			
CO 1:	Understand Lyapunov Stability Theorem values for the Dynamic Neural Network System.		
CO 2:	Understand the mechanism of different network layers connected using Associative Learning are seen on applications of Hopfield Network.		
CO 3:	Implement Neural Network to study the concept of Fuzzy Sets and Fuzzy Applications.		
CO 4:			
CO 5:			

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Department of English
Course : M.Sc. (Computer Science)
First Year - Semester II

Program name	Semester	Course Code	Name of the paper / Course
M.Sc. (Computer Science)	II	CSC407	Image Processing
Course Outcomes : On successful completion of the course the student will be able to-			
CO 1:	Understand image processing fundamentals, history of digital image processing, light & electromagnetic spectrum, sampling & quantization.		
CO 2:	Implement histogram processing of image, perform point processing and spatial filtering on the image.		
CO 3:	Understand the fourier series, fourier transform, fast fourier transform, DFT, frequency filtering.		
CO 4:	Implement noise removal, image degradation, image restoration.		
CO 5:	Implement segmentation on image, understand morphological operation and understand colour fundamentals.		

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Program name	Semester	Course Code	Name of the paper / Course
M.Sc. (Computer Science)	II	CSC408	Parallel Computing
Course Outcomes : On successful completion of the course the student will be able to-			
CO 1:	Understand the concept of Parallel Computing and The Parallel Computing Platforms i.e. Physical Organization. Network Topologies, Communication Costs.		
CO 2:	Ability to use the Decomposition techniques, tasks with Parallel Algorithm Models by considering the Basic Communication Operations on Parallel Platform.		
CO 3:	Understand the Interaction between the systems connected on Parallel Platform using routines of Message Passing Interfaces.		
CO 4:			
CO 5:			

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Department of English
Course : M.Sc. (Computer Science)
Second Year - Semester III

Program name	Semester	Course Code	Name of the paper / Course
M.Sc. (Computer Science)	III	CSC501	Java Network Programming
Course Outcomes : On successful completion of the course the student will be able to-			
CO 1:	Ability to do Programming for the Client as well as the Server on a Networking platform.		
CO 2:	Should be able to implement TCP/IP in Networking.		
CO 3:	Implement Client and Server Sockets.		
CO 4:	Ability to handle the UDP Datagrams and Sockets.		
CO 5:	Understand the Protocol handlers, Content handlers and using the Java-Mail API.		

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Department of English
Course : M.Sc. (Computer Science)
Second Year - Semester III

Program name	Semester	Course Code	Name of the paper / Course
M.Sc. (Computer Science)	III	CSC502	Advance Software Engineering
Course Outcomes : On successful completion of the course the student will be able to-			
CO 1:	Learn to use software engineering concepts, software development activities, UML diagrams, modeling concepts.		
CO 2:	Learn to use requirement elicitation concepts, elicitation activities, managing requirement elicitation, analysis activities.		
CO 3:	Able to implement system design & activities, reuse concepts & activities, interface concepts & activities, managing object design.		
CO 4:	Able to map models to code, implement and manage testing activities.		
CO 5:	Implement configuration management & activities, project management concepts & activities.		

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Department of English
Course : M.Sc. (Computer Science)
Second Year - Semester III

Program name	Semester	Course Code	Name of the paper / Course
M.Sc. (Computer Science)	III	CSC503	Computer Vision
Course Outcomes : On successful completion of the course the student will be able to-			
CO 1:	Understand geometric camera models, camera calibration, radiometry, sources, shadows and shading.		
CO 2:	Implement linear filters; represent textures using linear filters, synthesize textures; understand multiview geometry & stereopsis, affine structure from motion, projective structure from motion.		
CO 3:	Understand image based rendering, segmentation by clustering, segmentation by fitting a model.		
CO 4:	Implement segmentation and fitting using probabilistic models, tracking with linear dynamic models,		
CO 5:	Understand model based vision, find template using classifiers, create aspect graph.		

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Department of English
Course : M.Sc. (Computer Science)
Second Year - Semester III

Program name	Semester	Course Code	Name of the paper / Course
M.Sc. (Computer Science)	III	CSC504	Elective - I: Biometrics
Course Outcomes : On successful completion of the course the student will be able to-			
CO 1:	Ability to understand the research developments in the field of security and privacy.		
CO 2:	Understand the pattern recognition steps applicable towards identification of humans using biological, behavioral and physiological aspects.		
CO 3:	Understanding the linkages between government, forensics and biometrics.		
CO 4:	Understanding the unimodal and multimodal recognition of individuals.		
CO 5:			

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Department of English
Course : M.Sc. (Computer Science)
Second Year - Semester IV

Program name	Semester	Course Code	Name of the paper / Course
M.Sc. (Computer Science)	IV	CSC505	Pattern Recognition
Course Outcomes : On successful completion of the course the student will be able to-			
CO 1:	Understand pattern, pattern recognition, implement Bayesian decision theory.		
CO 2:	Implement maximum likelihood & Bayesian estimation, PCA, EM, HMM.		
CO 3:	Understand non parametric models, linear discriminant based classifiers.		
CO 4:	Understand multilayer NN, boltzman learning and genetic programming.		
CO 5:	Understand decision trees, CART, rule based methods, unsupervised learning and clustering.		

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Department of English
Course : M.Sc. (Computer Science)
Second Year - Semester IV

Program name	Semester	Course Code	Name of the paper / Course
M.Sc. (Computer Science)	IV	CSC506	Elective -II: (Data Mining)
Course Outcomes : On successful completion of the course the student will be able to-			
CO 1:	Ability to understand the research developments in the field of application of classification and advance data processing and analytical techniques for the purpose of knowledge discovery.		
CO 2:	Understand the pattern recognition steps applicable towards knowledge discovery using various machine learning tools and techniques.		
CO 3:	Understanding the process of data selection, cleaning, preparing, and processing towards building knowledge discovery algorithms.		
CO 4:	Ability to understand identification and removal of anomalies from data before application of machine learning methods.		
CO 5:			

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Second Year - Semester IV

Program name	Semester	Course Code	Name of the paper / Course
M.Sc. (Computer Science)	IV	CSC557	Major Project
Course Outcomes : On successful completion of the course the student will be able to-			
CO 1:	Knowledge of basic SW engineering methods and practices, and their appropriate application.		
CO 2:	Knowledge and application of collaborative tools for SW development.		
CO 3:	Successful implementation of teamwork behaviour and policies in a large class project.		
CO 4:	Students will demonstrate a breadth of knowledge in computer science, as exemplified in the areas of systems, theory and software development.		
CO 5:	Students will demonstrate ability to conduct research or applied Computer Science project, requiring writing and presentation skills which exemplify scholarly style in computer science.		

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Second Year - Semester IV

Program name	Semester	Course Code	Name of the paper / Course
M.Sc. (Computer Science)	IV	CSC558	Seminar
Course Outcomes : On successful completion of the course the student will be able to-			
CO 1:	Students will demonstrate ability to conduct research on any latest or advance or interesting topics of Computer Science and develop technical writing and presentation skills which exemplify scholarly style in computer science.		
CO 2:	Ability to work individually on the research topic.		
CO 3:	Ability to demonstrate presentation skills for technical material.		
CO 4:			
CO 5:			

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