

## Lesson Plan (CSE-302-F)

<b>Name of the Faculty</b>	:	Ms. Komal Singla
<b>Discipline</b>	:	B.Tech. (Computer Science and Engg.)
<b>Semester</b>	:	6 <sup>th</sup> Sem.
<b>Subject</b>	:	Principles of Software Engineering
<b>Lesson Plan Duration</b>	:	15 Weeks (10 January 2018 to 25 April 2018)
<b>Work Load (Lecture)</b>	:	03 per week

Week	Theory	
	Lecture Day	Topic (including assignment/Test)
1	1.	Software process, products, Emergence of software engineering
	2.	Evolving Role of software, Life cycle models, Software Application and characteristics, Crisis
	3.	Spm concepts, software process matrices and Project planning, Project and empirical estimation techniques, COCOMO-Heuristic estimation method
2	4.	Staffing level estimation, team structure, risk analysis and management, project scheduling and tracking
	5.	Requirement analysis and specification, Requirement engineering, System modeling and principle modeling, partitioning Software, prototyping
	6.	Prototyping methods and tools, Specification, principles, Representation, the software requirements specification and reviews Analysis Modeling: Data Modeling, Functional modeling and information flow, Data flow diagrams
3	7.	Behavioral Modeling, The mechanics of structured analysis, Creating entity/ relationship diagram
	8.	Data flow model, control flow model, the control and process specification, The data dictionary, Other classical analysis methods
	9.	System Design, Design concepts and principles, the design process, Design and software quality
4	10.	Design principles, Design concepts: Abstraction, refinement, modularity, software architecture, control hierarchy
	11.	Structural partitioning, data structure, software procedure, information hiding, Effective modular design, Functional independence
	12.	Cohesion, Coupling, Design Heuristics for effective modularity, The design model, Design documentation
5	13.	Architectural Design, Software architecture, Data Design, Data modeling, data structures
	14.	Databases and the data warehouse, Analyzing alternative Architectural Designs
	15.	Architectural complexity, Mapping requirements into a software architecture, Transform flow
6	16.	Transaction flow, Transform mapping: Refining the architectural design
	17.	Testing and maintenance: Software Testing Techniques
	18.	Software testing fundamentals, objectives, principles

7	19.	Testability, Test case design, white box testing, basis path testing
	20.	Assignment submission
	21.	Control structure testing, Black box testing
8	22.	Testing for specialized environments, architectures and applications
	23.	Software Testing Strategies: Verification and validation
	24.	Unit testing, Integration testing, Validation testing
9	25.	Alpha and beta testing; System testing
	26.	Sessional -1
	27.	Recovery testing, security testing, stress testing
10	28.	Performance testing, The art of debugging
	29.	The debugging process debugging approaches
	30.	Software re-engineering, reverse engineering
11	31.	Assignment submission
	32.	Restructuring, forward engineering
	33.	Software Reliability and Quality Assurance
12	34.	Quality concepts, Software quality assurance
	35.	SQA activities, Software reviews
	36.	Cost impact of software defects, defect amplification and removal
13	37	Formal technical reviews: The review meeting
	38.	Review reporting and record keeping, review guidelines
	39.	Formal approaches to SQA, Statistical software quality assurance
	40.	Software reliability: Measures of reliability and availability
14	41	The ISO 9000 Quality standards: The ISO approach to quality assurance systems
	42	The ISO 9001 standard
	43	Software Configuration Management, Computer Aided software Engineering
15	44	CASE, building blocks, integrated case environments and architecture, repository
	45	Sessional -2

## Analysis and Design of Algorithm Lesson Plan

<b>Name of the Faculty</b>	Ms. Urvashi Sangwan
<b>Discipline</b>	B.tech. Computer Science and Engineering
<b>Semester</b>	6 <sup>th</sup> Semester
<b>Subject</b>	Analysis and Design of Algorithms(CSE-306-F)
<b>Lesson Plan Duration</b>	January 2018 to April 2018

Week	Theory	
	Lecture Day	Topic (including assignment/Test)
1	1.	Graphs
	2.	Set and Disjoint sets
	3.	Union
2	4.	Searching
	5.	Searching
	6.	Sorting
3	7.	Sorting
	8.	Sorting
	9.	Sorting
4	10.	Analysis of searching and sorting
	11.	Analysis of searching and sorting
	12.	Divide and conquer
5	13.	Divide and conquer
	14.	Matrix multiplication
	15.	Greedy method
6	16.	Knapsack problem
	17.	Job sequencing with deadlines
	18.	Minimum spanning tree
7	19.	Single source path
	20.	Assignment submission
	21.	Dynamic programming
8	22.	OBST
	23.	OBST
	24.	0/1 knapsack
9	25.	Travelling salesman person problem
	26.	Travelling salesman person problemcont.
	27.	Backtracking
10	28.	8 queens problem
	29.	N Queen problem
11	30.	Graph coloring
	31.	Assignment submission
	32.	Hamiltonian cycle
12	33.	Branch and bound
	34.	Branch and bound
	35.	0/1 knapsack
13	36.	TSP
	37.	Techniques for algebraic problems
	38.	Some lower bound on parallel computations
	39.	NP hard

14	40.	NP complete
	41	Cooks theorem
	42	NP hard graph problems
15	43	NP scheduling problems
	44	Simplified NP hard problems
	45	Simplified NP hard problems cont.

## Computer Networks

### Lesson Plan

(IT-305-F)

<b>Name of the Faculty</b>	Sugandha Goyal
<b>Discipline</b>	B.Tech (Computer Science and Engineering)
<b>Semester</b>	6 <sup>th</sup> Semester
<b>Subject</b>	Computer Networks
<b>Lesson Plan Duration</b>	15Weeks (from January 2018 to April 2018)
<b>Work Load per week (in hours)-</b>	Lectures - 03

Week	Theory	
	Lecture Day	Topic (including assignment/Test)
1.	1.	OSI Reference Model and Network Architecture
	2.	Introduction to Computer Networks
	3.	Internet, Private Networks, Network Topologies
2.	4.	Types of Networks
	5.	Layering architecture of networks
	6.	OSI model, Functions of each layer, Services and Protocols of each layer
3.	7.	Introduction, History of TCP/IP, Layers of TCP/IP, Protocols
	8.	User Datagram Protocol, IP Addressing, IP address classes, Subnet Addressing
	9.	Internet Control Protocols, ARP, RARP, ICMP
4.	10.	Application Layer, Domain Name System
	11.	Email – SMTP, POP,IMAP; FTP, NNTP, HTTP
	12.	Overview of IP version 6.
5.	13.	Introduction to LANs, Features of LANs, Components of LANs
	14.	Usage of LANs, LAN Standards
	15.	IEEE 802 standards, Channel Access Methods
6.	16.	Aloha, CSMA, CSMA/CD
	17.	Token Passing, Ethernet, Layer 2 & 3 switching
	18.	Fast Ethernet and Gigabit Ethernet
7.	19.	Token Ring, LAN interconnecting devices
	20.	Introduction of WANs
	21.	Routing, Congestion Control
8.	22.	WAN Technologies
	23.	Distributed Queue Dual Bus (DQDB)
	24.	Revision of Section A
9.	25.	Revision of Section B
	26.	Sessional-1
	27.	Problem-solving
10.	28.	Synchronous Digital Hierarchy (SDH)
	29.	Synchronous Optical Network (SONET)
	30.	Asynchronous Transfer Mode (ATM)
11.	31.	Frame Relay, Wireless Links
	32.	Remote Monitoring Techniques: Polling, Traps
	33.	Performance Management, Class of Service, Quality of Service

<b>12.</b>	34.	Security management, Firewalls
	35.	VLANs, Proxy Servers
	36.	Introduction to Network Operating Systems: Client-server infrastructure
<b>13.</b>	37.	Windows NT/2000
	38.	Revision of Section C
	39.	Revision of section D
<b>14.</b>	40.	Class seminar
	41.	Class seminar
	42.	Test
<b>15.</b>	43.	Test
	44.	Problem-solving
	45.	Sessional-2

## Lesson Plan

**Name of Faculty :** Ms Ritika  
**Discipline:** Computer Science  
**Semester:** 6th sem  
**Subject:** Intelligent Systems  
**Code:** CSE-304-F

**Lesson Plan Duration : 10 January 2018 to 25 April 2018**

**Work load (Lecture and Tutorial) Per Week: Lecture-3, Tutorial-1**

Week	Theory	
	Lecture Day	Topic
1	1	Foundation and history of AI
	2	AI problems and techniques – AI programming languages
	3	Introduction to LISP and PROLOG- problem spaces and searches
	<b>Tutorial</b>	Lecture
2	4	Blind search strategies, Breadth first, Depth first
	5	Heuristic search techniques:-Hill climbing
	6	Best first, A * algorithm
	<b>Tutorial</b>	Assignment
3	7	AO* algorithm-game tree, Min max algorithms
	8	Game playing- alpha beta pruning.
	9	Knowledge representation issues, predicate logic
	<b>Tutorial</b>	Assignment
4	10	logic programming, semantic nets- frames and inheritance
	11	Constraint propagation
	12	Representing knowledge using rules, rules based deduction systems
	<b>Tutorial</b>	Lectures
5	13	Reasoning under uncertainty
	14	Review of probability
	15	Baye`s probabilistic interferences
	<b>Tutorial</b>	Lectures
6	16	Dempster shafer theory
	17	Continue.....
	18	Heuristic methods
	<b>Tutorial</b>	Seminar
<b>First Sessional</b>		
7	19	Symbolic reasoning under uncertainty
	20	Statistical reasoning
	21	Fuzzy reasoning
	<b>Tutorial</b>	Lecture
8	22	Temporal reasoning
	23	Non monotonic reasoning Planning
	24	Planning in situational calculus
	<b>Tutorial</b>	Assignment
9	25	Representation for planning

	<b>26</b>	Partial order planning algorithm
	<b>27</b>	Learning from examples
	<b>Tutorial</b>	Assignment
<b>10</b>	<b>28</b>	Discovery as learning
	<b>29</b>	Learning by analogy, explanation based learning
	<b>30</b>	Neural nets, genetic algorithms
	<b>Tutorial</b>	Lectures
<b>11</b>	<b>31</b>	Continue.....
	<b>32</b>	Principles of Natural language processing
	<b>33</b>	Continue.....
	<b>Tutorial</b>	Assignment
<b>12</b>	<b>34</b>	Rule based systems architecture
	<b>35</b>	Continue.....
	<b>36</b>	Expert systems
	<b>Tutorial</b>	Assignment
<b>Second Sessional</b>		
<b>13</b>	<b>37</b>	Continue.....
	<b>38</b>	Knowledge acquisition concepts
	<b>39</b>	AI application to robotics
	<b>Tutorial</b>	Seminar
<b>14</b>	<b>40</b>	Continue.....
	<b>41</b>	Current trends in intelligent systems
	<b>42</b>	Continue.....
	<b>Tutorial</b>	Seminar
<b>15</b>	<b>43</b>	Continue.....
	<b>44</b>	Revision
	<b>45</b>	Revision
	<b>Tutorial</b>	Lecture



## Lesson Plan

**Name of Faculty :**

Ms RITIKA

**Discipline:**

Computer Science & Engg.

**Semester:**

6<sup>th</sup>

**Subject:**

I.S. Lab

**Code:**

CSE-308- F

**Lesson Plan Duration : 10 January 2018 to 25 April 2018**

WEEK	PRACTICAL	
	PRACTICAL DAY	TOPIC
1	1	To show the use of like and dislike predicates in prolog.
2	2	To find out which symptoms are true or false
3	3	To find out which symptoms are true or false using rules.
4	3	Continue..
5	4	To show the use of arithmetic operators in Prolog
6	4	Continue..
7	5	Write a program using writef and fail predicates.
8	5	Continue..
9	6	Write a program for simple login.
10	6	Continue..
11	7	Write a program for login using repeat
12	8	Write a program of searching using dfs
13	9	Write a program for using bfs
14	10	Write a program for calculating factorial.
15	10	Continue..

## Lesson Plan

**Name of faculty: Ms. Radhika Garg**

**Discipline: B.Tech CSE**

**Semester: 6th**

**Subject: System Programming & System Administration**

**Lesson plan duration: 15 Weeks from (January, 2018 to April, 2018)**

1st	1	Evolution of Components Systems Programming,
	2	Assemblers
	3	Loaders, Linkers
2nd	4	Macros, Compilers. software tools
	5	Text editors, Interpreters and program generators
	6	Compiler: Brief overview of compilation process, Incremental compiler,
3rd	7	Assembler: Problem statement, single phase and two phase assembler
	8	symbol table; Loader schemes, compile and go Loader
	9	general loader schemes, absolute loader, Subroutine linkage
4th	10	Reallocating loader, Direct linkage Loader,
	11	Binders, Linking loader, overlays.
	12	Revision
5th	13	Macro language and macro-processor, macro instructions, , macro calls with macro instruction defining macros.
	14	Features of macro facility, macro instruction arguments, conditional macro expansion
	15	Theoretical Concept of Unix Operating System: Basic features of operating system;
6th	16	File structure: CPU scheduling
	17	Memory management: swapping, demand paging;
	18	file system: block and fragments, inodes
7th	19	directory structure; User to user communication
	20	Revision
	21	Getting Started with Unix: User names and groups, logging in; Unix documentation.

8th	22	Format of Unix commands; Changing your password; Characters with special meaning;
	23	Files and directories; Current directory, looking at the directory contents, absolute and relative pathnames
	24	Unix directories and files; Looking at the file contents; File permissions; basic operation on files;
9th	25	changing permission modes; Standard files, standard output; Standard input, standard error; filters and pipelines
	26	Processes; finding out about processes; Stopping background process; Unix editor vi
	27	Test Manipulation: Inspecting files; File statistics;
10th	28	Searching for patterns; Comparing files; Operating on files; Printing files;
	29	Rearranging files; Sorting files; Splitting files;
	30	Translating characters; AWK utility
11th	31	Revision
	32	Shell Programming: Programming in the Borne and C-Shell
	33	Wild cards
12th	34	Simple shell programs
	35	Shell variables
	36	Shell programming constructs
13th	37	interactive shell scripts; Advanced features
	38	System Administration: Definition of system administration
	39	Booting the system;
14th	40	Maintaining user account
	41	File systems and special files
	42	Backups and restoration
15th	43	Role and functions of a system manager
	44	Overview of the linux operating system
	45	Revision