

# **Haryana Engineering College, Jagadhri**

## Lesson Plan of Computer Science & Engg. Deptt. 8th Semester

**Subject :** Neural Networks & Fuzzy Logic (CSE-402N)

**Objective of Course :**

1. To learn the basics of artificial neural networks concepts.
2. Expose detailed explanation of various neural networks architecture.
3. To explore knowledge of special types of Artificial neural networks.
4. To explore fuzzy logic techniques and genetic algorithms in neural networks.

<b>Day</b>	<b>Topic / Chapter Covered</b>	<b>Academic Activity</b>	<b>Test/Assignment</b>
Day 1	Introduction : Concepts of neural networks	Lecture	
Day 2	Basics of neural networks	Lecture	
Day 3	Characteristics of neural networks	Lecture	
Day 4	Applications of neural networks	Lecture	Assignment 1
Day 5	Fundamentals of neural networks	Lecture	
Day 6	Details of Fundamentals of neural networks	Lecture	
Day 7	What do you mean by Prototype	Lecture	
Day 8	The biological prototype	Lecture	Assignment 2
Day 9	Neuron concept ,	Lecture	
Day10	single layer neural networks	Lecture	
Day11	Multi-Layer neural networks.	Lecture	
Day12	Terminology	Lecture	
Day13	Notation of neural networks	Lecture	Assignment 3
Day14	representation of neural networks	Lecture	
Day15	Training of artificial neural networks	Lecture	
Day16	Representations of perceptron, perceptron learning and training, Perceptron training	Lecture	
Day17	Classification , linear separability	Lecture	
Day18	linear separability	Lecture	Assignment 4
Day19	Hopfield nets: Structure,	Lecture	
Day20	Structure, Training, applications	Lecture	
Day21	Back propagation : concept, applications, Back propagation Training algorithms.	Lecture	
Day22	Counter propagation Networks: kohonan Network, gross berg layer & Training	Lecture	
Day23	Applications of counter propagation.	Lecture	Assignment 5
Day24	Image classification.	Lecture	
Day25	Bi-directional associative memories	Lecture	
Day26	Structure, retrieving a stored association,	Lecture	
Day27	encoding associations	Lecture	Assignment 6
Day28	Art architecture	Lecture	

Day29	Art Classification operation,	Lecture	Assignment 7
Day30	ART implementation	Lecture	
Day31	characteristics of ART	Lecture	
Day32	Image compression using art ,	Lecture	
Day33	optical neural networks ,	Lecture	
Day34	Vector Matrix multipliers	Lecture	
Day35	Hop field net using Electro optical matrix multipliers,	Lecture	Assignment 8
Day36	holographic correlator,	Lecture	
Day37	Optical Hopfield net suing volume holograms,	Lecture	
Day38	cognitrons and neocognitrons: Structure	Lecture	
Day39	Fuzzy Logic :introduction of fuzzy logic, Classical and fuzzy sets	Lecture	
Day40	Overview of classical sets, membership Function, Fuzzy rule generation,	Lecture	
Day41	Operations on Fuzzy sets: compliment ,	Lecture	
Day42	intersections, Unions, combinations of operations,	Lecture	
Day43	Aggregation Operations, Fuzzy Arithmetic: Fuzzy Numbers, Linguistic variables,	Lecture	Assignment 9
Day44	Arithmetic Operations on Intervals & Numbers,	Lecture	
Day45	Lattice of Fuzzy Numbers, Fuzzy Equations	Lecture	
Day46	Introduction of Neruo Fuzzy systems architecture of Neuro Fuzzy networks	Lecture	
Day47	Genetic Algorithms: genetic algorithm implementation in problem solving and	Lecture	
Day48	Working of genetic algorithms evolving neural networks	Lecture	

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# **Haryana Engineering College, Jagadhri**

## Lesson Plan of Computer Science & Engg. Deptt. 8th Semester

**Subject :** Software Testing (CSE-412N)

**Objective of Course :**

1. Expose the criteria and parameters for the generation of test cases.
2. Learn the design of test cases and generating test cases.
3. Be familiar with test management and software testing activities.
4. Be exposed to the significance of software testing in web and Object orient techniques.

<b>Day</b>	<b>Topic / Chapter Covered</b>	<b>Academic Activity</b>	<b>Test/Assignment</b>
Day 1	Overview of software evolution	Lecture	
Day 2	SDLC, Testing Process	Lecture	
Day 3	Terminologies in Testing: Error, Fault, Failure, Verification, Validation	Lecture	
Day 4	Difference between Verification and Validation	Lecture	
Day 5	What is software testing and why it is so hard?	Lecture	Assignment 1
Day 6	Test Cases, Test Oracles, Testing Process	Lecture	
Day 7	Limitations of Testing	Lecture	
Day 8	Functional Testing	Lecture	
Day 9	Boundary Value Analysis	Lecture	
Day10	Equivalence Class Testing	Lecture	
Day11	Decision Table Based Testing	Lecture	Assignment 2
Day12	Cause Effect Graphing Technique	Lecture	
Day13	Structural Testing	Lecture	
Day14	Path testing	Lecture	
Day15	DD-Paths	Lecture	
Day16	Cyclomatic Complexity	Lecture	
Day17	Graph Metrics	Lecture	
Day18	Data Flow Testing, Mutation testing	Lecture	Assignment 3
Day19	Reducing the number of test cases	Lecture	
Day20	Prioritization guidelines	Lecture	
Day21	Priority category, Scheme	Lecture	
Day22	Risk Analysis, Regression Testing	Lecture	
Day23	Slice based testing	Lecture	Assignment 4
Day24	Testing Activities	Lecture	
Day25	Unit Testing	Lecture	
Day26	Levels of Testing	Lecture	
Day27	Integration Testing, System Testing	Lecture	
Day28	Debugging, Domain Testing	Lecture	
Day29	Object oriented Testing: Definition, Issues	Lecture	Assignment 5
Day30	Class Testing	Lecture	
Day31	Object Oriented Integration and System Testing	Lecture	

Day32	Testing Web Applications: What is Web testing?	Lecture	
Day33	User interface Testing	Lecture	
Day34	Usability Testing, Security Testing	Lecture	
Day35	procedure of manual testing	Lecture	Assignment 6
Day36	difference between a Standalone application, Client-Server application and Web application	Lecture	
Day37	Compatibility Testing, Usability Testing, Security Testing and Soak Testing.	Lecture	
Day38	Globalization Testing, Localization Testing, Installation Testing,	Lecture	
Day39	Exploratory Testing, Monkey Testing	Lecture	
Day40	Formal Testing, Risk Based Testing	Lecture	

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# **Haryana Engineering College, Jagadhri**

## Lesson Plan of Computer Science & Engg. Deptt. 8th Semester

**Subject :** Cloud Computing (CSE-420N)

**Objective of Course :**

1. Facilitate the basic usage and applicability of computing paradigm.
2. Explore various cloud service and deployment models to utilize different cloud services.
3. To get enabled for various data, scalability & cloud services in order to get efficient database for cloud storage.
4. To deal with various security threats and their controlling mechanism for accessing safe cloud services.

<b>Day</b>	<b>Topic / Chapter Covered</b>	<b>Academic Activity</b>	<b>Test/Assignment</b>
Day 1	Overview of Computing Paradigm: Recent trends in Computing	Lecture	
Day 2	Grid Computing	Lecture	
Day 3	Cluster Computing, Distributed Computing	Lecture	
Day 4	Utility Computing Cloud Computing, evolution of cloud computing	Lecture	
Day 5	Business driver for adopting cloud computing.	Lecture	Assignment 1
Day 6	Cloud Computing (NIST Model)	Lecture	
Day 7	History of Cloud Computing	Lecture	
Day 8	Cloud service providers	Lecture	
Day 9	Properties, Characteristics & Disadvantages	Lecture	
Day10	Pros and Cons of Cloud Computing	Lecture	
Day11	Benefits of Cloud Computing	Lecture	Assignment 2
Day12	Cloud computing vs. Cluster computing vs. Grid computing	Lecture	
Day13	Role of Open Standards	Lecture	
Day14	Cloud Computing Architecture: Cloud computing stack	Lecture	
Day15	Comparison with traditional computing architecture (client/server)	Lecture	
Day16	Services provided at various levels	Lecture	
Day17	How Cloud Computing Works	Lecture	
Day18	Role of Networks in Cloud computing, protocols used	Lecture	Assignment 3
Day19	Role of Web services	Lecture	
Day20	Service Models (XaaS) - Infrastructure as a Service (IaaS), Platform as a Service (PaaS), Software as a Service (SaaS)	Lecture	
Day21	Deployment Models- Public cloud, Private cloud	Lecture	
Day22	Hybrid cloud, Community cloud	Lecture	

Day23	Service Management in Cloud Computing: Service Level Agreements (SLAs)	Lecture	Assignment 4
Day24	Billing & Accounting	Lecture	
Day25	Comparing Scaling Hardware: Traditional vs. Cloud	Lecture	
Day26	Economics of scaling: Benefitting enormously	Lecture	
Day27	Managing Data- Looking at Data	Lecture	
Day28	Scalability & Cloud Services	Lecture	
Day29	Database & Data Stores in Cloud	Lecture	Assignment 5
Day30	Large Scale Data Processing.	Lecture	
Day31	Case study: Eucalyptus	Lecture	
Day32	Microsoft Azure, Amazon EC2	Lecture	
Day33	Cloud Security: Infrastructure Security	Lecture	
Day34	Network level security, Host level security	Lecture	
Day35	Application level security, Data security and Storage	Lecture	Assignment 6
Day36	Data privacy and security Issues	Lecture	
Day37	Jurisdictional issues raised by Data location	Lecture	
Day38	Identity & Access Management	Lecture	
Day39	Access Control, Trust	Lecture	
Day40	Reputation, Risk	Lecture	
Day41	Authentication in cloud computing	Lecture	
Day42	Client access in cloud	Lecture	
	Cloud contracting Model		
	Commercial and business considerations.		

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# Haryana Engineering College, Jagadhri

## Lesson Plan of Computer Science & Engg. Deptt. 8th Semester

**Subject :** Mobile Apps Development (CSE-404N)

**Objective of Course :**

1. Be exposed to technology and Mobile apps development aspects.
2. Be competent with the characterization and architecture of mobile applications.
3. Appreciation of nuances such as native hardware play, location awareness, graphics, and multimedia.
4. Perform testing, signing, packaging and distribution of mobile apps.

Day	Topic / Chapter Covered	Academic Activity	Test/Assignment
Day 1	Mobility landscape,	Lecture	
Day 2	Mobile platforms	Lecture	
Day 3	Mobile apps,	Lecture	
Day 4	Mobile apps Development	Lecture	
Day 5	Overview of android platform	Lecture	Assignment 1
Day 6	Setting up the Mobile app development	Lecture	
Day 7	environment along with an Emulator	Lecture	
Day 8	Activity –States and life Cycle	Lecture	
Day 9	Continue...	Lecture	
Day10	Interaction among the activities.	Lecture	
Day11	Continue...	Lecture	Assignment 2
Day12	App functionality beyond user interface	Lecture	
Day13	Revision	Lecture	
Day14	Threads, Async task,	Lecture	
Day15	Task Services	Lecture	
Day16	States and life cycle	Lecture	
Day17	Different States and life cycle	Lecture	
Day18	Notifications, broadcast receivers	Lecture	Assignment 3
Day19	broadcast receivers	Lecture	
Day20	Content provider	Lecture	
Day21	Continue...	Lecture	
Day22	Graphics and animation Custom views	Lecture	
Day23	Custom views	Lecture	Assignment 4
Day24	Canvas, animation APIs	Lecture	
Day25	APIs	Lecture	
Day26	Multimedia Audio/Video playback and Record	Lecture	
Day27	Revision	Lecture	
Day28	Location awareness	Lecture	
Day29	Native data handling file I/O	Lecture	Assignment 5
Day30	Continue...	Lecture	
Day31	Different Native data handling file I/O	Lecture	
Day32	Shared preferences	Lecture	
Day33	Shared preferences in detail	Lecture	

Day34	Mobile databases such as SQLite	Lecture	
Day35	Enterprise data access ( via internet /intranet )	Lecture	Assignment 6
Day36	EDA	Lecture	
Day37	Debugging mobile apps	Lecture	
Day38	Detailed Debugging mobile apps	Lecture	
Day39	White box testing	Lecture	
Day40	Black box testing	Lecture	
Day41	Test automation of mobile app	Lecture	
Day42	Unit for Android	Lecture	

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