BHAVAN'S VIVEKANANDA COLLEGE
OF SCIENCE, HUMANITIES AND COMMERCE
Sainikpuri, Secunderabad-500094
Autonomous College
Affiliated to Osmania University
TEACHING PLAN 2019-20

Name of the Faculty: B.Divya Rekha	Department: Computer	Year/Semester: I/I	No. of Classes per Week: (4 hrs/Theory)4 hrs Practicals

Program: MSCS I Sem Subject: Software Engineering

Learning Objective:

1. Student will learn basics of Software Engineering and its specifications.
2. Student will learn Architectural styles, object oriented system analysis and its types of designs.
3. Student will learn Software development.
4. Student will learn Software testing and its quality.

S.No	MONTH	MONTH & WEEK	Units	Syllabus	Additional Input/Value Addition	Teaching Method	Student/ Learning activity
1	September, 2019	September 3rd Week	U N I T 1	Software Engineering – Introduction, Program versus Software.			
2		September 4th Week		Software Engineering, Software Development Process and its Stages, Generic Software Development Process Models.		Chalk and board and LCD	conducting quiz in these concepts
3	October, 2019	October 1st Week	1	Requirement Engineering Processes – Requirement Engineering Process, Feasibility Study, Cost and Benefit Analysis,	Giving case studies on these topics	Chalk and board and LCD	
4		October 2nd Week	U N I T 1 & 2	Techniques of a Good Requirement and Validation Requirement Specification, Characteristics .		Chalk and board and LCD	conducting quiz in these concepts
5		October 3rd Week		Software Requirement Specifications – Introduction, Software Requirements Document, IEEEStandard of Software Requirement Specifications	Giving case studies on these topics	Chalk and board and LCD	
6		October 4th Week		Architectural Styles – Introduction, Architecture Styles, Object Oriented Architecture, Inter- Organizational Communication,	Giving case studies on these topics	Chalk and board and LCD	Conducting seminars on these topics

7	October, 2019	October 5th Week	1 & 2	Cloud Computing Architecture Style, Core, Design Models, Architectural Design Principles.		Chalk and board and LCD
8	November, 2019	November 2nd Week	U N I T 2 & 3	Object Oriented System Analysis – Introduction, Object Oriented Design, Object Oriented Design Models,	Giving case studies on these topics	Chalk and board and LCD
9		November 3rd Week		Object Oriented Analysis, Data Modeling, Identification of Class Relationships.		Chalk and board and LCD presention .
10		November 4th Week		Object Oriented Design Using UML – Introduction, Sequence Diagram, State Machine Diagram,Timing Diagram,	Giving case studies on these topics	Chalk and board and LCD presention .
11		November 5th Week		Describing Detailed Object Oriented Design, Decision Tree and Decision Table, Composite Structure Diagram,Software Development – Introduction,	Giving case studies on these topics	Chalk and board and LCD presention
12	December, 2019	December 1st Week		Good Coding Practices, Code Reuse, Design Pattern, and Generator Based Reuse.	Giving case studies on these topics	Chalk and board and LCD presention
13		December 2nd Week	U N I T 3 & 4	Application/Software Developed on Product Lines Approach, and Component Based Software Engineering, Agile Methods.Verification, Validation and Software Testing – Introduction.		Chalk and board and LCD presention
14		December 3rd Week		Software Verification and Validation Process, Software Testing, System Testing, Object Oriented Testing Strategy, Test Cases, Equivalence Partitioning (Black Box Testing), Art of Debugging.	Giving case studies on these topics	Chalk and board and LCD presention
15		December 4th Week		Measurement and Metrics for Assessing Software Quality – Introduction, ISO 9126 Quality Standards,Quality Management Models, Software Quality Control and Metrics, Defect Density Metrics.		Chalk and board and LCD presention

Learning Outcomes:

1. Student will be capable to analyze Software Engineering and its specifications.
2. Students will learn designing Architectural styles, object oriented system analysis and its types of designs.
3 Student will be capable to implement Software development
4. Students will learn Software testing and its quality.

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TEACHING PLAN 2019-20

Name of the Faculty: G Mahesh Kumar	Department: Computer Science	Year/Semester: M.Sc(CS) I/I (Advanced Java Programming)	No. of Classes per Week: (4 hrs/Theory)4 hrs Practicals

Learning Objectives:

To provide knowledge for connecting database through java programming.

To provide knowledge to develop web applications using java servlets.

To provide knowledge to develop web applications using java server pages.

To provide knowledge on usage of JSTL tags and JSF tags.

S.No	Month	Month & Week	Units	Syllabus	Additional Input /Value Addition	Teaching Method	Student/ Learning
1	September, 2019	September 3rd Week	1	Getting Started with JDBC: Introducing JDBC-Describing Components of JDBC, Features of JDBC.		Chalk and Black Board , Marker Board, LCD Projector	
2		September 4th Week		JDBC Architecture - Types of Drivers, Advantages and Disadvantages of Drivers, Use of Drivers.		Chalk and Black Board , Marker Board, LCD Projector	
3	October, 2019	October 1st Week		Implementing JDBC Statements and Methods: Statement Interface, PreparedStatement Interface.	Development of customized applications	Chalk and Black Board , Marker Board, LCD Projector	Developing own applications based on concepts
4		October 2nd Week		CallableStatement Interface, Working with ResultSet Interface.	Development of customized applications	Chalk and Black Board , Marker Board, LCD Projector	Developing own applications based on concepts

5	October, 2019	October 3rd Week		**Understanding Java Servlet: Introducing CGI, Introducing Java Servlet, Advantages of Servlet over CGI , Features of Servlet. Introducing Servlet API - Javax.servlet package, Javax.servlet.http package**		Chalk and Black Board , Marker Board, LCD Projector	
6		October 4th Week	2	Servlet Lifecycle, Working with GenericServlet class methods. Understanding Request Processing and HTTP: Understanding Request Dispatching	Development of customized applications	Chalk and Black Board , Marker Board, LCD Projector	Developing own applications based on concepts
7		October 5th Week		**Dispatching the Request, Working with HttpServletRequest, Working with HttpServletResponse, Describing HttpServlet – The HttpServlet Lifecycle.**		Chalk and Black Board , Marker Board	
8	November, 2019	November 2nd Week	3	**Handling Sessions in Servlet: Introducing Session Tracking, Describing Cookies, HttpSession.**	Development of customized applications	Chalk and Black Board , Marker Board, LCD Projector	Developing own applications based on concepts
9		November 3rd Week		Introduction to JSP : - Advantages of JSP over Servlet , JSP architecture		Chalk and Black Board , Marker Board	
10		November 4th Week		JSP Life Cycle. Working with JSP Tags and Implicit Objects: Exploring Scripting Tags	Development of customized applications	Chalk and Black Board , Marker Board	Developing own applications based on concepts
11		November 5th Week		Exploring Implicit Objects in JSP,		Chalk and Black Board , Marker Board	
12	December, 2019	December 1st Week	4	**Exploring Directive Tags. Working with JSTL: JSTL Core Tags - General-Purpose Tags,**		Chalk and Black Board , Marker Board, LCD Projector	

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13	December, 2019	December 2nd Week	4	Conditional and Looping Tags, Networking Tags, JSTL SQL Tags.		Chalk and Black Board , Marker Board	
14		December 3rd Week		Working with JSF: Features of JSF, JSF Architecture, Describing JSF Elements. JSF		Chalk and Black Board , Marker Board	
15		December 4th Week		JSF Tag Libraries-JSF HTML Tags.			

Learning Outcomes:

Develop programs using JDBC.

Develop programs using Java Servlets.

Develop programs using Java Server Pages.

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Department of Computer Science

TEACHING PLAN 2019-20

Name of the Faculty: N Bhaskar	Department: Computer Science	Year/Semester: I/I	No. of Classes per Week: 4 Hrs Theory
Programme: M.Sc I Semester		Subject: OPERATING SYSTEMS	

Learning Objectives :

To explain Kernel Data Structures, System Structures and System Calls.

To discuss Multithreaded programming, Process Synchronization Concepts and Deadlock handling methods.

To summarize Memory-File Management through various Access Methods.

To discuss File System Implementation methods, System Security and System Protection.

SL. NO.	MONTH	MONTH & WEEK	UNITS	SYLLABUS	ADDITIONAL INPUT/VALUE ADDITION	TEACHING METHOD	STUDENT/LEARNING ACTIVITY
1	September, 2019	September 3rd Week	I	**Introduction:** Computer-System Architecture: Single-Processor Systems, Multiprocessor Systems, Clustered Systems. **Kernel Data Structures:** Lists, Stacks and Queues, Trees, Hash functions and Maps, Bitmaps. Computing Environments: Traditional Computing, Mobile Computing, Distributed Systems, Client-Server Computing, Peer-to-Peer Computing, Virtualization, Cloud Computing.		Chalk & Black Board	
2		September 4th Week		**System Structures:** Operating System Services, User and Operating-System Interface: Command Interpreters, Graphical User Interfaces, Choice of Interface. System Calls, Types of System Calls: Process Control, File Management, Device Management, Information Maintenance, Communication, Protection. System Programs, Operating System Structure: Simple Structure, Layered Approach, Micro-kernels, Modules, Hybrid Systems (Mac OS X, iOS, Android).	Discussion on live operating systems	LCD projector	

3	October, 2019	October 1st Week	I	**Process Concept: Process Concept:** The Process, Process State, Process Control Block, Threads. Process Scheduling: Scheduling queues, Schedulers, Context Switch. **Operations on Processes:** Process Creation, Process Termination. Inter-process Communication: Shared-Memory Systems, Message-Passing Systems		Chalk & Black Board	
4		October 2nd Week	II	**Multithreaded Programming: Overview:** Motivation, Benefits. **Multithreading Models:** Many-to-one Model, One-to-One Model, Many-to-Many Model. **Processes Scheduling: Basic Concepts:** CPU-I/O Burst Cycle, CPU Scheduler, Preemptive Scheduling, Dispatcher, Scheduling Criteria,		Chalk & Black Board	Test in Unit-1 and Unit-2
5		October 3rd Week	II & III	**Scheduling Algorithms:** First-Come, First-Served Scheduling, Shortest-Job-First Scheduling, Priority Scheduling, Round-Robin Scheduling, Multilevel Queue Scheduling, Multilevel Feedback Queue Scheduling. **Process Synchronization:** The Critical-Section Problem, Peterson's Solution, Semaphores: Semaphore Usage, Semaphore Implementation, Deadlocks and Starvation, priority Inversion. **Classic problems of Synchronization:** The Bounded-Buffer Problem, The Readers-Writers Problem, The Dining-Philosophers Problem. **Monitors:** Monitor Usage, Dining-Philosophers Solution using Monitors, Implementing a Monitor using Semaphore.		Chalk & Black Board	
6		October 4th Week		**Deadlocks: Deadlock Characterization:** Necessary Conditions, Resource-Allocation Graph. Methods for Handling Deadlocks, Deadlock Prevention: Mutual Exclusion, Hold and Wait, No Preemption, Circular Wait. **Deadlock Avoidance:** Safe State, Resource-Allocation Graph Algorithm, Banker's Algorithm (Safety Algorithm, Resource Request Algorithm, an illustration example).		Chalk & Black Board	Test on unit-1 and unit-2

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7	October, 2019	October 5th Week	II & III	**Deadlock Detection:** Single Instance of each Resource Type, Several Instances of a Resource Type, Detection-Algorithm Usage. **Recovery from Deadlock:** Process Termination, Resource Preemption.**Memory Management Strategies: Background:** Basic Hardware, Addressing Binding, Logical Versus Physical Address Space, Dynamic Linking and Shared Libraries. **Swapping:** Standard Swapping, Contiguous Memory Allocation: Memory Protection, Memory allocation, Fragmentation.	Live examples related to industry environment	LCD projector	
8	November, 2019	November 2nd Week		**Segmentation:** Basic Method, Segmentation Hardware, Paging: Basic Method, Virtual Memory Management: Background, Demand Paging, Basic Concepts, Performance of Demand Paging.**Page Replacement:** Basic Page Replacement, FIFO Page Replacement, Optimal Page Replacement, LRU Page Replacement. **Thrashing:** Cause of Thrashing, Page-Fault Frequency.		Chalk & Black Board	Open book system
9		November 3rd Week	III	**File System:** File Concept: File Attributes, File Operations, File Types, File Structures, Internal File Structures. **Access Methods:** Sequential Access, Direct Access, Other Access Methods. Directory and Disk Structure: Directory Overview, Single-Level Directory, Two-Level Directory, Tree Structured Directories, Acyclic Graph Directories, General Graph Directory.		PPT presentation	
10		November 4th Week		**Mass-Storage Structure**: Disk Scheduling: FCFS Scheduling, SSTF Scheduling, SCAN Scheduling, C-SCAN Scheduling, LOOK Scheduling. **Disk Management:** Disk Formatting, Boot Block, Bad Blocks. **Swap-Space Management:** Swap-Space use, Swap-Space Location, Swap-Space Management RAID Structure: RAID Levels.		Chalk & Black Board	

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11	November, 2019	November 5th Week		**File- System Implementation:** Allocation Methods: Contiguous Allocation, Linked Allocation, Indexed Allocation, Performance Allocation.	Live demo of UNIX file system and Windows OS Systems	Chalk & Black Board	Open book system
12	December, 2019	December 1st Week		**Free-Space Management:** Bit Vector, Linked Lists, Grouping, Counting, Space Maps. NFS: Overview, The Mount Protocol, the NFS Protocol, Path-Name Translation, Remote Operation.		Chalk & Black Board	Open book system
13		December 2nd Week	IV	**System Protection:** Goals of Protection, Principles of Protection, Access Matrix, Access Control, Revocation of Access Rights. **System Security: The Security Problem, Program.**		Chalk & Black Board	Open book system
14		December 3rd Week		**Threats:** Trojan Horse, Trap Door, Logic Bomb, Stack and Buffer Overflow, Viruses.System and Network Threats: Worms, Port Scanning, Denial of Service.		Chalk & Black Board	
15		December 4th Week		**User Authentication:** Passwords, Password Vulnerabilities, Securing PasswordsOne-time Passwords, Biometrics. Firewalling to Protect Systems and Networks, Computer-Security Classifications.		Chalk & Black Board	

OUTCOMES:
- Paraphrase different Operating System structures and the various System Calls.
- Determine CPU Scheduling and Deadlock handling methods.
- Correlate Main Memory and Mass Storage File Management.
- Analyze the system protection methods from System and Network threats by using Security tools

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TEACHING PLAN 2019-20

Name of the Faculty: G Mahesh Kumar	Department: Computer Science	Year/Semester: M.Sc(CS) I/II (Programming Using Python)	No. of Classes per Week: (4 hrs/Theory)4 hrs Practicals

Learning Objectives:

To explain conditional and looping statements.

To demonstrate the concepts of functions, files and exceptions.

To describe the functionalities of lists, tuples, strings, dictionaries and sets.

To illustrate object oriented concepts and GUI controls.

S.No	Month	Month & Week	Units	Syllabus	Additional Input/Value Addition	Teaching Method	Student/ Learning activity
1	January, 2019	January 4th Week	1	Introduction to Python Programming: How a Program Works, Using Python, Program Development Cycle, Input,Processing, and Output, Displaying Output with the Print Function, Comments, Variables		Chalk and Black Board , Marker Board, LCD Projector	
2		January 5th Week		Reading Input from theKeyboard, Performing Calculations (Operators. Type conversions, Expressions), More about Data Output. if, if-else, if-elif-else Statements.		Chalk and Black Board , Marker Board, LCD Projector	

3	February,2019	February, 2nd Week	1	Nested Decision Structures, ComparingStrings, Logical Operators, Boolean Variables.	Development of customized applications	Chalk and Black Board , Marker Board, LCD Projector	Developing own applications based on concepts
4		February, 3rd Week		Repetition Structures: Introduction, while loop, for loop, Calculating a Running Total, Input Validation Loops,Nested Loops.	Development of customized applications	Chalk and Black Board , Marker Board, LCD Projector	Developing own applications based on concepts
5		February, 4thWeek		Functions: Introduction, Defining and Calling a Void Function, Designing a Program to Use Functions, LocalVariables.	Development of customized applications	Chalk and Black Board , Marker Board, LCD Projector	Developing own applications based on concepts
6		February, 5thWeek	2	Passing Arguments to Functions, Global Variables and Global Constants	Development of customized applications	Chalk and Black Board , Marker Board, LCD Projector	Developing own applications based on concepts
7	March'20	March 1st Week		Value-Returning Functions-Generating Random Numbers, Writing Our Own Value-Returning Functions, The math Module, StoringFunctions in Modules.		Chalk and Black Board , Marker Board	Developing own applications based on concepts
8		March 2nd Week		File and Exceptions: Introduction to File Input and Output, Using Loops to Process Files, Processing Records,Exceptions.	Development of customized applications	Chalk and Black Board , Marker Board, LCD Projector	Developing own applications based on concepts
9		March 3rd Week	3	Lists and Tuples: Sequences, Introduction to Lists, List slicing, Finding Items in Lists with the in Operator.		Chalk and Black Board , Marker Board	

10	March'20	March 4th Week		ListMethods and Useful Built-in Functions, Copying Lists, Processing Lists, Two-Dimensional Lists, Tuples.	Development of customized applications	Chalk and Black Board , Marker Board	Developing own applications based on concepts
11	April'20	April 1st Week	3	Strings: Basic String Operations, String Slicing, Testing, Searching, and Manipulating Strings.	Development of customized applications	PPT Online Class using Zoom, Cisco Webex, Sharing Videos	Developing own applications based on concepts
12		April 2nd Week		Dictionaries and Sets: Dictionaries, Sets, Serializing Objects.Recursion: Introduction, Problem Solving with Recursion, Examples of Recursive Algorithms.	Development of customized applications	PPT Online Class using Zoom, Cisco Webex, Sharing Videos	
13		April 3rd Week	4	Object-Oriented Programming: Procedural and Object-Oriented Programming, Classes, Working with Instances,Techniques for Designing Classes, Inheritance, Polymorphism.		PPT Online Class using Zoom, Cisco Webex, Sharing Videos	
14		April 4th Week		GUI Programming: Graphical User Interfaces, Using the tkinter Module, Display text with Label Widgets,Organizing Widgets with Frames	Development of customized applications	PPT Online Class using Zoom, Cisco Webex, Sharing Videos	Developing own applications based on concepts
15		April 5th Week	4	Button Widgets and Info Dialog Boxes, Getting Input with Entry Widget, Using Labels as Output Fields, Radio Buttons, Check Buttons.	Development of customized applications	PPT Online Class using Zoom, Cisco Webex, Sharing Videos	Developing own applications based on concepts

Learning Outcomes:

Develop programs using conditional and looping statements.

Develop programs using functions, files and exceptions.

Develop programs using lists, tuples, strings, dictionaries and sets.

Develop programs using object oriented concepts and using GUI controls.

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Teaching Plan 2019-20

Faculty Name : P SRINIVASA	Department:Computer Science	Year/Semester: Msc CS I/II	No. of Classes per Week: (4hr/Theory)

Subject : ALC

Learning Objectives:
To describe and analyze the dynamic behavior of Discrete systems
To understand the behaviour of DFA's,NFA's
To convert Finite automata to Regular Expression
To design the Turing machines

S.No	Month	Month & Week	Units	Syllubus	Additional Input/Value Addition	Teaching Method	Student/ Learning activity
1		JANUARY WEEK 4		alphabets, strings, languages, problems, graphs, trees, Finite State Systems, definitions,		Chalk and board	
2	JANUARY'20	JANUARY WEEK 5	Unit -1	FiniteAutomaton model, acceptance of strings, and languages, Deterministic finite automaton and Nondeterministicfinite automaton, transition diagrams, transition tables, proliferation trees and language recognizers,equivalence of DFA's and NFA's	Animated Videos	LCD presentation	
3	FEBRUARY'20	FEBRUARY WEEK 2		Finite Automata with -moves, significance, acceptance of languages, -closure,	Animated Videos	Chalk and board	Assignment

4		FEBRUARY WEEK 3	Unit -1	Equivalence of NFA's with and without -moves, Minimization of finite automata, Two-way finite automata, Finite Automata with output–Moore and Melay machines.	Real time examples	Chalk and board	
5	FEBRUARY'20	FEBRUARY WEEK 4	unit-2	Unit – II Regular Languages: regular sets, regular expressions, identity rules, constructing finite automata for a givenregular expressions, conversion of finite automata to regular expressions	Practical Applications	Chalk and board	Quiz using ICT tools
6		FEBRUARY WEEK 5		Pumping lemma of regular sets and itsapplications, closure properties of regular sets.		Chalk and board	class room discussion
7		MARCH WEEK 1	Unit 2	Grammar Formalism: Regular grammars–right linear and left linear grammars,	Practical Applications	LCD presention with sample programmes	
8		MARCH WEEK 2		equivalence between regularlinear grammar and finite automata, inter conversion,			
9	MARCH'20	MARCH WEEK 3		Context free grammar, derivation trees, sentential forms,right most and leftmost derivation of strings, ambiguity			
10		MARCH WEEK 4	Unit-3	Unit – III Context Free Grammars: Simplification of Context Free Grammars, Chomsky normal form,Greiback normalform, Pumping lemma for context free languages and its applications,	Animated Videos	LCD presention with sample programmes in Lab	Assignment
11		APRIL WEEK 1		closure of properties of CFL (proofsomitted).	Real time examples	Chalk and board	Quiz using ICT tools
12	APRIL '20	APRIL WEEK 2		Push Down Automata: PDA definition, model, acceptance of CFL, acceptance by final state and acceptance byempty state and its equivalence Equivalence of PDA's and CFL's. Unit – IV Turing Machine:	Real time examples	Chalk and board	

13	APRIL '20	APRIL WEEK 3	Unit-4	TM definition, model, design of TM, computable functionsunrestricted grammars,recursively enumerable languages. Church's hypothesis,	Animated Videos	Chalk and board and LCD presention with sample programmes in Lab Class.	class room discussion
14		APRIL WEEK 4		, types of Turing machines (proofsomitted).Linear bounded automata Context sensitive language	Application Areas	Chalk and board	Quiz using ICT tools
15		APRIL WEEK 5		Computability Theory: Chomsky hierarchy of languages,	Animated Videos	Chalk and board	Quiz using ICT tools

Learninng Outcome :

   Student will -

   Familiar with Finate State System

   Summerize DFA'S and NFA'S

   Implement Regular expressions

   Design various models of Turing Machines

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TEACHING PLAN 2019-2020

Faculty Name: K.Padma Priya		Year/Semester: I/II	No. of Classes per Week: (2 hrs/Theory)

PROGRAM: M.Sc. (Computer Science) II Semester (CBCS) PAPER
TITLE: – Robotics And Artificial Intelligence

Learning Objective: This course is about the theory and practice of AI. Expert systems, Learning & Planning techniques and Neural Networks.

S.No	Month	Month & Week	Units	Syllabus	Additional Input/ Value Addition	Teaching Method	Student/ Learning activity
1	JANUARY'20	JANUARY WEEK 4		Definition and Foundation of AI.	Sofia Robot shown virtually	Chalk and Board/ LCD Presentations	
2		JANUARY WEEK 5		The State of Art. The nature of Environments. The Structure of Agents.Types of Agents.			
3	FEBRUARY'20	FEBRUARY WEEK 2	1	Solving Problems by Searching-Uninformed Search Strategies: Breadth First Search, Depth-First Search.		Chalk and Board/ LCD Presentations	

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4	FEBRUARY'20	FEBRUARY WEEK 3	1	Informed Search Strategies (Heuristic Search): Greedy Best First Search, A* Algorithm	Real life examples	Chalk and Board/ LCD Presentations	different problems in class room
5		FEBRUARY WEEK 4		Informed Search Strategies (Heuristic Search): Memory Bounded Heuristic Search.	Real life examples	Chalk and Board/ LCD Presentations	different problems in class room
6		FEBRUARY WEEK 5		Recursive Best first search algorithm, SMA * algorithm	Real life examples	Chalk and Board/ LCD Presentations	different problems in class room
7	MARCH'20	MARCH WEEK 1	2	Hill Climbing Search.	U-Tube videos	Chalk and Board/ LCD Presentations	different problems in class room
8		MARCH WEEK 2		**UNIT-II: Learning: Forms of Learning, Supervised Learning.Ensemble Learning.**			
9		MARCH WEEK 3		Practical Machine Learning Learning Decision Trees.(Supervised Learning)			
10		MARCH WEEK 4		Random Forest Algorithm(Supervised Learning).			
11	APRIL '20	APRIL WEEK 1		**Robotics: Introduction, Robot Hardware.**	U-Tube videos	Chalk and Board/ LCD Presentations	different problems in class room

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12	APRIL '20	APRIL WEEK 2		**Robotics:Planning to move, Planning uncertain movements, Application Domains .**	Types of Robots in different environments, U-Tube videos	LCD Presentations	
13		APRIL WEEK 3	2	Language Models, Information Retrieval, Information Extraction,Phrase structure grammars.		Chalk and Board/ LCD Presentations	
14		APRIL WEEK 4		Natural Language for Communication: Syntactic Analysis, Speech Recognition.	Real life examples	Chalk and Board/ LCD Presentations	
15		APRIL WEEK 5		Artificial Neural Networks . Revision.	Real life examples	Chalk and Board/ LCD Presentations	

Learning Outcomes: At the end of the course, student is capable to understand -

Theoretical aspects of AI, to make intelligent decisions towards achievements of goals by using Knowledge representation.

Learning & Planning techniques and Neural Networks.

Implementation of AI concepts in the field of Robotics.

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TEACHING PLAN 2019-20

Name of the Faculty: S.Ramana	Department: Computer Science	Year/Semester: I/II	No. of Classes per Week: 4 hrs Theory

Learning Objective:

COb1: To illustrate some basic concepts of networks in hardware and software terminologies and describe some of the functionalities of Physical Layer.

COb1: To describe the various functionalities of Data Link Layer and switching devices.

Cob3: To describe the various functionalities of Network Layer.

Cob4: To describe the various functionalities of Transport Layer and few services provided by the Application Layer.

Program: MSC-CS IIsem **Paper Title: Computer Networks**

S.No	Month	Month & Week	Units	Syllabus	Additional Input/ Value Addition	Teaching Method	Student/ Learning activity
1	January, 2019	January 4th Week	UNIT-I	Computer Networks Fundamentals: Network Hardware, Network Software,Reference models– OSI Model Reference models	Simulation models	Chalk and board	
2		January 5th Week		OSI Model, TCP/IP Reference Model, Comparison of OSI and TCP/IP Reference Model.	Animation videos	Chalk and board and LCD presentation	
3	February,2019	February, 2nd Week		Physical Layer: Guided Transmission Media, Wireless Transmission,		Chalk and board and LCD presentation	

Ramana

4	February,2019	February, 3rd Week	UNIT-I	Multiplexing – Frequency Division Multiplexing, Time Division Multiplexing, Switching.	Importance of Protocols	Chalk and board	Practical knowledge about media
5		February, 4thWeek	UNIT-II	Data Link Layer: Design Issues, Error Detection,	Comparision between OSI/ISO and TCP/IP	Chalk and board and LCD presentation	
6		February, 5thWeek		Elementary Data Link Protocols, Sliding Window Protocol. Multiple Access Sub layer: ALOHA, CSMA, Collision Free Protocols,	Example for identifying the class of IP addresses in various organization	Chalk and board and LCD presentation	Example problems on IP Addressing
7	March'20	March 1st Week		Ethernet – Classic Ethernet Physical Layer, Classic Ethernet MAC Sub layer Protocol	Animation videos Real-time applications	Chalk and board and LCD presention	
8		March 2nd Week		Fast Ethernet. Data Link Layer Switching– Repeaters, Hubs, Bridges, Switches, Routers, Gateways	Problems	Chalk and board and LCD presentation	Example problems
9		March 3rd Week	UNIT-III	Network Layer: Design Issues, Routing Algorithms – Shortest path, Flooding, Distance Vector Routing, Link State Routing, Hierarchical,	Application areas	LCD presentation	

10	**March'20**	March 4th Week		Broadcast Routing, Multicast Routing; Congestion Control Algorithms - Traffic Throttling, Load Shedding.		Chalk and board and LCD presentation	
11		April 1st Week	UNIT-III	Internetworking: Tunneling, Internetwork Routing, Packet Fragmentation, IP Version 4 Protocol, IP Addresses,, IP Version 6, Internet Control Protocols–ICMP, ARP, RARP, DHCP.	Animation videos	Chalk and board	Class Activity
12		April 2nd Week		Transport Layer: Services provided to the upper layers, Elements of Transport Protocols. The Internet Transport Protocols: Introduction to UDP&RPC,		LCD presentation	class quiz
13	**April'20**	April 3rd Week		The Internet Transport Protocols–TCP, TCP Service Model, TCP protocol, TCP Segment Header, TCP Connection Establishment, TCP Connection Release, Modeling TCP Connection Management	Real time images	LCD presentation	
14		April 4th Week	UNIT-IV	TCP Sliding Window, TCP Time Management. Application Layer: DNS - Name Space,		Chalk and board and LCD presentation	Example on DNS
15		April 5th Week		Domain Name Space, Distribution of Name Space, DNS in the internet, Resolution, DNS Messages, Types of Records. TELNET, E-Mail, FTP.		Chalk and board and LCD presentation	

Ramana

	CS202 CO1 : To relate the different network operations with the related layers of OSI and TCP Protocol and analyze the responsibilities of Physical Layer. CS202 CO1 : To analyze different Data Link Layer operations and access how the Multiple Access sub layer protocols . CS202 CO3 : To identify the nomenclature used in IP Addresses and analyze the IP Header Format, different Routing Algorithms and Congestion Control Techniques used in Internet. CS202 CO4 : To analyze how Transport Layer exactly implements a reliable end to end delivery of messages and analyze TCP Header format and also how Transport Layer overcomes Congestion control at its level. To analyze the different services provided by Application Layer

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BHAVAN'S VIVEKANANDA COLLEGE OF SCIENCE, HUMANITIES AND COMMERCE Sainikpuri, Secunderabad-500094
Department of Computer Science

TEACHING PLAN 2019-20

Name of the Faculty: N Bhaskar	Department: Computer Science	Year/Semester: I/II	No. of Classes per Week: 4 Hrs Theory

Programme: M.Sc - Cs IISemester	Subject: DESIGN AND ANALYSIS OF ALGORITHMS

Learning Objectives :

To understand the student to learn different Sorting- searching methods.

It enables with Different algorithms on Divide and Conquer.

It helps in performing the algorithms related to Dynamic Programming – Back tracking,

It enables to understand Backtracking, Branch-bound algorithms & P, NP and NP completeness.

SL. NO.	MONTH	MONTH & WEEK	UNITS	SYLLABUS	ADDITIONAL INPUT/ VALUE ADDITION	TEACHING METHOD	STUDENT/ LEARNING ACTIVITY
1	JANUARY'20	JANUARY WEEK 4	1	**Introduction:** Algorithm, Fundamentals of Algorithmic Problem Solving, Important Problem Types. **Fundamentals of the Analysis of Algorithm:** The Analysis Framework (Order of Growth, Worst-Case, Best-Case, and Average-Case Efficiencies),		Chalk & Black Board	
2		JANUARY WEEK 5		Asymptotic Notations and Basic Efficiency Classes,			
3	FEBRUARY'20	FEBRUARY WEEK 2		Mathematical Analysis of Non-recursive & Recursive Algorithms. **Brute Force Search:** Selection Sort, Bubble Sort, Sequential Search,		Chalk & Black Board	
4		FEBRUARY WEEK 3		Brute-Force String Matching, Exhaustive Search, Depth-First Search, Breadth-First Search.		Chalk & Black Board	
5		FEBRUARY WEEK 4	2	**Decrease–&–Conquer:** Insertion Sort, Topological Sorting, Binary Search, Interpolation Search		Chalk & Black Board	

6	FEBRUARY'20	FEBRUARY WEEK 5	2	**Divide-and-Conquer:** Merge Sort, Quick Sort, Multiplication of Large Integers, Strassen's Matrix Multiplication.		Chalk & Black Board	Exercise in class to perform different sorting techniques
7	MARCH'20	MARCH WEEK 1		**Transform-and-Conquer:** Presorting, Balanced Search Trees, Heaps and Heap Sort.		LCD projector	
8		MARCH WEEK 2	3	Problem Reduction. Space and Time Trade-Offs, Hashing, B-Trees-		Chalk & Black Board	Test in Unit-1 and Unit-2
9		MARCH WEEK 3		**Dynamic Programming:** Knapsack Problem,		Chalk & Black Board	
10		MARCH WEEK 4		Optimal Binary Search Trees, Warshall's		Chalk & Black Board	Open book system
11	APRIL '20	APRIL WEEK 1		Floyd's Algorithms. **Greedy Technique:** Prim's Algorithm.		Chalk & Black Board	Open book system
12		APRIL WEEK 2		Kruskal's Algorithm, Dijkstra's Algorithm, Huffman Trees and Codes.		LCD projector	Open book system
13		APRIL WEEK 3	4	**Iterative Improvement:** Simplex Method, Maximum-Flow Problem, **Limitations of Algorithm Power:** Lower-Bound Arguments, Decision Trees.		Chalk & Black Board	Open book system
14		APRIL WEEK 4		P, NP, and NP-Complete Problems, **Backtracking:** n-Queens Problem, Hamiltonian Circuit Problem, Subset-Sum Problem,		LCD projector	
15		APRIL WEEK 5		**Branch-and-Bound:** Assignment Problem, Knapsack Problem, Traveling Salesman Problem, Approximation Algorithms for the Knapsack Problem.		LCD projector	Test on Unit-3 and Unit-4

OUTCOMES- Gains logical knowledge on different data structuares
- Knowledge on divide and conquer approach implementation
- Able to do applications related to Dynamic Programming and Back Tracking
- Will be enabled to develop applications related to Branch and Bound related applications

BHAVAN'S VIVEKANANDA COLLEGE OF SCIENCE, HUMANITIES AND COMMERCE Sainikpuri, Secunderabad-500094
Department of Computer Science

TEACHING PLAN 2019-20

Name of the Faculty: K.Srinivasa Rao	Department: Computer Science	Year/Semester: II/I	No. of Classes per Week: 4 Hrs Theory

Programme: M.Sc III Semester   **Subject: Computer Organization**

Learning Objective:

To have a thorough understanding of the basic structure and operation of a digital computer.

To discuss in detail the operation of the arithmetic unit.

To study the different ways of communicating with I/O devices and standard I/O interfaces.

To study the hierarchical memory system including cache memories and virtual memory.

S.No	Month	Month & Week	Units	Syllabus	Additional Input/ Value Addition	Teaching Method	Student/ Learning activity
1	June'19	June 3rd Week	1	Unit – I:Number Systems: Binary, Octal, Decimal and Hexadecimal	Number systems	Chalk and Board	Group Discussion on Compilers
2		June 4th Week		Number conversion from one number to system to another for integers and fractions, Two's Complements, Addition /Subtraction of twos complement	convert using complements	Chalk and Board and LCD Presentation	number systems differences
3	July'19	July 1st Week		binary codes, Digital logic circuits: logic gates (AND, OR, NOT, XOR Gtaes), Demorgans theorem	Gates controoled by Truth Tbles	Chalk and Board and LCD Presentation	logic gate basic rules
4		July 2nd Week		Universal building blocks, laws of boolean algebra, flip flops	SR, JK, D & T Flip flops	Chalk and Board and LCD Presentation	boolean laws
5		July 3rd Week	2	Unit – II: Digital Components: Binary Counters, shift registers	counters up and down counter	Chalk and Board and LCD Presentation	Deriving Parsee Trees
6		July 4th Week		Encoders, Decoderts, Multiplexers, Demuliplexer circuits	compare MUX & DEMUX	Chalk and Board	

7	July'19	July 5th Week	2	Mmory Unit: Register Transfer and Micro operations: Register Transfer Lnaguage, bus and memory transfer, Arithematic Micro Operations	Register, operand, opcode, instruction	LCD Presentation	register basics
8	August'19	August 2nd Week		Logic Micro Operations, Shift Micro Operations & Arithematic logic Shift unit	compare arithematic and logic operators	LCD Presentation	logical , shift, alu
9		August 3rd Week	3	Unit – III: Microprogrammed control: Control Meomory, address sequencing	micoprogram	LCD Presentation	microprogram ex
10		August 4th Week		Microprogramm example, design of control unit, Central Processing Unit, General register organization		LCD Presentation	control unit design
11		August 5th Week		Stack organization, Instruction formats, addressing modes	stack operations	LCD Presentation	stack operations
12	September '19	September 1st Week	4	Data and transfer manipulation, program control.	data signal	Chalk and Board	program control on data transfer flags
13		September 2nd Week		Unit – IV: Input-Output Organization: peripheral Devices. Input-Output Interfaces. Asynchronous Data Transfer	peripherals: keyboard, crt, mouse etc	LCD Presentation	io peripherals
14		September 3rd Week		Modes of transfer, Priority interrupt, DMA (Direct Mmemory Access), IOP, serial communication, memory organization, memory hierarchy, main memory	interrupt basics, DMA	LCD Presentation	transfer mode , parity checking, memory basic cell, rao, rom
15		September 4th Week		auxiliary memory, Associate Memory, Cache memory & Virtual Memory, Associate memory, cache memory and virtual memory	serial communication	LCD Presentation	auxilary , cache, virtual storage performance

learninig Outcomes: The students will acquire knowledge about -
Basic structure of a digital computer
Arithmetic operations on binary number system
The organization of the Control unit, Arithmetic and Logical unit, Memory unit and the I/O unit.

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Department of Computer Science

TEACHING PLAN 2019-20

Name of the Faculty: G Mahesh Kumar	Department: Computer Science	Year/Semester: M.Sc(CS) II/I (Big Data Analytics)	No. of Classes per Week: (4 hrs/Theory)

Learning Objectives:
To understand Big Data.
To provide knowledge to develop web applications using java servlets.
To provide knowledge to develop web applications using java server pages.
To provide knowledge on usage of JSTL tags and JSF tags.

S.No	Month	Month & Week	Units	Syllabus	Additional Input/ Value Addition	Teaching Method	Student/ Learning activity
1	June'19	June 3rd Week	1	Characteristics of Data, Evolution of Big Data, Definition of Big Data.		Chalk and Black Board , Marker Board, LCD Projector	
2		June 4th Week		Challenges of Big Data, What is Big Data, Why Big Data? What is Big Data Analytics, What Big Data Analytics isn't, Why this sudden Hype around Big Data Analytics, Classification of Analytics.		Chalk and Black Board , Marker Board, LCD Projector	

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3	July'19	July 1st Week	1	Greatest Challenges that prevent Business from Capitalizing Big Data, Top Challenges Facing Big Data, Why Big Data Analytics Important, Data Science, Data Scientist.		Chalk and Black Board , Marker Board, LCD Projector	
4		July 2nd Week	1	Terminologies Used in Big Data Environments. Available Soft State Eventual Consistency (BASE), Open Source Analytics Tools.	Open Source Analytical Tools	Chalk and Black Board , Marker Board, LCD Projector	
5	July'19	July 3rd Week		NoSQL, Hadoop. Why Hadoop? Why not RDBMS? RDBMS versus Hadoop. Distributed Computing Challenges.		Chalk and Black Board , Marker Board, LCD Projector	Discussion on RDBMS and NoSQL
6		July 4th Week	2	History of Hadoop. Hadoop Overview, Use Case of Hadoop, Hadoop Distributors.		Chalk and Black Board , Marker Board	
7		July 5th Week		HDFC (Hadoop Distributed File System), HDFC Daemons, read,write.		Chalk and Black Board , Marker Board, LCD Projector	
8	August'19	August 1st Week		Replica Processing of Data with Hadoop, Managing Resources and Applications with Hadoop YARN		Chalk and Black Board , Marker Board	

9	August'19	August 2nd Week	3	The MapReduce Framework, Techniques to Optimize MapReduce Jobs, Uses of MapReduce, Role of HBase in Big Data Processing.	Examples using MapReduce	Chalk and Black Board , Marker Board	
10		August 3rd Week		Introduction of HDFS, Architecture, HDFC Files.		Chalk and Black Board , Marker Board	
11	August'19	August 4th Week	3	File System Types, Commands,org.apache.hadoop.io package, HDF, HDFS High Availability, Introducing HBase, Architecture, Storing Big Data with Hbase.		Chalk and Black Board , Marker Board, LCD Projector	
12	September' 19	September 1st Week		Interacting with the Hadoop Ecosystem,HBase in Operations-Programming with HBase, Installation, Combining HBase and HDFS.		Chalk and Black Board , Marker Board	Discussion on Hbase
13		September 2nd Week		Comparing Reporting and Analysis, Types of Analytics, Points to consider during Analysis, Developing an Analytic Team.		Chalk and Black Board , Marker Board	
14		September 3rd Week	4	Understanding Text Analytics.Analytical Approach and Tools to Analyze Data: Analytical Approaches, History of Analytical Tools, Introducing Popular Analytical Tools, Comparing Various Analytical Tools.	Case Studies of Text Analytics	Chalk and Black Board , Marker Board	

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15	September' 19	September 4th Week	4	Introducing Social Media, Key elements of Social Media, TextMining, Understanding Text Mining Process. Sentiment Analysis, Performing Social Media Analytics and Opinion Mining on Tweets.		Chalk and Black Board , Marker Board, LCD Projector	Discussion on Social Media and Analytics

Learning Outcomes:

Be familiar with Big Data Concepts.

Be familiar with Big Data Analytics.

Be familiar with MapReduce Fundamentals.

Acquire knowledge on the usage of Big Data Analytics in Social Media.

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Affiliated to Osmania University

TEACHING PLAN 2019-20

Name of the Faculty: N SHARON ROSY	Department: Computer Science	Year/Semester: II / III	No. of Classes per Week: 4 hrs Theory

Learning Objective:

COb1: To explain the basics of Data Mining and its working.

COb2: To acquire knowledge on the concepts of Data Mining.

COb3: To be able to articulate the methods for Classification and Clustering of Data.

COb4: To explain the importance of Outlier Detection and Methods of Mining Other Data Types.

Program: M.Sc (Computer Science)						Subject: Data Mining	
S.No	Month	Month & Week	Units	Syllabus	Additional Input/Value Addition	Teaching Method	Student/ Learning activity
1	June'19	June 3rd Week	I	Traditional Data Base systems Recapitulation	Comparison of Traditional Database Systems and Data Warehouse	Chalk and Blackboard	Need for a Data Warehouse
2		June 4th Week		Data Warehouse- Basic Concepts,	In detail explanation of the Architecture of a Data Warehouse	Chalk and Blackboard	
3	July'19	July 1st Week		Data Warehouse Modelling, Data Cube and OLAP	Comparison of Traditioanl Database Architecture with Datab Warehouse	Chalk and Blackboard	Examples of System Calls
4		July 2nd Week		Data Warehouse Design, From OLAP to MultiDimensional Data Mining	Comparison between Data Warehouse and Data Mining	PPT Presentations	Need for a Multidimensional Data Mining
5		July 3rd Week		Data Mining, What kinds of Data can be mined?	Usage of Data Mining	Chalk and Blackboard	
6		July 4th Week	II	What kinds of Patterns can be mined? (Data Mining Functionalities)		Chalk and Blackboard	Understand the different functionalities of Data

7	July'19	July 5th Week	II	Technologies Used in Data Mining, Major Issues in Data Mining, Frequent Itemset Mining Methods- Apriori Algorithm	Example	Chalk and Blackboard	
8	August'19	August 2nd Week		Frequent Itemsets by Confined Candidate Generation, Association Rules,	Various Association Rules	Chalk and Blackboard	Examples
9		August 3rd Week		Patterns Growth Approach for Mining Frequent Itemsets, Decision Tree Indcution	Example for Implementation	Chalk and Blackboard	
10		August 4th Week	III	Bayes Classification Method, Rule-Based Classification, If-Then Rules for Classification.	Example Implementation	Chalk and Blackboard	Bayes Theorem Explanation
11		August 5th Week		Cluster Analysis- Partitioning Methods, Hierarchical Methods		PPT Presentations	Differences between Cluster and Classification
12	September'19	September 1st Week		Distance Measures in Algorithmic Methods, BIRCH, DBSCAN	Comapring different methods of Cluster Analysis	PPT Presentations	
13		September 2nd Week	IV	Outlier Detection- Outliers and Outliers Analysis, Outlier Detection Methods, Statistical Approach	Need for Outlier Detection	PPT Presentations	Various examples of Outliers
14		September 3rd Week		Proximity Based Approach, Clustering Based Approach, Classification Based Approach, Mining Complex Data Types	Related Examples	PPT Presentations	
15		September 4th Week		Other Methodologies of Data Mining, Data Mining Applications	Need for Data Mining in various fields	PPT Presentations	Importance of Data Mining in various fields

Learning Outcomes:

CO1: Paraphrase the basic concepts of Data Warehouse in comparison of a Database System.

CO2: Summarize the various Data Mining Functionalities

CO3: Determine the various Association Rules on Large Data and applying Classification and Clustering methods on large Data sets.

CO4: Discuss the various Oultier Detection Techniques and Real-world application of Data Mining.

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TEACHING PLAN 2019-20

Name of the Faculty: N Bhaskar	Department: Computer Science	Year/Semester: II/III	No. of Classes per Week: 4 Hrs Theory

Programme: M.Sc III Semester	Subject: C# PROGRAMMING

Learning Objectives :
.Net framework, objects.
C# fundamentals. C# Programming with Console.
Windows and web environments.
ASP.NET, ADO.NET with web controls and services.

SL. NO.	MONTH	MONTH & WEEK	UNITS	SYLLABUS	ADDITIONAL INPUT/VALUE ADDITION	TEACHING METHOD	STUDENT/LEARNING ACTIVITY
1	June'19	June 3rd Week	I	**Introduction to Programming** - The C# Language and the .NET Platform, Visual Studio IDE,		Chalk & Black Board	
2		June 4th Week		Alternatives to Visual Studio, Decompiling Code , C# in Linux, iOS and Android, Other .NET Languages.		LCD projector	
3	July'19	July 1st Week		Primitive types and variables – Data types, variables, value and reference type, literals. Operators, type casting and conversion,		Chalk & Black Board	
4		July 2nd Week		Console Input and Output statements. Conditional and looping statements – if, if-else, switch statements. For, do-while, for each loop and nested loops.		Chalk & Black Board	Practical demo of programs
5		July 3rd Week	II	Arrays – reading array elements from console, memory allocation to array elements, multidimensional arrays, array of arrays.		Chalk & Black Board	

6	July'19	July 4th Week	II	Methods – How to declare, implement and invoke methods. Implementation of user defined methods. Parameters and return value from methods. Best practices when using methods.		Chalk & Black Board	
7		July 5th Week		Recursion – direct or indirect recursion, creating recursive methods, why to use recursions. Exception handling, string and text processing.		LCD projector	
8	August'19	August 2nd Week	III	Defining Classes – custom classes, classes and objects, organizing classes in files and namespaces, class declaration,		Chalk & Black Board	
9		August 3rd Week		members visibility, usage of reserved word 'this', constructors, static class and members,		Chalk & Black Board	Test in Unit-1 and Unit-2
10		August 4th Week		structures, nested classes, generics.		Chalk & Black Board	Open book system
11		August 5th Week		Text files – Streams, read and write operations with text files, input/output exception handling.		PPT presentation	Open book system
12	September'19	September 1st Week		Windows forms – creating windows forms, for object property settings	college using automated	LCD projector	Open book system
13		September 2nd Week		creating Multiform Windows Applications forms, displaying messages. Windows form controls-labels, text box, list box, rich text box, list box, check box, combo box controls, buttons.		LCD projector	Open book system
14		September 3rd Week	IV	ADO.NET – connection, data access,data set, data reader. ASP.NET- Introducing new features	Exercise on live application	LCD projector	Practical demo of programs
15		September 4th Week		describing the ASP.NET life cycle. Web forms – standard controls. Working with database controls.		LCD projector	Practical demo of programs

OUTCOMES:
- Applications using C#, .net framework, classes and objects.
- Will be able to develop XML based applications
- Can be able to develop Applications in Console, windows and web environments.
- Will be able to develop applications related to ASP.NET and ADO.NET with web controls and services.

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TEACHING PLAN 2019-20

Name of the Faculty: N Bhaskar	Department: Computer Science	Year/Semester: II/IV	No. of Classes per Week: 4 Hrs Theory

Programme: M.Sc - Cs IV Semester	Subject: CLOUD COMPUTING

Learning Objectives :
To explain the evolving computer model called cloud computing.
To introduce the various levels of services that can be achieved by cloud computing.
To workflow engine for clouds and performance prediction in HPC clouds.
To implement security and privacy issues related to cloud computing environment.

SL. NO.	MONTH	MONTH & WEEK	UNITS	SYLLABUS	ADDITIONAL INPUT/VALUE ADDITION	TEACHING METHOD	STUDENT/ LEARNING ACTIVITY
1	November 2019	November 3rd Week	I	Introduction to Cloud Computing: Cloud computing in a nutshell, Roots of cloud computing, Layers and types of clouds, desired feature of a cloud, Cloud infrastructure management – Features, Infrastructure as a service providers– Features, Platform as a service providers-Features, Challenges and risks. Migrating into a Cloud		Chalk & Black Board	
2		November 4th Week		Introduction, Broad approaches to migrate into the cloud, The seven - step model of migration into the cloud. Enriching the 'Integration as a Service' Paradigm for the Cloud Era		LCD projector	
3	December 2019	December 1st Week	II	evolution of SaaS, The challenges of SaaS paradigm Approaching the SaaS integration Enigma, New integration scenarios, The Integration		LCD projector	

4	December 2019	December 2nd Week	II	Approaching the SaaS integration Enigma, New integration scenarios, The Integration methodologies. Virtual machines provisioning and Migration services: Introduction & Inspiration, Background & related work, Virtual Machines provisioning and manageability, Virtual Machines migration services. Aneka-Integration of private and public clouds: Introduction, Technologies & tools for cloud computing.		LCD projector
5		December 3rd Week		provisioning service, Hybrid cloud implementation. T-Systems Cloud-based solutions for Business applications		Chalk & Black Board
6		December 4th Week	III	Introduction, What enterprises demand of Cloud computing, Dynamic ICT services Importance of Quality and security in clouds, Dynamic Data Center – producing business – ready, dynamic ICT services.		Chalk & Black Board	Exercise in class to perform different sorting techniques
7		January 1st Week		Workflow Engine for Clouds: Introduction, Background, Workflow Management System and clouds, Architecture for Workflow Management system.Utilizing cloud for workflow execution.		LCD projector
8	January 2020	January 2nd Week		An Architecture for Federated Cloud Computing: Introduction Typical use case, basic principles of cloud computing, A model for federated cloud computing, security consideration.		Chalk & Black Board
9		January 3rd Week		Typical use case, basic principles of cloud computing, A model for federated cloud computing, security consideration.		LCD projector
10		January 4th Week	III	Performance Prediction for HPC on Clouds: Introduction, Background, Grid & cloud, HPC in cloud-performance related issues.		LCD projector	Open book system

N. Bhaskar

No.	Month	Week	Unit	Topic		Teaching Aid	Evaluation
11		January 5th Week		Data Security in the Cloud: An introduction to the idea of Data Security, Current state of Data Security in the cloud,		LCD projector	Test in Unit-1 and Unit-2
12	February 2020	February 2nd Week		HOMO Sapiens and digital information, cloud computing and data security risk, cloud computing and identity, the cloud-digital identity-data security, content level security-pros & cons.		LCD projector	Open book system
13		February 3rd Week	IV	Legal Issues in Cloud computing: Introduction, Data Privacy & security issues, Cloud contracting Models,		Chalk & Black Board	Open book system
14	February 2020	February 4th Week		Jurisdictional issues raised by virtualization & data location, commercial and business considerations-cloud users view point.		LCD projector	
15		February 5th Week		Achieving Production Readiness for Cloud Services: Introduction, service management, producer-consumer relationship, cloud service life cycle, production readiness, assessing production readiness.		LCD projector	

OUTCOMES
- Students are able to understand cloud based environment when compare with traditional way of approach
- Students are able to understand different services provided by cloud providers
- Are able to understand the importance of SLA and rules related to different cloud providers
- Are perfect about security, legal and readyness to adopt application deployment in cloud environment

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TEACHING PLAN 2019-20

Name of the Faculty: K.Srinivasa Rao	Department: Computer Science	Year/Semester: II/IV	No. of Classes per Week: 4 Hrs Theory

Learning Objective:

☐ To introduce the major concept areas of language translation and compiler design.

☐ To enrich the knowledge in various phases of compiler and its use, code optimization techniques,

Machine code generation and use of symbol table.

☐ To extend the knowledge of parser by parsing LL parser and LR parser

Programme: M.Sc IV Semester						Subject: Compiler Design	
S.No	Month	Month & Week	Units	Syllabus	Additional Input/ Value Addition	Teaching Method	Student/ Learning activity
1	November, 2019	November 3rd Week	1	Unit – I: Introduction To Compiling:-Compilers –Analysis of the source program –Phases of a compiler	Compiler, Interpreter, Assembler	Chalk and Board	Group Discussion on Compilers
2		November 4th Week		Cousins of the Compiler –Grouping of Phases –Compiler construction tools.		Chalk and Board and LCD Presentation	Analysis & Synthesis parts in Compiler Phases
3	December 2019	December 1st Week		Simple One-Pass Compiler: Overview, syntax definition, syntax directed translation, parsing, a translator for simple expressions		Chalk and Board and LCD Presentation	Construction of Parse Tree
4		December 2nd Week		Lexical Analysis –The Role of Lexical Analyzer –Input Buffering –Specification of Tokens, Recognition of tokens, a language for specifying lexical analyzers.	Tokens, Grammar	Chalk and Board and LCD Presentation	Scanning String as Characters
5		December 3rd Week	2	Unit – II: Syntax Analysis -Role of the parser –Top Down parsing (Recursive Descent Parsing , Predictive Parsers) –	Parsing tree	Chalk and Board and LCD Presentation	Deriving Parsee Trees
6		December 4th Week		Bottom-up parsing –Operator Precedent Parsing–LR Parsers (SLR Parser tables, constructing Canonical LR Parser, LALR Parser).	Tree Bottom Approach	LCD Presentation	Types of Bottom up Parser Trees

7	January 2020	January 1st Week	2	introduction to parser generators. Syntax –Directed Translation: Syntax Directed definition, construction of syntax trees.		Chalk and Board	
8		January 2nd Week	3	Unit – III: Run Time Environments: —Source Language issues	Types of Memories	LCD Presentation	Organizing Data in Memory
9		January 3rd Week		Storage Organization , Storage Allocation strategies –Access to nonlocal names		LCD Presentation	Techniques in Storage in Memory
10		January 4th Week		–Parameter Passing, Symbol Tables (Symbol table entries, Data structures to symbol tables)	Advantages of Symbol Tables	LCD Presentation	
11		January 5th Week		Symbol Tables (representing scope information)		Chalk and Board	Storing Formulas, Arrays in S.T
12	February 2020	February 2nd Week	4	Unit – IV:Intermediate Code Generation: - Intermediate languages –Declarations –Assignment Statements		LCD Presentation	Generate Simple Code in Statements
13		February 3rd Week		Boolean Expressions –Case Statements –Back patching.	Examples on Boolean expns.	LCD Presentation	Generate code in Case Statements
14		February 4th Week		Code Generation: -Issues in the design of code generator –The target machine		LCD Presentation	
15		February 5th Week		Basic Blocks and Flow Graphs –Next-use Information, Asimple code generator	Flow Control	LCD Presentation	Graphs based on Code, error free language

learninig Outcomes: The students will acquire knowledge about -
* The major concept areas of language translation and compiler design.
* Various phases of compiler and its use, code optimization techniques.
* Machine code generation and use of symbol table.
* Parser by parsing LL parser and LR parser.

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TEACHING PLAN 2019-20

Name of the Faculty: D Ramakrishna	Department: Computer Science	Subject: Mobile Computing	Year/Semester: II/IV	No. of Classes per Week: 4 Hrs Theory

Learning Objective: To impart the knowledge of mobile technology
To impart the knowledge of mobile networks
To impart the knowledge of mobile protocols and its applications

Programme: M.Sc (CS) IV Sem   **Subject: Mobile Computing**

S.No	Month	Month & Week	Units	Syllabus	Additional Input /Value Addition	aching Meth	Student/ Learning activity
1	November,2019	November 3rd Week	1	Applications,Wireless transmission:Frequencies,Signals		Chalk and board	
2		November 4th Week		Antennas, Signal propagation,Multiplexing	Blocking, Shadowing, Reflection	Chalk and board	Assignment on Antennas
3	December, 2019	December 1st Week		Modulation, Spread spectrum, cellular systems	SDM, FDM, TDM,CDM	Chalk and board	
4		December 2nd Week		Medium access layer - Motivation, SDMA, FDMA, TDMA, CDMA	ALOHA, CSMA/CA, PRMA,MACA	Chalk and board	Group discussion on SDMA and FDMA
5		December 3rd Week	2	Wireless LAN - Infrared vs. radio transmission, Infrastructure and Ad-hoc Networks		Chalk and board	
6		December 4th Week		IEEE 802.11: System Architecture, Protocol Architecture, Physical Layer, Medium Access Control, MAC Management. Mobile IP - Goals, assumptions, requirements, entities and terminology	MN,CN, FA, HA, COA, HN, FN	Chalk and board	Quiz on Mobile IP Entities and Terminology

D. Ramakrishna

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7	January, 2020	January 1st Week	2	Mobile IP Packet delivery, Agent advertisement and discovery, Registration, Tunneling, Optimization, reverse tunneling		Chalk and board	
8		January 2nd Week		DHCP, Adhoc networks		Chalk and board	
9		January 3rd Week	3	Mobile transport Layer: Indirect TCP, Snooping TCP, Mobile TCP,		Chalk and board	Discussion on difference between Indirect TCP
10		January 4th Week		Transmission, timeout freezing, transaction oriented TCP , Timeout		Chalk and board	
11	January,2020	January 5th Week		Wireless Application Protocol: WAP architecture, Wireless Datagram	WWW, HTTP, HTML	Chalk and board with	
12		February 2nd Week		Wireless Transport Layer Security, Wireless Transaction Protocol		Chalk and board	
13	February, 2020	February 3rd Week	4	Wireless Session Protocol,Wireless Application Environment,		Chalk and board with LCD	
14		February 4th Week		Wireless Markup Language, WML Script	XML, Input Types, Selection Type	Chalk and board	Group discussion on WML
15		February 5th Week		Events, Wireless Telephony Application, Push Architecture, Push/ Pull Services, WAP 2.0		Chalk and board with LCD	

Outcomes: Students are able to understand
Mobile communication medias, Protocols
WAP usage for mobile environment and different architectures for mobile comminication

D. Ramakrishna

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Autonomous College
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Department of Computer Science

TEACHING PLAN 2019-2020

Name of the Faculty: K.Padma Priya		Year/Semester: II/IV	No. of Classes per Week: (2 hrs/Theory)

PROGRAM: M.Sc. (Computer Science) IV Semester (CBCS)	PAPER TITLE: SECS404(A)– Robotics And Artificial Intelligence

Learning Objective: This course is about the theory and practice of AI. Expert systems, Learning & Planning techniques and Neural Networks.

S.No	Month	Month & Week	Units	Syllabus	Additional Input/Value Addition	Teaching Method	Student/ Learning activity
1	November, 2019	November 3rd Week	1	Definition and Foundation of AI.	Sofia Robot shown virtually	Chalk and Board/ LCD Presentations	
2		November 4th Week		The State of Art. The nature of Environments.			
3	December, 2019	December 1st Week		The Structure of Agents.		Chalk and Board/ LCD Presentations	
4		December 2nd Week		Solving Problems by Searching-Uninformed Search Strategies: Breadth First Search, Depth- First Search.	Real life examples	Chalk and Board/ LCD Presentations	different problems in class room
5		December 3rd Week		Informed Search Strategies (Heuristic Search): Greedy Best First Search, Memory Bounded Heuristic Search.	Real life examples	Chalk and Board/ LCD Presentations	different problems in class room
6		December 4th Week		Hill Climbing Search, ADVERSIAL SEARCH: Optimal Decisions in games.	Real life examples	Chalk and Board/ LCD Presentations	different problems in class room

7	January, 2020	January 1st Week	1	Alpha-Beta Pruning.	U-Tube videos	Chalk and Board/ LCD Presentations	different problems in class room
8		January 2nd Week		**UNIT-II**: Learning: Forms of Learning, Supervised Learning.Ensemble Learning.	U-tube videos, Linear regression and Logistic	Chalk and Board/ LCD Presentations	
9		January 3rd Week		Practical Machine Learning Learning Decision Trees.(Supervised Learning)	U-Tube videos	Chalk and Board/ LCD Presentations	different problems in class room
10		January 4th Week		Internal Exam(CIA-1)			
11		January 5th Week		Random Forest Algorithm(Supervised Learning).	U-Tube videos	Chalk and Board/ LCD Presentations	different problems in class room
12	February 2020	February 2nd Week	2	**Robotics**: Introduction, Robot Hardware.	U-Tube videos	LCD Presentations	
13		February 3rd Week		**Robotics**:Planning to move, Planning uncertain movements.	Types of Robots in different environments, U-	Chalk and Board/ LCD Presentations	
14		February 4th Week		**Robotics**:Application Domains . Artificial Neural Networks Natural Language Processing: Language Models, Information Retrieval, Information Extraction,Phrase structure grammars.	Real life examples	Chalk and Board/ LCD Presentations	
15		February 5th Week		Natural Language for Communication: Syntactic Analysis, Speech Recognition.		Chalk and Board/ LCD Presentations	

Learning Outcomes: At the end of the course, student is capable to understand -
Theoretical aspects of AI, to make intelligent decisions towards achievements of goals by using Knowledge representation.
Learning & Planning techniques and Neural Networks.
Implementation of AI concepts in the field of Robotics.