

Department of Computer Science
M.Sc(Computer Science) I year- I Semester, Operating System
Lesson Plan 2018-2019

Month and Year	UNIT	Details	Periods Per Unit	Total
August-September 2018	I	Computer-System Architecture, Operating-System Structure, Operating-System Operations, Process Management, Memory Management, Storage Management, Protection- Security, Kernel Data Structures, Computing Environments,	8	15
		Open-Source Operating Systems. Operating-System Structures: Operating-System Services, User Interface for Operating-System, System Calls, Types of System Calls.	2	
		Implementation, Operating-System Structure, Operating-System Debugging.	2	
		Process Management: Process Concept, Process Scheduling, Operations on Processes, Inter process Communication, Examples of IPC Systems, Communication in Client-Server Systems	3	
September-October 2018	II	Threads: Overview, Multithreading Models, Threading Issues. Process Synchronization: Concept, Critical-Section	3	15
		Peterson's Solution, Synchronization, Classic Problems of Synchronization, Semaphores, Monitors.	2	
		CPU Scheduling: Concepts, Scheduling Criteria, Scheduling Algorithms, Thread Scheduling, Real-Time CPU Scheduling, Algorithm Evaluation.	5	
		Deadlocks: System Model, Deadlock Characterization, Methods for Handling Deadlocks, Deadlock Prevention, Deadlock Avoidance, Deadlock Detection, Recovery from Deadlock.	5	
October-November 2018	III	Memory Management: Main Memory - Swapping, Contiguous Memory Allocation, Segmentation, Paging, Structure of the Page	5	15
		Virtual Memory: Demand Paging, Page Replacement, Allocation of Frames, Thrashing, Memory-Mapped Files.	3	
		Mass-Storage Structure: Overview, Disk Structure, Disk Scheduling, Disk Management, Swap-Space Management, RAID Structure, Stable-Storage Implementation.	5	
		File System Interface: File Concept, Access Methods, Directory	2	
November-December 2018	IV	File- System Implementation: Directory Implementation, Allocation Methods, Free-Space Management, Recovery, Network	5	15
		Protection : Goals of Protection, Principles of Protection, Domain of Protection, Access Matrix, Access Control, Revocation of Access Rights.	5	
		Security: Security Problem, Program Threats, System and Network Threats, Cryptography as a Security Tool, User Authentication.	3	
		Implementing Security Defenses, Firewalling to Protect Systems and Networks, Computer-Security Classifications. Case Study: Windows 7 and Linux System.	2	
		TOTAL NO OF CLASSES		60

N. Bhatnagar

Bhavan's Vivekananda College
 Department of Computer Science
 Academic Organizer for 2018 - 2019
M.Sc(CS) I SEMESTER
ADVANCED JAVA PROGRAMMING
LESSON PLAN

Unit/Month	Sub Unit	Topic	Periods per subunit	Total periods
I (Aug/Sep)	a)	Event Handling: The Delegation Event Model, Events, Event Classes, Event Listener Interfaces, Using the Delegation Event Model, Adaptor Classes.	3	15
	b)	AWT: Windows Fundamentals, Working with Frame Windows, Control Fundamentals, Labels, Buttons, Checkbox, Radio Button(CheckboxGroup), TextField, Understanding Layout Manager(FlowLayout, GridLayout, BorderLayout, CardLayout).	4	
	c)	Swing: Introduction, Swing Features, Components and Containers, JLabel, JTextField, JButton, JToggleButton, JCheckBox, JRadioButton,	4	
	d)	JTabbedPane, JScrollPane, JList, JComboBox, JTree, JTable, JMenuBar, JMenu, JMenuItem, JRadioButtonMenuItem, JCheckBoxMenuItem, JPopupMenu, JToolBar.	4	
II (Sep/Oct)	a)	JDBC: Design of JDBC Configuration, Executing SQL statement, Query Execution, Scrollable and Updatable result sets, row sets, metadata, Transaction.	6	15
	b)	Servlets: Need for Dynamic Content, Java Servlet Technology, Servlet API, servletConfig interface, servletRequest and servletResponse Interfaces, GenericServlet Class.	4	
	c)	ServletInputStream–ServletOutputStream Classes, requestDispatcher Interface, HttpServlet Class, HttpServletRequest and HttpServletResponse Interfaces, HttpSession Interface, Servlet Lifecycle.	5	

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Unit/Month	Sub Unit	Topic	Periods per subunit	Total periods
III (Oct/Nov)	a)	JSP: Introduction, Disadvantages, JSP Vs Servlets, Lifecycle of JSP, Comments, JSP documents, JSP elements, Action elements, implicit objects, Scope, Character Quoting Conventions	6	15
	b)	Java server Faces: Need of MVC, what is JSF?, components of JSF, JSF as an application, JSF lifecycle, JSF configuration, JSF web applications(login form, JSF pages).	4	
	c)	EJB: Enterprise Bean Architecture, Benefits of Enterprise Bean, Types of Beans, Accessing Beans, Packaging Beans, Creating Web Applications, Creating Enterprise Bean, Creating Web Client, Creating JSP File, Building and Running Web Application.	5	
IV (Nov/Dec)	a)	HIBERNATIVE: Introduction, Writing the application, application development approach, creating database and tables in MySQL,	6	15
	b)	creating a web application, Adding the required library files, creating a java bean class, creating hibernate configuration and mapping file, adding a mapping resource, creating JSPs.	5	
	c)	STRUTS: Introduction, Struts framework core components.	4	
Total				60

N. J. Shastri

G. M. K.

Department of Computer Science
M.Sc Iyear- I Semester, Software Engineering
Organizer-2018-19

UNIT / Month	Details	Periods Per Sub Unit	Total
I Aug	The Nature of Software, Software Process, Software Engineering Practice	3	12
	A Generic Process Model, Defining a Framework Activity,	3	
	Process Assessment and Improvement, Prescriptive Process Models,	3	
	Unified Process, Personal and Team Process Models. Defining Agility,	2	
	Agile Process, Extreme Programming.	1	
Sep	Requirements: Requirements Engineering, Establishing the Groundwork,	1	16
	Eliciting Requirements, Developing Use Cases, Building the Requirements Model	2	
	Requirements Analysis, UML Models That Supplement the Use Case,	2	
	Identifying Analysis Classes, Specifying Attributes, Defining Operations	3	
	Class- Responsibility-Collaborator Modeling, Associations and Dependencies	2	
	Analysis Packages. Design Concepts: Design within the Context of SE	2	
	Design Process, Design Concepts, Design Model	1	
	Software Architecture, Architectural Styles, Architectural Design	1	
	Component, Designing Class-Based Components, Conducting Component-Level Design	1	
Component-Based Development, User Interface Design Rules.	1		
III / Oct- Nov	Quality Management: Quality, Software Quality, Software Quality Dilemma	1	16
	Achieving Software Quality, Defect Amplification and Removal, Reviews,	2	
	Informal Reviews, Formal Technical Reviews, Elements of Software Quality Assurance	3	
	SQA Tasks, Goals, and Metrics, Software Reliability,	2	
	A Strategic Approach to Software Testing, Validation Testing	2	
	System Testing, Debugging, Software Testing Fundamentals,	2	
	White-Box Testing, Basis Path Testing, Control Structure Testing	2	
	Black-Box Testing, Object-Oriented Testing Strategies& Methods.	2	
IV / Nov	Software Configuration Management, SCM Process, Product Metrics	2	16
	Requirements Model,, Design Model, Source Code, Testing and Maintenance.	2	
	Managing Software Projects: The Project Management Spectrum, W5HH Principle,	2	
	Metrics in the Process and Project Domains, Software Measurement	2	
	Metrics for Software Quality, Integrating Metrics within the Software Process	2	
	Software Project Estimation, Decomposition Techniques, Project Scheduling	2	
	basics, scheduling, Software Risks, Risk Mitigation, Monitoring, and Management,	2	
	Software Maintenance, Software Reengineering, Reverse Engineering, Forward Engineering.	2	
TOTAL NO OF CLASSES			60

B. S. S.
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Bhavans Vivekananda College

Department of Computer Science

Academic Organizer 2018-2019

M.Sc 2nd year III Semester
Subject: CS 301 : C# PROGRAMMING

Month	UNIT NO.	TOPIC	PERIODS TOPIC WISE	TOTAL PERIODS
	June/July Unit-I	- The C# Language and the .NET Platform, Visual Studio IDE, Alternatives to Visual Studio, Decompiling Code , C# in Linux, iOS and Android, Other .NET Languages.	5	15
		Primitive types and variables – Data types, variables, value and reference type, literals. Operators, type casting and conversion, expressions. Console Input and Output statements.	4	
		Conditional and looping statements – if, if-else, switch statements. For, do-while, for each loop and nested loops.	6	
	July/Aug Unit-II	Arrays – reading array elements from console, memory allocation to array elements, multidimensional arrays, array of arrays.	6	15
		Methods – How to declare, implement and invoke methods. Implementation of user defined methods. Parameters and return value from methods. Best practices when using methods.	5	
		Recursion – direct or indirect recursion, creating recursive methods, why to use recursions. Exception handling, string and text processing.	4	
	Aug/Sept Unit-III	Defining Classes – custom classes, classes and objects, organizing classes in files and namespaces, class declaration, members visibility,	5	15
		Text files – Streams, read and write operations with text files, input/output exception handling. Windows forms – creating windows forms, for	6	
		Windows Applications forms, displaying messages. Windows form controls-labels, text box, list box, rich text box, list box, check box, combo box controls, buttons.(I-Chap – 14, 15, II-	4	
	Sept/Oct Unit-IV	ADO.NET – connection, data access, data set, data reader.	5	15
		ASP.NET- Introducing new features, describing the ASP.NET life cycle.	5	
		Web forms – standard controls. Working with database controls.	5	
	Total		60	60

N. B. Shetty

Bhavan's Vivekananda College
Department of Computer Science
Academic Organizer 2018-2019

M.Sc III Semester Subject: Computer Organization


slno	Unit / Month	Chapters	TOPICS	Periods Per Sub Unit	Total
1	Unit-I June / July	Chapter-3	Number systems: – binary, octal, decimal and hexadecimal. Number conversion from one number system to another for integers and fractions, Two's compliment, addition/subtraction of numbers in twos	8	15
		Chapter-1	Digital logic circuits: logic gates (OR, AND, NOT, XOR Gates), DeMorgan's theorem, Universal building blocks, laws of Boolean algebra, flip-flops.	7	
2	Unit-II July/Aug	Chapter-2	Digital Components: binary counters, shift registers, encoders, decoders, multiplexers, demultiplexers circuits, memory unit	7	15
		Chapter-4	Register transfer and Micro-operations: Register Transfer Language, Bus and memory transfers, Arithmetic Micro operations, Logic Micro operations, Shift Micro operations, Arithmetic Logic Shift unit	8	
3	Unit-III Aug/Sept	Chapter-7	Micro programmed Control: Control Memory, Address Sequencing, Micro program Example, Design of Control Unit	7	15
		Chapter-8	Central Processing Unit: General Register Organization, Stack Organization, Instruction Formats, Addressing Modes, Data and Transfer Manipulation, Program Control	8	
4	Unit-IV Sept /Oct	Chapter-11	Input-Output Organization: Peripheral Devices, Input-Output interface, Asynchronous Data Transfer, Modes of transfer, Priority interrupt, Direct Memory Access (DMA), input-output processors (IOP), Serial communication.	11	15
		Chapter-12	Memory Organization: Memory Hierarchy, Main memory, Definitions - Auxiliary memory, Associate Memory, Cache Memory, Virtual memory	4	
Total				60	60

Name of the lecturer: K.Srinivasa Rao



Bhavan's Vivekananda College
 Department of Computer Science
 Academic Organizer 2018-2019
 M.Sc II year III Semester, **Object Oriented System Development**
 Year-wise Lesson Plan

Month/ UNIT	Details	Periods Per Sub Unit	Total
JUN/ JUL UNIT I	Introduction: An Overview of Object Oriented System Development, Object basics, OOSD Life Cycle	3	15
	Object oriented Methodologies, Importance of Modeling, Object Oriented Modeling	3	
	An overview of UML, Software Development Life Cycle of UML	4	
	Building Blocks of UML, Rules of the UML	5	
	UML Architecture.		
JUL/ AUG UNIT II	Structural Modeling: Classes, Relationships, Common Mechanisms, Diagrams, Class Diagrams	3	15
	Advanced Structural Modeling: Advanced Classes, Advanced Relationships, Interfaces, Types, Roles, Packages, Instances, Object Diagrams	6	
		6	
AUG/ SEP UNIT III	Behavioral Modeling: Interactions, Use Cases, Use Case Diagrams, Interaction Diagrams, Activity Diagrams	4	15
	Advanced Behavioral Modeling: Events and Signals	6	
	State Machines, Processes and Threads	5	
	Time and Space, State Chart Diagrams		
SEP/ OCT UNIT IV	Architectural Modeling: Components, Deployment, Collaborations	5	15
	Patterns and Frameworks, Component Diagrams	6	
	Deployment Diagrams, Systems and Models	4	
	TOTAL NO OF CLASSES		60


 Name of the Lecturer: K.Vagdevi



Bhavans Vivekananda College
 Department of Computer Science
 Academic Organizer 2018-2019
 M.Sc II year III Semester, Network Security
 Year-wise Lesson Plan

UNIT	Details	Periods Per Sub Unit	Total
Unit - I (June/July) - 2018	Security attacks, security Services, Security Mechanisms, model for network security	5	15
	Classical Encryption techniques, Steganography, conventional encryption model, encryption techniques, DES, triple DES	7	
	key distribution, random number generation.	3	
Unit - II (July/August) - 2018	Public-key cryptology, principles of public - key cryptosystems	5	15
	RSA algorithm, key management	6	
	distribution of public keys, public key - distribution of secret keys	4	
Unit - III (August/September) - 2018	Authentication and digital signatures- authentication requirements - functions	6	15
	cryptographic checksum, hash function, digital authentication protocols, kerberos, x-509 directory, authentication services	4	
	Diffie-Hellman key exchange, digital signature standards.	5	
Unit - IV (September/October) - 2018	Cryptographic algorithms, the MD 5 message digest algorithm, secure hash algorithm, international data encryption algorithm	7	15
	LUC public key encryption - Electronic mail and management security	5	
	pretty good privacy (PGP), privacy enhanced	3	
	TOTAL NO OF CLASSES		60

Name of the lecturer : S Ramana

N. Bhasker

Ramana

**BHAVAN'S VIVEKANANDA COLLEGE
OF SCIENCE, HUMANITIES AND COMMERCE
Sainikpuri, Secunderabad-500094
Autonomous College
Affiliated to Osmania University
Teaching Plan 2018-19**

Faculty Name : P SRINIVASA	Department:Computer Science	Year/Semester: Msc CS I/II	No. of Classes per Week: (4hr/Theory)
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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	Syllabus	Additional Input/Value Addition	Teaching Method	Student/ Learning activity
1	DECEMBER 2018	DECEMBER WEEK 2	Unit -1	alphabets, strings, languages, problems, graphs, trees, Finite State Systems, definitions,		Chalk and board	
2		DECEMBER WEEK 3		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		DECEMBER WEEK 4		Finite Automata with -moves, significance, acceptance of languages, -closure,	Animated Videos	Chalk and board	Assignment

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4	JANUARY 2019	JANUARY WEEK 1	Unit -1	Equivalence of NFA's with and without ϵ -moves, Minimization of finite automata, Two-way finite automata, Finite Automata with output-Moore and Melay machines.	Real time examples	Chalk and board	
5		JANUARY WEEK 2	unit-2	Unit - II Regular Languages: regular sets, regular expressions, identity rules, constructing finite automata for a given regular expressions, conversion of finite automata to regular expressions	Practical Applications	Chalk and board	Quiz using ICT tools
6		JANUARY WEEK 3	Unit 2	Pumping lemma of regular sets and its applications, closure properties of regular sets.		Chalk and board	class room discussion
7	JANUARY 2019	JANUARY WEEK 4		Grammar Formalism: Regular grammars-right linear and left linear grammars,	Practical Applications	LCD presentation with sample programmes	
8		JANUARY WEEK 5	equivalence between regular linear grammar and finite automata, inter conversion,				
9	FEBRUARY 2019	FEBRUARY WEEK 2		Context free grammar, derivation trees, sentential forms, right most and leftmost derivation of strings, ambiguity			
10		FEBRUARY WEEK 3	Unit-3	Unit - III Context Free Grammars: Simplification of Context Free Grammars, Chomsky normal form, Greiback normal form, Pumping lemma for context free languages and its applications,	Animated Videos	LCD presentation with sample programmes in Lab	Assignment
11	FEBRUARY 2019	FEBRUARY WEEK 4		closure of properties of CFL (proofs omitted).	Real time examples	Chalk and board	Quiz using ICT tools
12		FEBRUARY WEEK 5		Push Down Automata: PDA definition, model, acceptance of CFL, acceptance by final state and acceptance by empty state and its equivalence Equivalence of PDA's and CFL's. Unit - IV Turing Machine:	Real time examples	Chalk and board	

Srinivas

13	MARCH 2019	MARCH WEEK 2	Unit-4	TM definition, model, design of TM, computable functions, unrestricted grammars, recursively enumerable languages. Church's hypothesis,	Animated Videos	Chalk and board and LCD presentation with sample programmes in Lab Class.	class room discussion
14		MARCH WEEK 3		, types of Turing machines (proofs omitted). Linear bounded automata Context sensitive language	Application Areas	Chalk and board	Quiz using ICT tools
15		MARCH WEEK 4		Computability Theory: Chomsky hierarchy of languages,	Animated Videos	Chalk and board	Quiz using ICT tools

Learning Outcome :

Student will -

Familiar with Finite State System

Summarize DFA'S and NFA'S

Implement Regular expressions

Design various models of Turing Machines



**BHAVAN'S VIVEKANANDA COLLEGE
OF SCIENCE, HUMANITIES AND COMMERCE
Sainikpuri, Secunderabad-500094
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Affiliated to Osmania University**

TEACHING PLAN 2018-19

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 Isem

Paper Title: Computer Networks

<u>S.No</u>	<u>Month</u>	<u>Month & Week</u>	<u>Units</u>	<u>Syllabus</u>	<u>Additional Input/ Value Addition</u>	<u>Teaching Method</u>	<u>Student/ Learning activity</u>
1	DECEMBER 2018	DECEMBER WEEK 2	UNIT-I	Computer Networks Fundamentals: Network Hardware, Network Software, Reference models– OSI Model Reference models	Simulation models	Chalk and board	
2		DECEMBER WEEK 3		OSI Model, TCP/IP Reference Model, Comparison of OSI and TCP/IP Reference Model.	Animation videos	Chalk and board and LCD presentation	
3		DECEMBER WEEK 4		Physical Layer: Guided Transmission Media, Wireless Transmission,		Chalk and board and LCD presentation	

4	JANUARY 2019	JANUARY WEEK 1	UNIT-I	Multiplexing – Frequency Division Multiplexing, Time Division Multiplexing, Switching.	Importance of Protocols	Chalk and board	Practical knowledge about media
5		JANUARY WEEK 2	UNIT-II	Data Link Layer: Design Issues, Error Detection,	Comparision between OSI/ISO and TCP/IP	Chalk and board and LCD presentation	
6		JANUARY WEEK 3		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		JANUARY WEEK 4		Ethernet – Classic Ethernet Physical Layer, Classic Ethernet MAC Sub layer Protocol	Animation videos Real- time applications	Chalk and board and LCD presentation	
8		JANUARY WEEK 5		Fast Ethernet. Data Link Layer Switching– Repeaters, Hubs, Bridges, Switches, Routers, Gateways	Problems	Chalk and board and LCD presentation	Example problems
9	FEBRUARY 2019	FEBRURAY WEEK 2	UNIT-III	Network Layer: Design Issues, Routing Algorithms – Shortest path, Flooding, Distance Vector Routing, Link State Routing, Hierarchical,	Application areas	LCD presentation	

10	FEBRUARY 2019	FEBRUARY WEEK 3	UNIT-III	Broadcast Routing, Multicast Routing; Congestion Control Algorithms - Traffic Throttling, Load Shedding.		Chalk and board and LCD presentation	
11		FEBRUARY WEEK 4		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		FEBRUARY WEEK 5		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	MARCH 2019	MARCH WEEK 2	UNIT-IV	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		MARCH WEEK 3		TCP Sliding Window, TCP Time Management. Application Layer: DNS - Name Space,		Chalk and board and LCD presentation	Example on DNS
15		MARCH WEEK 4		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	

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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TEACHING PLAN 2018-19

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
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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	DECEMBER 2018	DECEMBER WEEK 2	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		DECEMBER WEEK 3		Reading Input from the Keyboard, 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	

G. Mahesh Kumar

3	DECEMBER 2018	DECEMBER WEEK 4	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		JANUARY WEEK 1	1	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	DECEMBER 2018	JANUARY WEEK 2	2	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		JANUARY WEEK 3		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	JANUARY 2019	JANUARY WEEK 4	2	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		JANUARY WEEK 5		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		FEBRURAY WEEK 2	3	Lists and Tuples: Sequences, Introduction to Lists, List slicing, Finding Items in Lists with the in Operator.		Chalk and Black Board , Marker Board	

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10	JANUARY 2019	FEBRUARY WEEK 3		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	FEBRUARY 2019	FEBRUARY WEEK 4	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		FEBRUARY WEEK 5		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	MARCH 2019	MARCH WEEK 2	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		MARCH WEEK 3		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		MARCH WEEK 4	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

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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.

G. N. S.

BHAVAN'S VIVEKANANDA COLLEGE OF SCIENCE, HUMANITIES AND COMMERCE Sainikpuri, Secunderabad-500094

Department of Computer Science

TEACHING PLAN 2018-19

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	TEACHING METHOD	STUDENT/LEARNING ACTIVITY
1	DECEMBER 2018	DECEMBER WEEK 2	1	Introduction: Algorithm, Fundamentals of Algorithmic Problem Solving, Important Problem Types. Fundamentals of the Analysis of Algorithm: The		Chalk & Black Board	
2		DECEMBER WEEK 3	1	Asymptotic Notations and Basic Efficiency Classes,			
3	DECEMBER 2018	DECEMBER WEEK 4	1	Mathematical Analysis of Non-recursive & Recursive Algorithms. Brute Force Search: Selection Sort, Bubble Sort, Sequential Search,		Chalk & Black Board	
4		JANUARY WEEK 1	1	Brute-Force String Matching, Exhaustive Search, Depth-First Search, Breadth-First Search.		Chalk & Black Board	
5		JANUARY WEEK 2	2	Decrease-&-Conquer: Insertion Sort, Topological Sorting, Binary Search, Interpolation Search		Chalk & Black Board	
6		JANUARY WEEK 3	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

N. Bhaskar

7	JANUARY 2019	JANUARY WEEK 4	2	Transform-and-Conquer: Presorting, Balanced Search Trees, Heaps and Heap Sort.		LCD projector	
8		JANUARY WEEK 5	2	Problem Reduction. Space and Time Trade-Offs, Hashing, B-Trees-		Chalk & Black Board	Test in Unit-1 and Unit-2
9		FEBRURAY WEEK 2	3	Dynamic Programming: Knapsack Problem,		Chalk & Black Board	
10		FEBRURAY WEEK 3	3	Optimal Binary Search Trees, Warshall's		Chalk & Black Board	Open book system
11	FEBRUARY 2019	FEBRUARY WEEK 4	3	Floyd's Algorithms. Greedy Technique: Prim's Algorithm.		Chalk & Black Board	Open book system
12		FEBRUARY WEEK 5	3	Kruskal's Algorithm, Dijkstra's Algorithm, Huffman Trees and Codes.		LCD projector	Open book system
13	MARCH 2019	MARCH WEEK 2	4	Iterative Improvement: Simplex Method, Maximum-Flow Problem, Limitations of Algorithm Power: Lower-Bound Arguments, Decision Trees.		Chalk & Black Board	Open book system
14		MARCH WEEK 3	4	P, NP, and NP-Complete Problems, Backtracking: n-Queens Problem, Hamiltonian Circuit Problem, Subset-Sum Problem,		LCD projector	
15		MARCH WEEK 4	4	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

N. Bhester

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

TEACHING PLAN 2018-19

Name of the Faculty: D Ramakrishna	Department: Computer Science	Subject: Mobile Computing	Year/Semester: II/II	No. of Classes per Week: 4 Hrs Theory
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**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	Teaching Meth	Student/ Learning activity
1	November,2018	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 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, 2018	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

7	January, 2019	January 1st Week	2	Mobile IP Packet delivery, Agent advertisement and discovery, Registration, Tunneling, Optimization, reverse tunneling		Chalk and board	
8	January, 2019	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
10		January 4th Week		Transmission, timeout freezing, transaction oriented TCP , Timeout		Chalk and board	
11	January 5th Week	Wireless Application Protocol: WAP architecture, Wireless		WWW, HTTP, HTML	Chalk and board with		
12	February, 2019	February 2nd Week		Wireless Transport Layer Security, Wireless Transaction Protocol		Chalk and board	
13		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 communication**

D. Romalca

7	January 2019	January 1st Week		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 2019	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, A simple code generator	Flow Control	LCD Presentation	Graphs based on Code, error free language

learning 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.

BHAVAN'S VIVEKANANDA COLLEGE OF SCIENCE, HUMANITIES AND COMMERCE Sainikpuri, Secunderabad-500094

Department of Computer Science

TEACHING PLAN 2018-19

Name of the Faculty:
K.Srinivasa Rao

Department:
Computer Science

Year/Semester:
II/II

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, 2018	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 2018	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

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BHAVAN'S VIVEKANANDA COLLEGE OF SCIENCE, HUMANITIES AND COMMERCE Sainikpuri, Secunderabad-500094

Department of Computer Science

TEACHING PLAN 2018-19

Name of the Faculty: N Bhaskar	Department: Computer Science	Year/Semester: II/II	No. of Classes per Week: 4 Hrs Theory
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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	UNIT S	SYLLABUS	ADDITIONAL INPUT/VALUE ADDITION	TEACHING METHOD	STUDENT/LEARNING ACTIVITY
1	November, 2018	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 1st Week	II	An introduction, The onset of knowledge Era, The evolution of SaaS, The challenges of SaaS paradigm Approaching the SaaS integration Enigma, New integration scenarios, The Integration methodologies.		LCD projector	

N. Bhaskar

4	December ,2018	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 service, Hybrid cloud implementation.		LCD projector	
5		December 3rd Week		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,2 019	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,2 019	January 2nd Week	III	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		Performance Prediction for HPC on Clouds: Introduction, Background, Grid & cloud, HPC in cloud-performance related issues.		LCD projector	Open book system

N. B. Shetty

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 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		Legal Issues in Cloud computing: Introduction, Data Privacy & security issues, Cloud contracting Models,		Chalk & Black Board	Open book system
14	February, 2019 February 4th Week	IV	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 readiness to adopt application deployment in cloud environment

N. R. Ghosh

**BHAVAN'S VIVEKANANDA COLLEGE
OF SCIENCE, HUMANITIES AND COMMERCE
Sainikpuri, Secunderabad-500094
Autonomous College
Affiliated to Osmania University
Department of Computer Science**

TEACHING PLAN 2018-19

Name of the Faculty:
N.Sharon Rosy

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, 2018	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, 2018	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

