

Rajarshi Shahu Mahavidyalaya, (Autonomous), Latur

Department of Computer Science

Teaching Plan (Semester-I)

(July-2021 to Dec-2021)

Name of the Teacher: Miss. Bamankar Megha Nagnath

1. Details of Classes to be taught

Sr. No.	Class	Subject	Course code and title	Total Lectures
1	B. Sc. – TY	Computer Science	U-ADC-540 Web Page Designing	40
2	B. Voc. FY	Computer Technology	CT.SC.103 Image Processing (Skill Component)	60
3	M. Sc. FY	Computer Science	M. Sc. CS-CC-1 Design and Analysis of Algorithm	60
4	M. Sc. FY	Computer Science	M. Sc. CS -DSE-2 Data Mining	60

Course : Web Page Designing (B. Sc. – TY)

1. Summary of Lesson Plan

Sr. No.	Unit and Chapter to be covered	Expected No. of Lectures	Date	Academic activities to be organized	No. of Test / Assignment with topic and date
1	<p>UNITI: Introduction to HTML5: Formatting text by using tags, using lists and backgrounds. Creating hyperlinks and anchors,</p> <p>Creating tables, creating simple table, specifying the size of the table, specifying the width of the column, merging table cells, using tables for page layout,</p> <p>Formatting tables, applying table borders, applying background and foreground fills, changing cell padding, spacing and alignment, creating user forms creating basic form, using check boxes and radio buttons</p> <p>Creating lists, additional input types in HTML5, Incorporating sound and video, Audio and video in HTML5, HTML multimedia basics, embedding video clips,</p>	<p style="text-align: center;">06</p> <p style="text-align: center;">02</p> <p style="text-align: center;">02</p>	<p style="text-align: center;">05.07.2021 to 14.07.2021</p> <p style="text-align: center;">15.07.2021 to 17.07.2021</p> <p style="text-align: center;">19.07.2021 to 24.07.2021</p>	<p style="text-align: center;">PPT representation for Introduction of HTML & HTML5 and Creating Tables And also by using board</p>	

	incorporating audio on web page, Image mapping.				
2	<p>UNIT II: CSS3</p> <p>Introduction to CSS, how does CSS work?</p> <p>syntax, identification and grouping of elements, selectors, colors, background, fonts, text, links, lists, tables</p> <p>CSS Box model, Margin, Padding, Border, height and width, floating elements, positioning of elements, align, dropdowns, navigation bar, counters, Image gallery.</p>	<p>03</p> <p>03</p> <p>04</p>	<p>26.07.2021 to 31.07.2021</p> <p>2.08.2021 To 7.08.2021</p> <p>09.08.2021 To 18.09.2021</p>	<p>PPT representation for CSS & CSS3</p> <p>And also by using board</p>	<p>Unit Test-I</p>

3	<p>UNIT III: Java Script, Bootstrap :</p> <p>Introduction to Client Side Scripting, Introduction to Java Script, JavaScript Types, Variables in JS, Operators in JS, Conditional statements, Java Script Loops, JS Popup Boxes, JS Events, JS Arrays,</p> <p>Working with Arrays, JS Objects, JS Functions, Document and its associated objects, Document, Link, Area, Anchor, Image, Applet, Layer Events and Event Handlers, Using Java Script in Real-time, Validation of Forms.</p> <p>What is Bootstrap? Basic Bootstrap Pages, Bootstrap Grid System, Grid Classes, and Basic Structure of a bootstrap Grid, Equal Columns and Unequal Columns. Typography, Table, Images, Wells, Alerts Button, Button groups, Badges/Labels Progress Bars, Pagination, pager, List groups, Panels, Drop Down, Collapse, Tabs/Pills, Navbars</p>	07	20.08.2021 To 13.09.2021	PPT presentation for JavaScript & Bootstrap And also by using board	
4	<p>UNIT IV: Development of Website</p>	03	14.9.2021 To 22.09.2021	PPT Presentation on	

	<p>Website should contain minimum five web pages.</p>	05	<p>23.09.2021 To 05.10.2021</p>	<p>Creating Website And also by using board</p>	<p>Activity based Unit test-II</p>
	<p>Website may contain Java script for validation, Bootstrap for responsiveness.</p>	05	<p>13.10.2021 To 02.11.2021</p>		

Course: Image Processing (Skill Component) (B. Voc.-FY)

1. Summary of Lesson Plan

Sr. No.	Unit and Chapter to be covered	Expected No. of Lectures	Date	Academic activities to be organized	No. of Test / Assignment with topic and date
1	<p>UNIT I: Introduction</p> <p>Introduction to Adobe Photoshop Information of Photoshop, Uses of Photoshop, Supporting Software of Photoshop, Version History Early History, Version of Photoshop: Photoshop7.0, Cs, Cc and Other Difference between Photoshop Versions Installation of Photoshop Required Configuration Different Version of Photoshop, Installation of Various Version Types of Photoshop like Photoshop 7.0, Cs, Cc and Other. Purchasing Photoshop Online, Offline, Activation of Photoshop</p> <p>Getting Started Using Photoshop</p> <p>Creating New File, Navigating Photoshop, Menus & Panel, Open New File, Open Existing File, Information of Photoshop File, Photoshop Starting Ways,</p> <p>Selections Work</p> <p>Selecting with the Elliptical Marquee Tool, Using the Magic Wand & Free Transform Tool</p> <p>Selecting with the Regular & Polygonal Lasso Tools, Combining Selections, Using the Magnetic Lasso Tool, Using the Quick Selection Tool & Refine Edge, Modifying</p>	05	22.09.2021 to 29.09.2021	PPT presentation for Introduction to Adobe Photoshop Version of Photoshop Installation of Photoshop	
	<p>Selections Work</p> <p>Selecting with the Elliptical Marquee Tool, Using the Magic Wand & Free Transform Tool</p> <p>Selecting with the Regular & Polygonal Lasso Tools, Combining Selections, Using the Magnetic Lasso Tool, Using the Quick Selection Tool & Refine Edge, Modifying</p>	10	30.09.2021 to 20.10.2021	And also by using board	

	Selections.				
2	<p>UNIT II: Image Processing</p> <p>Resizing and Cropping Images</p> <p>Photo Editing, Cropping, Mixing, Convert Photo To Pdf& Other Format.. Zooming & Panning an Image Working With Multiple Images, Rulers, Guides & Grids Undoing Steps with History Adjusting Color with the New Adjustments Panel The New Masks Panel & Vibrancy Color Correction Command The New Note Tool & the Save for Web & Devices Interface The New Auto-Blend & Auto-Align Layers Commands The New 3d Commands</p> <p>Working with Panels</p> <p>Uses of Panel & Bar, Pen Tool, Clone Stamp Tool, Shape Tools, Measuring and Navigation, Selection Tools, Cropping, Slicing, Moving, Marquee, Lasso, Magic Wand, Eraser</p> <p>Layers Module</p> <p>Information Layer, Layer Types, Creating, Selecting, Linking, Merging, Deleting Layers, Creating & Modifying Text, Blending Modes, Opacity & Fill, Layer Styles, Copying Layer, Using Perspective & Layer Styles, Under Standing the Background Layer.</p>	05	21.10.2021 to 28.10.2021	PPT presentation For Image Processing And also by using board	Unit Test-I
		10	29.10.2021 to 20.11.2021		

3	<p>UNIT III : Photo Editing</p> <p>Painting in Photoshop</p> <p>Using the Brush Tool, Working With Color, Creating & Using Gradients, Creating & Working With Brush, Using the Pencil & Eraser Tool, The Patch Tool & the Healing Brush Tool, The Spot Healing Brush Tool, the Color Replacement Tool, The Toning & Focus Tool, Painting with History.</p> <p>Photo Retouching</p> <p>The Red Eye Tool, The Patch Tool & the Healing Brush Tool, The Spot Healing Brush Tool, The Color Replacement Tool, The Toning & Focus Tools, Painting with History.</p> <p>Color Correction</p> <p>Color Spaces & Color Modes, The Variations Command, The Auto Commands, Adjusting Levels, Adjust Curves, Non-Destructively, with Adjustment Layers.</p> <p>Using Masks and the Quick Mask Mode Quick Mask</p> <p>Option, Painting & Selection, Saving & Removing a Selection from the Background</p>	12	21.11.2021 To 11.12.2021	PPT presentation for Photo Editing Painting in Photoshop Photo Retouching Color Correction And also by using board	--
4	<p>UNIT IV : Working With Tools</p> <p>Creating Special Effects</p> <p>Getting Started With Photoshop</p>	05	15.12.2021 to 17.12.2021	PPT Presentation for Working With Tools	

<p>Filters, Smart Filters, Creating Text Effects, Applying Gradients to Text.</p> <p>Working With the Pen Tool: Understanding Paths & the Pen Tool, Creating Straight & Curved Paths, Creating Combo Paths, Creating a Clipping Path,</p> <p>Printing and Exporting Your Work</p> <p>Exporting Your Work, Saving with Different File Formats, Saving for Web & Devices, Printing Options,</p>	<p>10</p>	<p>18.12.2021 to 25.12.2021</p> <p>27.12.2021 to 31.12.2021</p>	<p>And also by using board</p>	<p>Activity Based Unit Test-II</p>
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Course: Design and Analysis of Algorithm (M. Sc CS-FY)

1. Summary of Lesson Plan

Sr. No.	Unit and Chapter to be covered	Expected No. of Lectures	Date	Academic activities to be organized	No. of Test / Assignment with topic and date
1	<p>UNIT I : Introduction</p> <p>A simple example of design using insertion sort, pseudo code for insertion sort, time complexity.</p> <p>Performance Analysis – Space complexity and Time complexity (posteriori testing, and priory approach), Asymptotic Notations (O, Ω, Θ),</p> <p>Examples on Asymptotic Notations, Polynomial vs. Exponential Algorithms.</p> <p>Average, Best and Worst case complexity processor concepts.</p>	<p align="center">12</p> <p align="center">03</p>	<p align="center">27.09.2021 to 8.10.2021</p> <p align="center">9.10.2021 to 12.10.2021</p>	<p align="center">PPT presentation of Introduction to Algorithms.</p> <p align="center">And also by using board</p>	<p align="center">--</p>

2	<p>UNIT II: Divide and Conquer Algorithms, Greedy Algorithms</p> <p>Introduction to Divide and Conquer Algorithms, Finding the Maximum and Minimum, Quick sort (Derivation of Average case analysis and Worst case analysis), Binary Search (Derivation of average case analysis), and Strassen's Matrix Multiplication.</p> <p>Introduction to Greedy Algorithms – Fractional Knapsack problem, Minimum cost spanning trees, Kruskal's and Prim's Algorithms, Optimal Merge patterns and Single-Source Shortest Paths.</p>	09	13.10.2021 To 25.10.2021	<p>PPT presentation of Divide and Conquer Algorithms, Greedy Algorithms.</p> <p>And also by using board</p>	Unit Test-I
3	<p>UNITIII: Dynamic Programming, Back Tracking and Branch & Bound Algorithms</p> <p>Dynamic Programming Definition - All-pairs shortest paths, Traveling salesman problem and optimal parameterization for product of sequence of matrices</p> <p>Back tracking and Branch and Bound Algorithms</p> <p>Introduction – Nqueens Problem, Sum of Subsets problem using Back tracking algorithms. Traveling Salesman problem using branch and bound method</p>	07	2.11.2021 To 13.11.2021	<p>PPT presentation on Dynamic Programming, Back Tracking and Branch & Bound Algorithms</p> <p>And also by using board</p>	
		08	15.11.2021 To 23.11.2021		

4	<p>UNIT – IV</p> <p>Graphs and Heaps & Lower bound Theory</p> <p>Graphs and Heaps Definitions – Adjacency Matrix, Adjacency Lists.</p> <p>Breadth First Search and Traversal, Depth First Search and Traversal. Priority Queues using Heap and Design of Heap sort using Priority Queues Lower bound Theory</p> <p>A brief introduction to comparison trees and NP hard and NP complete problems.</p>	05	24.11.2021 To 4.12.2021	<p>PPT</p> <p>Presentation on Graphs and Heaps & Lower bound Theory</p> <p>And also by using board</p>	<p>Activity based</p> <p>Unit test-II</p>
		10	6.12.2021 To 31.12.2021		

Course: Data Mining (M. SC. CS-FY)

1. Summary of Lesson Plan

Sr. No.	Unit and Chapter to be covered	Expected No. of Lectures	Date	Academic activities to be organized	No. of Test / Assignment with topic and date
1	<p>Unit-I Introduction to Data mining with related concepts</p> <p>Introduction to Data mining with related concepts: -Basic Data Mining Tasks,</p> <p>Data Mining Issues. - Knowledge Discovery in Databases (KDD Process). - OLTP system,</p> <p>Information Retrieval system, Decision Support Systems, Multidimensional Schemas, OLAP, Web Search Engines.</p>	<p style="text-align: center;">12</p> <p style="text-align: center;">03</p>	<p>27.09.2021 to 8.10.2021</p> <p>9.10.2021 to 12.10.2021</p>	<p>PPT presentation of Introduction to Data mining with related concepts</p> <p>And also by using board</p>	--

2	Unit II : Data Mining Techniques: Classification Data Mining Techniques: Classification -Introduction to Data Mining Techniques. A statistical Perspective on Data Mining, Decision Trees, Neural Networks. Issues in Classification, Bayesian Classification, and Distance Based Algorithms, Decision Tree Based Algorithm: CART, Neural Network-Based Algorithm: NN Supervised Learning.	09 06	13.10.2021 To 25.10.2021 26.10.2021 To 1.11.2021		Unit test-I
3	Unit III : Clustering and Association Rules Clustering and Association Rules, Introduction to Clustering, Outliers, K-Means clustering, Nearest Neighbor Algorithm, BRICH algorithm. Introduction to Association Rules, Large Item sets, Basic Algorithms: Apriori Algorithm, Data Parallelism, Comparing Approaches.	07 08	2.11.2021 To 13.11.2021 15.11.2021 To 23.11.2021	PPT presentation On Clustering and Association Rules And also by using board	
4	Unit IV Applications and Trends in Data Mining Data Mining Applications: Web mining, Image mining, Text mining, Spatial mining, Fraud Detection	05	24.11.2021 To 4.12.2021	PPT Presentation on Applications and Trends in Data Mining And also by using board	Activity based Unit Test- II

	CRM (Customer Relationship Management), Education, Health Care etc., Data Mining System Products.	10	6.12.2021 To 31.12.2021		
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**Name of the Teacher
and Signature**

Head of Department

Principal

Rajarshi Shahu Mahavidyalaya, (Autonomous), Latur

Department of Computer Science

Teaching Plan (Semester-I)

(Dec-2021 to April-2022)

Name of the Teacher: Miss. Bamankar Megha Nagnath

1. Details of Classes to be taught

Sr. No.	Class	Subject	Course code and title	Total Lectures
1	B. Voc. TY	Computer Technology	CT.GE.601 Cyber Security	60
2	B. Sc. – SY	Computer Science	U-ADC-540-H HTML Programming	40
3.	B. Voc. FY	Computer Technology	CT.SC.203 Media Content and Graphics Design	60
4.	M.SC. FY	Computer Science	M.Sc. CS-DSE-3 Internet of Things	60

Course : Cyber Security (B.VOC. – TY)

1. Summary of Lesson Plan

Sr. No.	Unit and Chapter to be covered	Expected No. of Lectures	Date	Academic activities to be organized	No. of Test /Assignment with topic and date
1.	UNITI: Introduction to Cyber Security and Basic Terminology What is cyber security? Need for cyber security (case studies), statistics, Layered approach to			Use of white board and black board for presentation on	

	<p>cyber security, Latest Technological Trends, Introduction to IoT, How the Internet of Things (IoT) Is Changing the Cybersecurity Landscape? Threats and Countermeasures of IoT and BYOD, Cyber security concerns and solution in Smart City & Home Automation, Basics of Networking, GET MAC, NCPA.CPL, command line, Obtaining IP address from DHCP Server, IP address: types of IP's, Classes of IP's.IPV4 and IPV6 address, Sharing Files and Folder, Introduction to virtualization and installation of OS on virtual Box, Introduction to virtualization, Installation of virtual box, Installation of OS.</p>	<p>10</p> <p>05</p>	<p>17.12.2021 To 01.01.2022</p> <p>05.01.2022 To 12.01.2022</p>	<p>Cyber Security and Basic Terminology</p>	
2.	<p>UNITIII: Cyber Security, Web Browser Security and Firewall Cyber Security: Password and its types, BIOS password, System password, Administrator password, User password, Passwords storage – windows and Linux, Types of passwords attacks. Web browser Security: Understanding web browsers, Security features of different web browsers, Internet Explorer, Google Chrome, Firefox Mozilla,</p>	06	<p>13.01.2022 To 22.01.2022</p>	<p>Use of white board and black board for presentation on Cyber Security, Web Browser</p>	Unit Test-I

	Opera. Firewall And UTM: Understanding the Firewall, what exactly Unified Threat Management is? Use of Firewall and UTM, Advantages and Disadvantages of UTM.	08	27.01.2022 To 09.02.2022	Security and Firewall	
3.	<p>UNIT III : Security and Malwares</p> <p>Physical Security Understanding physical security, Need for physical security. Physical security equipment, Close circuit television cameras (CCTV), Analogue cameras, Digital cameras, Biometrics: Fingerprint, Iris, Retina, Face, Security tokens, Smart card.</p> <p>Mobile Security Different Mobile platforms, Mobile security features, Applications of mobile security, Different security options in mobile like encryption etc.</p> <p>Email Security What is E-mail? Understanding how Email works, Types of Email, how to set up spam filters? Prevent yourself from phishing, Use encryption. Keep your computer updated.</p> <p>Malware Different types of Malwares like viruses, Worms, Trojans, Ad wares, Spywares. Ransomware Rootkits, and Keyloggers etc.,</p>	05	10.02.2022 To 17.02.2022	Use of white board and black board for presentation on Physical Security Mobile Security Email Security Malware	
		05	18.02.2022 To 26.02.2022		
		05	02.03.2022 To 09.03.2022		

	How to secure system from malware?				
4.	<p>UNIT IV : Ethical Hacking and Cyber Laws</p> <p>Ethical hacking steps.</p> <p>Reconnaissance: Active reconnaissance, Passive reconnaissance Scanning: Port scanning, Network scanning, Vulnerability scanning, Gaining Access Maintaining Access Covering Tracks What is cyber law? Evolution of cyber law in India Jurisdiction of IT Act Penalties under IT Act.</p> <p>Difference between civil law and criminal law Offences under IT Act- some sections: Section 43, Section 65, Section 66, Section 67, Section 72, Section 69, Section 79.</p>	<p>10</p> <p>05</p>	<p>10.03.2022</p> <p>To</p> <p>25.03.2022</p> <p>26.03.2022</p> <p>To</p> <p>16.04.2022</p>	<p>Use of white board and black board for presentation on Ethical Hacking and Cyber Laws</p>	<p>Activity based</p> <p>Unit test-II</p>