

National College of Polytechnic, Jagadhri

Lesson Plan

Discipline : Computer Engg.

Semester : Sixth

Subject : Network Security

Lesson Plan Duration : 15 weeks (Jan 2018 to Apr 2018)

****Work Load (Lecture / Practical) per week (in hours)** : 3 hrs / 3hrs

Week	Theory		Practical	
	Lecture Day	Topic (including assignment / test)	Practical Day	Topic
1 st	1st	Introduction to Network Security	1 st	Introduction to Network Security, Attacks and Types of attacks
	2nd	Principles of Security, Type of attacks, Need for securing a network		
	3rd	Introduction to cyber-crime, cyber law-Indian Perspective (IT Act 2000 and amended 2008)		
2 nd	4th	Cyber ethics, Ethical hacking	2 nd	Installation and comparison of various anti-virus software
	5th	What is hacking, Attacker, Phreaker/1 st Assignment		
	6th	Introduction to basic encryption and decryption		
3 rd	7th	Introduction to basic encryption and decryption	3 rd	Installation and study of various parameters of firewall
	8th	Concept of symmetric and asymmetric key cryptography		
	9th	Concept of symmetric and Asymmetric key cryptography		
4 th	10th	Overview of DES	4 th	Installation and study of various parameters of firewall
	11th	RSA, PGP		
	12th	Introduction to Hashing		
5 th	13th	MD5, SSL	5 th	Writing program in C to Encrypt/Decrypt using XOR key
	14th	SSH, HTTPS		
	15th	Digital signatures, Digital certification		
6 th	16th	Revision	6 th	Writing program in C to Encrypt/Decrypt using
	17th	IPSec		

	18th	Virus definition, Worms definition		XOR key
7 th	19th	Test	7 th	Study of VPN
	20th	Trojans definition, Preventive measures		
	21st	Access central, Checksum verification		
8 th	22nd	Process configuration, Virus scanners	8 th	Study of VPN
	23rd	Heuristic scanners, Application level virus scanners		
	24th	Deploying virus protection		
9 th	25th	Definition of Firewall/ 2 nd Assignment	9 th	Study of various hacking tools
	26th	Types of firewalls		
	27th	Firewall configuration		
10 th	28th	Limitations of firewall	10 th	Study of various hacking tools
	29th	Introduction to IDS, IDS limitations – teardrop attacks		
	30th	Test		
11 th	31st	IDS counter measures	11 th	Revision and Problem Solving
	32nd	Host based IDS set up		
	33rd	Handling Cyber Assets		
12 th	34th	Configuration policy as per standards	12 th	Practical applications of digital signature
	35th	Disposable policy		
	36th	VPN Basics, Setting of VPN /3 rd Assignment		
13 th	37th	VPN diagram	13 th	Practical applications of digital signature
	38th	Configuration of required objects		
	39th	Exchanging keys, Modifying security policy		
14 th	40th	Disaster categories, Network disasters	14 th	Revision
	41st	Cabling, Topology		
	42nd	Test		
15 th	43rd	Saving configuration files, Server disasters- UPS, RAID, Clustering	15 th	Revision
	44th	Backup, Server recovery		
	45th	Revision		

National College of Polytechnic, Jagadhri

Lesson Plan

Discipline : Computer Engg.

Semester : Sixth

Subject : Distributed Computing

Lesson Plan Duration : 15 weeks (Jan 2018 to Apr 2018)

****Work Load (Lecture / Practical) per week (in hours)** : 3 hrs / Nil

Week	Theory	
	Lecture Day	Topic (including assignment / test)
1 st	1st	Introduction to Cloud Computing
	2nd	Overview of Cloud Computing
	3rd	Characteristics of Cloud Computing
2 nd	4th	Characteristics of Cloud Computing
	5th	Advantages of Cloud Computing
	6th	Advantages of Cloud Computing
3 rd	7th	Challenges of Cloud Computing
	8th	Revision of Previous topics
	9th	Applications of Cloud Computing
4 th	10th	Applications of Cloud Computing
	11th	Cloud Computing Service Models/1st Assignment
	12th	SaaS Service Model
5 th	13th	PaaS Service Model
	14th	PaaS Service Model
	15th	IaaS Service Model, Deployment Models
6 th	16th	Test
	17th	Private Cloud Deployment Model
	18th	Public Cloud Deployment Model
7 th	19th	Public Cloud Deployment Model

	20th	Hybrid Cloud Deployment Model
	21st	Hybrid Cloud Deployment Model
8 th	22nd	Community Cloud Deployment Model
	23rd	Overview of Grid Computing
	24th	Overview of Grid Computing
9 th	25th	Advantages of Grid Computing
	26th	Advantages of Grid Computing
	27th	Virtual Organizations /2 nd Assignment
10 th	28th	Virtual Organizations
	29th	Test
	30th	Applications of Grid Computing
11 th	31st	Applications of Grid Computing
	32nd	Revision of Previous topics
	33rd	Cluster Computing/3 rd Assignment
12 th	34th	Cluster Computing
	35th	Test
	36th	Peer to Peer Networks
13 th	37th	Peer to Peer Networks
	38th	Utility Computing
	39th	Utility Computing
14 th	40th	Ubiquitous Computing
	41st	Ubiquitous Computing
	42nd	Ubiquitous Computing
15 th	43rd	Comparison of Grid, Cluster and Ubiquitous Computing
	44th	Comparison of Grid, Cluster and Ubiquitous Computing
	45th	Revision of Previous topics

National College of Polytechnic, Jagadhri

Lesson Plan

Discipline : Computer Engg.

Semester : Sixth

Subject : Programming in JAVA

Lesson Plan Duration : 15 weeks (Jan 2018 to Apr 2018)

****Work Load (Lecture / Practical) per week (in hours)** : 3 hrs / 3hrs

Week	Theory		Practical	
	Lecture Day	Topic (including assignment / test)	Practical Day	Topic
1 st	1st	Introduction to java, brief history, How Java works?, Java features	1 st	Introduction to Java, how java works? Java In Time(JIT) Compiler, Application of Java
	2nd	Java Virtual Machine (JVM), Java In Time (JIT)		
	3rd	Using Java with other tools		
2 nd	4th	Native code, Java application types	2 nd	1.a) Write a program which tells whether a number is even or odd. Take a range from 1-50. b) Display the output which is given below: * ** ***
	5th	Difference between C and C++		
	6th	Revision		
3 rd	7th	Working with data types	3 rd	c) Write a program which sorts an array of type integer d) Write a programme to determine the sum of the following harmonic series for a given value of n: 1+1/2+1/3.....+1/n the value of n should be given interactively through the keyboard.
	8th	Control flow statements		
	9th	Test		
4 th	10th	Control flow statements contd.	4 th	Write a programme to convert the given
	11th	Array		

	12th	Array Contd.		temperature in Fahrenheit to Celsius using the following conversion formula $C = \frac{F - 32}{1.8}$ and display the value in a tabular form.
5 th	13th	Casting, Command Line Arguments	5 th	Write a program to find all the numbers and sum of all integers greater than 100 less than 200 that are divisible by 7.
	14th	Revision		
	15th	Introduction to Classes		
6 th	16th	Inheritance /1st Assignment	6 th	Given a list of marks ranging from 0 to 100, write a programme to compute and print the number of student should have obtained marks. a) in the range 81 to 100 ii) In the range 61 to 80 c) In the range 41 to 60 d) In the range 0 to 40. The programme should use a maximum number of if statement.
	17th	Inheritance		
	18th	Encapsulation		
7 th	19th	Polymorphism	7 th	Admission to a professional course is subject to the following conditions: a) Marks in Mathematics ≥ 60 b) Marks in Physics ≥ 50 c) Marks in Chemistry ≥ 40 d) Total in all 3 Subjects ≥ 200 (OR) Total in mathematics and physics ≥ 150 Given the marks in the 3 subjects. Write the programme to process the application to list the eligible candidates.
	20th	Constructors and finalizers		
	21st	Garbage collection, access Specifier		
8 th	22nd	Test	8 th	Write programme using a do... while loop to calculate and print the first m Fibonacci numbers.
	23rd	Using Java interface		
	24th	Using Java interface		
9 th	25th	Using Java packages	9 th	Write a programme to evaluate the following
	26th	Using Java packages		

	27th	Revision of Previous topics		investment equation $V=P(1+r)n$ and print the tables which would give the value of V for various combination of the following values of P,r and n.
10 th	28th	Overview of exception handling/2 nd Assignment	10 th	Write a program which will store the students rollno. Names and total marks in the database.
	29th	Method to use exception handling		
	30th	Method available to exceptions		
11 th	31st	Test	11 th	Write a program which will display all those records whose marks are above 75%
	32nd	Creating your own exception classes		
	33rd	Overview of Threads and Multi-threading		
12 th	34th	Thread basics	12 th	Revision
	35th	The thread control methods		
	36th	The threads life cycle and synchronization		
13 th	37th	Test	13 th	Exercise on implementing java Classes.
	38th	Java applets Vs Java applications/3 rd Assignment		
	39th	Revision of Previous topics		
14 th	40th	Test	14 th	Exercises on exceptional handling.
	41st	Building application with JDK		
	42nd	Building applets with JDK, HTML for Java applets		
15 th	43rd	Managing input-output stream	15 th	Exercise on creating and running threads.
	44th	Revision of Previous topics		
	45th	Test		

National College of Polytechnic, Jagadhri

Lesson Plan

Discipline : Computer Engg.

Semester : Sixth

Subject : Entrepreneurship Development and Management

Lesson Plan Duration : 15 weeks (Jan 2018 to Apr 2018)

****Work Load (Lecture / Practical) per week (in hours)** : 3 hrs

Week	Theory	
	Lecture Day	Topic (including assignment / test)
1 st	1st	Introduction: Concept /Meaning and need of entrepreneurship/1st Assignment
	2nd	Qualities and functions of entrepreneur and barriers in entrepreneurship
	3rd	Sole proprietorship and partnership forms of business organization
2 nd	4th	Schemes of assistance by entrepreneurial support agencies at National level organization
	5th	Schemes of assistance by entrepreneurial support agencies at State level organization
	6th	Schemes of assistance by entrepreneurial support agencies at District level organization
3 rd	7th	NSIC, NRDC, DC
	8th	MSME, SIDBI
	9th	Commercial Banks, SFC's TCO, KVIB, DIC
4 th	10th	Test
	11th	Technology Business Incubators (TBI) Science and Technology Entrepreneur Parks
	12th	Market Survey and Opportunity Identification: Scanning of the business environment
5 th	13th	Salient features of National and State industrial policies and resultant business opportunities
	14th	Supply in potential areas of growth,
	15th	Types and conduct of market survey & Assessment of demand

6 th	16th	Identifying business opportunity, Considerations in product selection
	17th	Project report Preparation
	18th	Preliminary project report
7 th	19th	Detailed project report including technical, Economic
	20th	Revision
	21st	Detailed project report including market feasibility
8 th	22nd	Common errors in project report preparations
	23rd	Exercises on preparation of project report
	24th	Introduction to Management: Definitions and importance of management, Functions of management/2 nd Assignment
9 th	25th	Test
	26th	Importance and process of planning, organizing, staffing, directing and controlling, Principles of management (Henri Fayol, F.W. Taylor)
	27th	Concept and structure of an organization & Line organization, Line and staff organization & Functional Organisation
10 th	28th	Leadership: Definition and Need, Qualities and functions of a leader, Manager Vs leader, Types of leadership
	29th	Revision of previous topics
	30th	Motivation: Definitions and characteristics, Factors affecting motivation
11 th	31st	Theories of motivation (Maslow, Herzberg, Douglas, McGregor)
	32nd	Human Resource Management: Introduction and objective,
	33rd	Introduction to Man power planning, recruitment and selection
12 th	34th	Introduction to performance appraisal methods
	35th	Material and Store Management: Introduction functions, and objectives of ABC Analysis and EOQ
	36th	Marketing and sales : Introduction, importance, and its functions, Physical distribution, Introduction to promotion mix , Sales promotion
13 th	37th	Financial Management: Introductions, importance and its functions
	38th	Elementary knowledge of income tax, sales tax, excise duty, custom duty and VAT,
	39th	Customer Relation Management (CRM): Definition and need, Types of CRM/3 rd Assignment
14 th	40th	Test
	41st	Just in time (JIT)
	42nd	Intellectual Property Right (IPR): Introductions, definition and its importance, Infringement related to patents, copy right, trade mark
15 th	43rd	Revision Previous topics
	44th	Test of Previous topics

	45th	Revision
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Lesson Plan

Discipline : Computer Engg.

Semester : Sixth

Subject : EMPLOYABILITY SKILLS – II

Lesson Plan Duration : 15 weeks (Jan 2018 to Apr 2018)

****Work Load (Lecture / Practical) per week (in hours)** : 3 hrs

Week	Practical	
	Practical Day	Topic
1 st	1 st	Oral Practice
2 nd	2 nd	Mock interview
3 rd	3 rd	Preparing for meeting
4 th	4 th	Preparing for meeting
5 th	5 th	Group discussion
6 th	6 th	Group discussion
7 th	7 th	Seminar presentation
8 th	8 th	Seminar presentation
9 th	9 th	Mock interview
10 th	10 th	Making a presentation
11 th	11 th	Elements of good presentation
12 th	12 th	Structure and tools of presentation

13 th	13 th	Paper reading & Power point presentation
14 th	14 th	Group discussion
15 th	15 th	Mock interview