M.L.Dahanukar College

Teaching Plan: 2019 - 20

Department:I.T. **Class:M.Sc.(I.T.)PartII** **Semester:III**

Subject:Artificial Neural Network

Name of the Faculty:Mr DhanrajJadhav

Month	Topics to be Covered	Internal Assessment	Number of Lectures
August	**Unit I:** Introduction to Cloud Computing Parallel & distributed computing Virtualization		12
September	**Unit II:**Cloud Computing Architecture, Fundamental cloud Security, Industrial Platform and New Development		12
October	**Unit III:**Specialized cloud Mechanisms, Cloud Management Mechanisms, Cloud Security Mechanism		12
November	**Unit IV:** Fundamental Cloud Architectures, Advanced Cloud Architectures		12
December	**Unit V:** Cloud Delivery Model Considerations, cost Metrics and Pricing Models, Service Quality Metrics and SLAs		12

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P.T.V.A.'s
M.L.Dahanukar College of Commerce

Teaching Plan: 2019 – 20
Department: Information Technology

Class: M.Sc (part I) – Sem-I
Subject: DATA SCIENCE
Name of the Faculty: Prof. Supritha Bhandary

Month	Topics to be Covered	Internal Assessment	Number of Lectures
Sep	DataScienceTechnologyStack: RapidInformationFactory, Ecosystem, Data Science Storage Tools, Data Lake, Data Vault, Data WarehouseBusMatrix LayeredFramework:DefinitionofDataScienceFramework, Cross-IndustryStandardProcessforDataMining(CRISP-DM),Business layer, Utility layer.		12
Oct	Three Management Layers: Operational Management Layer, Processing-Stream Definition and Management, Audit, Balance, and Control Layer, Balance, Control, Yoke Solution, Cause-and-Effect, Analysis System, Functional Layer, DataScienceProcess. Retrieve Superstep,		16
Nov	Assess Superstep Assess Superstep, Errors, Analysis of Data, Practical Actions, Engineering a Practical Assess Superstep , Process Superstep : Data Vault, Time-Person-ObjectLocation-Event Data Vault, Data Science Process, Data Science	Class Test	19
Dec	Transform Superstep: Univariate Analysis Computer Vision(CV), NaturalLanguageProcessing(NLP),Neural Networks,TensorFlow. Organize and Report Supersteps Organize Superstep, Report Superstep, Graphics, Pictures, ShowingtheDifference		13

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M.L.DahanukarCollegeofCommerce

TeachingPlan:2019-20

Department:I.T.   Class:M.Sc.(I.T.)   Semester:I

Subject:Research in Computing

NameoftheFaculty:LARISSAPEGADO

Month	TopicstobeCovered	InternalAssessment	NumberofLectures
September	Introduction: Role of Business Research, Information Systems and Knowledge Management, Theory Building, Organization ethics and Issues. Beginning Stages of Research Process: Problem definition, Qualitative research tools, Secondary data research.		18
October	Research Methods and Data Collection: Survey research, communicating with respondents, Observation methods, Experimental research. Measurement Concepts, Sampling and Field work: Levels of Scale measurement, attitude measurement.	Internal Test	18
November	Measurement Concepts, Sampling and Field work:questionnaire design, sampling designs and procedures, determination of sample size. Data Analysis and Presentation: Editing and		18

	Coding, Basic Data Analysis.		
December	Univariate Statistical Analysis and Bivariate Statistical analysis and differences between two variables. Multivariate Statistical Analysis.		6

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M.L.Dahanukar College of Commerce

Teaching Plan: 2019 – 20

Department: I.T.   **Class:**<mark>M</mark>**.Sc.(I.T.)**   **Semester:**<mark>I</mark>

Subject: Soft Computing

Name of the Faculty: Srushty Padte

Month	Topics to be Covered	Internal Assessment	Number of Lectures
August	Introduction of soft computing, soft computing vs. hard computing, various types of soft computing techniques, Fuzzy Computing, Neural Computing, Genetic Algorithms, Associative Memory		4 lectures
Sept	Adaptive Resonance Theory, Classification, Clustering, Bayesian Networks, Probabilistic reasoning, applications of soft computing. Artificial Neural Network: Fundamental concept, Evolution of Neural Networks, Basic Models, McCulloh-Pitts Neuron, Linear Separability, Hebb Network. Supervised Learning Network: Perceptron Networks, Adaptive Linear Neuron, Multiple Adaptive Linear Neurons, Backpropagation Network		12 lectures
October	Radial Basis Function, Time Delay Network, Functional Link Networks, Tree Neural Network. Associative Memory Networks: Training algorithm for pattern Association, Autoassociative memory network, hetroassociative memory network, bi-directional associative memory, Hopfield networks, iterative autoassociative memory networks, temporal associative memory networks. UnSupervisedLearning Networks: Fixed weight competitive nets, Kohonenself-organizing feature maps, learning vectors quantization, counter propogationnetworks, adaptive resonance theory networks.		16 lectures

	Special Networks: Simulated annealing, Boltzman machine, Gaussian Machine, Cauchy Machine, Probabilistic neural net, cascade correlation network, cognition network, neo-cognition network, cellular neural network, optical neural network		
November	Third Generation Neural Networks: Spiking Neural networks, convolutional neural networks, deep learning neural networks, extreme learning machine model. Introduction to Fuzzy Logic, Classical Sets and Fuzzy sets: Classical sets, Fuzzy sets. Classical Relations and Fuzzy Relations: Cartesian Product of relation, classical relation, fuzzy relations, tolerance and equivalence relations, non-iterative fuzzy sets. Membership Function: features of the membership functions, fuzzification, methodsof membership value assignments. Defuzzification: Lambda-cuts for fuzzy sets, Lambda-cuts for fuzzy relations, Defuzzification methods. Fuzzy Arithmetic and Fuzzy measures: fuzzy arithmetic, fuzzy measures, measuresof fuzziness, fuzzy integrals. Fuzzy Rule base and Approximate reasoning: Fuzzy proportion, formation of rules, decomposition of rules, aggregation of fuzzy rules, fuzzy reasoning, fuzzy inference systems. Fuzzy logic control systems: control system design, architecture and operation of FLC system, FLC system models and applications of FLC System.		16lectures
December	Genetic Algorithm: Biological Background, Traditional optimization and search techniques, genetic algorithm and search space, genetic algorithm vs. traditional algorithms, basic terminologies, simple genetic algorithm, general genetic algorithm, operators in genetic algorithm, stopping condition for genetic algorithm flow, constraints in genetic algorithm, problem solving using genetic algorithm,		6 lectures

	the schema theorem, classification of genetic algorithm, Holland classifier systems, genetic programming, advantages and limitations and applications of genetic algorithm. Differential Evolution Algorithm, Hybrid soft computing techniques – neuro – fuzzy hybrid, genetic neuro-hybrid systems, genetic fuzzy hybrid and fuzzy genetic hybrid systems.		

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