Swami Shraddhanand College
(University of Delhi)
Alipur, Delhi- 1100036

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Lesson Plan

Name of Teacher	Dr Meera Sharma	Department	Computer Science
Course	B.A.(Programme) Computer Applications	Semester	Third
Paper	Computer Networks and HTML	Academic Year	28 August – 12 December 2022

Learning Objectives

● An overview of the fundamental concepts of computer networks, data communication, network topologies, web technologies and internet applications.

Learning Outcomes

On successful completion of this course, a student will be able to:

● Enumerate various network topologies and identify situations when different network topologies would be useful.
● Distinguish between LAN, MAN, WAN.
● Distinguish between Intranet, Extranet and Internet.
● Describe client-server architecture. 5. enumerate different transmission media and describe the use of each of them. 6. design web pages using HTML.

Lesson Plan		
Week No.	**Theme/ Curriculum**	**Any Additional Information**
Week 1	Unit 1 Overview of Computer Networks: Introduction to computer networks, classification of computer networks: LAN (Local Area Network), MAN (Metropolitan Area Network), WAN (Wide Area Network), WLAN (Wireless LAN), Intranet, Extranet and Internet.	
Week 2	Unit 1 Networks Topology: mesh, tree and star, ring and bus. Network Devices: Repeater, hub, bridge, switch, gateway, router, Network Interface Card (NIC).	

Week 3	Unit 2 Network Reference Models: ISO-OSI reference model with description of its layers and functionalities,	
Week 4	Unit 2 TCP/IP reference model with description of its layers and functionalities,	
Week 5	Unit 2 Network addressing IPV4, IPV6.	
Week 6	Unit 3 Data Communication Fundamentals: Analog and digital signals. Transmission Media: Guided Media - twisted pair, coaxial cable	
Week 7	Unit 3 Transmission Media: optical fibre (only their basic properties and differences). Unguided media - radio wave, terrestrial microwave, satellite microwave, transmission impairments.	
Week 8	Unit 4 HTML: Introduction to web page, home page, website, domain name system, www, URL, internet browsers, web server, downloading and uploading of files, web page design using HTML, ISP.	
Week 9	Unit 4 Introduction to hypertext mark-up language (html), Document type definition, creating web pages, lists, hyperlinks, tables, web forms, inserting images,	
Week 10	Unit 4 Frames, hosting options and domain name registration. Customized Features: Cascading style sheet (CSS) for text formatting and other manipulations.	
Week 11	Unit 5 Internet Applications: Telnet, ftp, e-mail, search engines	
Week 12	Unit 5 Internet Applications: social networks, video conferencing, eCommerce, m-Commerce, e-wallet.	
Week 13	Unit 6 Network Tools: Ping, ipconfig, ifconfig, tracert, arp. netstat, whois	
Week 14	Revision	
Week 15	Tests	
Suggested Readings		
Books	1. Forouzan, B. A. (2013). *Data Communication and Networking.*(5th Edition). Tata- McGraw Hill. 2. Duckett, J.(2011). *HTML and CSS: Design and Build Websites.*(1st Edition). Wiley.	
Online Resources (If Any)	For overview of network commands/tools (ping, tracert, netstat, ipconfig, arp, whois), please refer online resource: 1. https://www.computernetworkingnotes.com/networ king-tutorials/basic-networking-commands- explained-with-examples.html 2. https://manytools.org/network/	

Assignment and Class Test Schedule for Semester

Class Test in November 2022 2nd Week
Assignment to be given on 29th Setember 2022

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Lesson Plan

Name of Teacher	Dr. Shveta Kundra Bhatia	Department	Computer Science
Course	B.A.(H)/B.Sc(H)/B.Com(H)	Semester	THIRD
Paper	COMPUTER NETWORKS (CSGE301)	Academic Year	2022

Learning Objectives

This course covers the fundamental concepts of computer networks, standard models of computer networks having layered architecture, data communication, network topologies, web technologies and internet applications.

Learning Outcomes

On successful completion of this course, a student will be able to:

1. State the use of computer networks and different network topologies.
2. Distinguish between LAN, MAN, WAN, and between Intranet, Extranet and Internet.
3. Compare OSI and TCP/IP architectures
4. Enumerate different transmission media and describe the use of each of them.
5. Design web pages using HTML/CSS.

LESSON PLAN	
Week	**Topics**
1-2	Introduction to computer network, data communication, components of data communication, Data transmission mode, datacommunication measurement, LAN, MAN, WAN, wireless LAN, internet, intranet, extranet
3	Network Models: Client/ server network and Peer-to-peer network
4-5	OSI Model, TCP/IP, layers and functionalities.
6-7	Transmission Media: Guided Media: Twisted pair, Coaxial cable, Optical fiber, Unguided media: Microwave, Radio frequencypropagation, Satellite
8	LAN Topologies: Ring, bus, star, mesh and tree topologies.
9	Network Devices: NIC, repeaters, hub, bridge, switch, gateway and router.
10	Internet Terms: Web page, Home page, website, internet browsers,URL, Hypertext, ISP, Web server, download and upload, online and offline
11	Introduction to Web Design: Introduction to hypertext markup language (html) Document type definition, creating web pages,lists,
12	Hyperlinks, tables, web forms
13	Inserting images, Frames, hosting options and domain name registration
14	Customized Features: Cascading style sheet (css) for text formatting and other manipulations.
15	Cascading style sheet (css) and other manipulations

Books:

1. Forouzan, B.A. (2017). *Data Communication and Networking*, McGraw-Hill Education.
2. Powell, T.A. (2010).*HTML & CSS: The Complete Reference.* 5th edition. Tata McGraw-Hill.
3. Minnick, J. (2015). *Web Design with HTML5 and CSS3*. 8th edition. Cengage Learning.
4. Stallings, W. (2017), *Data and Computer Communications.* 10th edition. PearsonEducation India.
5. Tanenbaum, A.S. & Wethrall, D. J.(2012).*Computer Networks*, Pearson Education.

Online Resources (If Any)	https://www.tutorialspoint.com/HTML/index.htm https://www.w3schools.in/HTML https://www.w3schools.com/CSS

Assignment and Class Test Schedule for Semester	Assignment: Web Site creation topics allocated to students in groups of two each on different topics. Class Test : October 2022

Lesson Plan(SEC, Semester III, August to December 2022)

Name of Teacher	Ms. Akanksha Gupta	Department	Computer Science
Course	B.Sc. Physical Science	Semester	THIRD
Paper	Data Analysis using Python	Academic Year	2022

Learning Objectives

The course enables students to analyse data using python. They will learn how to prepare data for analysis and create meaningful data visualisations. They will learn to use Pandas, Numpy and Scipy libraries to work with different data sets.

Learning Outcomes

On successful completion of the course, students will be able to:

1. Develop a python script for data analysis and execute it.

2. Install, load and deploy the required packages.

3. Clean and prepare the data for accurate analysis.

4. Analyse the data stored in files in different formats.

5. Experiment with data visualization methods.

Lesson Plan

Week No.	Theme/ Curriculum	Any Additional Information
Week 1-3	**Unit 1** Introduction to Pandas, NumPy, SciPy: Introduction to Pandas DataFrames, Numpy multidimentional arrays, and SciPy libraries to work with different datasets.	
Week 4 - 6	**Unit 2** Import and Export of Data: Installing, loading and using packages for importing and exporting data in Python.	
Week 7-10	**Unit 3** Data Preprocessing and Transformation: Handling of missing data, Data cleaning and transformation. **Unit 4** Data Exploration: Exploring data using statistical methods: mean, median, mode, quantiles. Building contingency table. Basics of grouping data and Correlation.	Allocation of Assignment
Week 11 - 15	**Unit 4** Building contingency table. Basics of grouping data and Correlation. **Unit 5** Data Visualization: Scatter Plot, line graph, histogram, boxplot, line plots regression, word clouds, exporting plots as images.	Class Test

References

1. Mckinney, W. (2017). Python for Data Analysis. Second edition, O'reilly (SPD).

2. Grus, J. (2016). Data Science from scratch. First edition, O'reilly (SPD).

3. VanderPlas, J. (2016). Python Data Science Handbook: Essential Tools for Working with Data. Second edition, O'reilly (SPD).

Online Resources (If Any)	**Python tutorials:** https://www.w3schools.com/python/ https://www.tutorialspoint.com/python/index.htm https://www.javatpoint.com/python-tutorial **Word cloud:** https://www.datacamp.com/community/tutorials/wordcloud-python https://www.tutorialspoint.com/create-word-cloud-using-python https://www.geeksforgeeks.org/generating-word-cloud-python **Contingency table:** https://www.geeksforgeeks.org/contingency-table-in-python/ https://www.tutorialspoint.com/contingency-table-in-python
Assignment and Class Test Schedule for Semester	Assignment to be allocated in week 7-8. Class test to be held as per college schedule during week 12-13.

Lesson Plan(SEC, Semester III, August to December 2022)

Name of Teacher	Ms. Akanksha Gupta	**Department**	Computer Science
Course	B.A(Prog.)	**Semester**	THIRD
Paper	Word Processing and Presentation Software	**Academic Year**	2022

Learning Objectives

The course introduces the students to word processing and presentation software. The basic features and skills of creating, editing, inserting table, graphics and power point presentation are covered.

Learning Outcomes

On successful completion of this course, a student will be able to:

1. Create and refine documents using text formatting, tables and graphics.

2. Use mail merge.

3. Create macros and templates in documents.

4. Protect documents.

5. Create presentations containing transitions and animations.

6. Learn advanced presentation features like custom slide show, call outs and action buttons.

Lesson Plan

Week No.	Theme/ Curriculum	Any Additional Information
Week 1-3	**Unit 1** Word Processing Basics: Creating, opening and saving a document, text formatting, header and footer, creating and editing of tables, importing graphics, insert picture, using word processor's drawing features, text in drawing.	
Week 4 - 6	**Unit 2** Advanced Features: Creating macros, watermarks, templates, reviewing documents, comparing and combining documents, protection of documents-using passwords.	
Week 7-10	**Unit 3** Mail Merge: Mail merge concept, main document, data sources, merging data source and main document.	Allocation of Assignment
Week 11 - 15	**Unit 4** Presentation Tools : Creating presentations, using blank presentation option, using design template option, adding slides, deleting a slide, importing images from the outside world, deleting a slide, numbering a slide, saving presentation transition and animations, adding notes to slides, customize slideshow.	Class Test

References

1. Libre Office Documentation Team (2018) Getting Started with Libre Office 6.0. Friends of Open

	Document, Inc.
	2. Libre Office Documentation Team (2018), Libre Office 6.0 Writer Guide. Friends of Open Document, Inc.
	3. Mali, L. (2017). Libre office 5.1 Impress, Draw. Base book- Vol 2, Notion Press.
Online Resources (If Any)	https://www.libreofficehelp.com/libreoffice-writer-tutorial/ https://www.tutorialspoint.com/ubuntu/ubuntu_libreoffice.htm https://documentation.libreoffice.org/assets/Uploads/Documentation/en/GS7.0/GS70-GettingStarted.pdf
Assignment and Class Test Schedule for Semester	Assignment to be allocated in week 7-8. Class test to be held as per college schedule during week 12-13.