

**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**

<b>Sr. No.</b>	<b>Class</b>	<b>Subject</b>	<b>Course code and title</b>	<b>Total Lectures</b>
1	B. Sc. TY	Computer Science	U-ADC-540 Web Page Designing	45
2	B. Voc. (CT) FY	Computer Technology	CT.SC.103 Image Processing (Skill Component)	60
3	M. Sc. (CS) FY	Computer Science	M. Sc. CS-CC-1 Design and Analysis of Algorithm	60
4	M. Sc. (CS) 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	<b>UNITI: Introduction to HTML5:</b> Formatting text by using tags, using lists and backgrounds.  Creating hyperlinks and anchors, 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, Formatting tables, applying table borders, applying background and foreground fills, additional input types in HTML5, Incorporating sound and video, Audio and video in HTML5, HTML multimedia basics, embedding video clips, incorporating audio on web page, Image mapping.	06	05.07.2021 to 14.07.2021	PPT representation for Introduction of HTML & HTML5 and Creating Tables And also by using board	
		02	15.07.2021 to 17.07.2021		
		02	19.07.2021 to 24.07.2021		

2	<b>UNIT II: CSS3</b> Introduction to CSS, how does CSS work? syntax, identification and grouping of elements, selectors, colors, background, fonts, text, links, lists, tables, CSS Box model, Margin, Padding, Border, height and width, floating elements, positioning of elements, align, dropdowns, navigation bar, counters, Image gallery.	06  04	26.07.2021 to 7.08.2021  09.08.2021 To 18.09.2021	PPT representation for CSS & CSS3 And also by using board	Unit Test-I
3	<b>UNIT III: Java Script, Bootstrap:</b> Introduction to ClientSide 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, Image, Applet, Layer Events and Event Handlers, Using Java Script in Real-time, Validation of Forms. Working with Bootstrap Pages, Bootstrap Grid System.	07  03	20.08.2021 To 13.09.2021  14.9.2021 To 22.09.2021	PPT presentation for JavaScript & Bootstrap And also by using board	
4	<b>UNIT IV: Development of Website</b> Website should contain minimum five web pages.  Website may contain Java script for validation, Bootstrap for responsiveness.	05  05	23.09.2021 To 05.10.2021  13.10.2021 To 02.11.2021	PPT Presentation on Creating Website And also by using board	Activity based Unit test-II



**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	<b>UNIT I: Introduction</b> 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 <b>Getting Started Using Photoshop</b> Creating New File, Navigating Photoshop, Menus & Panel, Open New File, Open Existing File, Information of Photoshop File, Photoshop Starting Ways, <b>Selections Work</b>	<div>05</div> <div>10</div>	<div>22.09.2021 to 29.09.2021</div> <div>30.09.2021 to 20.10.2021</div>	PPT presentation for Introduction to Adobe Photoshop Version of Photoshop Installation of Photoshop And also by using board	
2	<b>UNIT II: Image Processing Resizing and Cropping Images</b> Photo Editing, Cropping, Mixing, Convert Photo To Pdf& Other Format. Zooming & Panning an	05	21.10.2021 to 28.10.2021	PPT presentation For Image Processing And also by using board	Unit Test-I



	<p>Image Working With Multiple Images, Rulers, Guides &amp; Grids Undoing Steps with History</p> <p>Adjusting Color with the New Adjustments Panel</p> <p>The New Masks Panel &amp; Vibrancy Color Correction Command</p> <p>The New Note Tool &amp; the Save for Web &amp; Devices Interface</p> <p>The New Auto-Blend &amp; Auto-Align Layers Commands</p> <p>The New 3d Commands</p> <p><b>Working with Panels</b></p> <p>Uses of Panel &amp; Bar, Pen Tool, Clone Stamp Tool, Shape Tools, Measuring and Navigation, Selection Tools, Cropping, Slicing, Moving,</p> <p>Marquee, Lasso, Magic Wand, Eraser</p> <p><b>Layers Module</b></p> <p>Information Layer, Layer Types, Creating, Selecting, Linking, Merging, Deleting Layers, Creating &amp; Modifying Text, Blending Modes, Opacity &amp; Fill, Layer Styles, Copying Layer, Using Perspective &amp; Layer Styles, Under Standing the Background Layer.</p>	10	29.10.2021 to 20.11.2021		
3	<p><b>UNIT III: Photo Editing</b></p> <p><b>Painting in Photoshop</b></p> <p>Using the Brush Tool, Working With Color, Creating &amp; Using Gradients, Creating &amp; Working With Brush, Using the Pencil &amp; Eraser Tool, The Patch Tool &amp; the Healing Brush Tool, The Spot Healing Brush Tool, the Color Replacement Tool, The</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	--

	Toning & Focus Tool, Painting with History. <b>Photo Retouching</b> <b>Color Correction,</b> <b>Using Masks and the Quick</b> <b>Mask Mode Quick Mask</b>	03	15.12.202 To 17.12.2021		
4	<b>UNIT IV: Working With Tools Creating Special Effects</b> Getting Started With Photoshop Filters, Smart Filters, Creating Text Effects, Applying Gradients to Text. <b>Working With the Pen</b> <b>Tool:</b> Understanding Paths & the Pen Tool, Creating Straight & Curved Paths, Creating Combo Paths, Creating a Clipping Path, <b>Printing and Exporting</b> <b>Your Work</b> Exporting Your Work, Saving with Different File Formats, Saving for Web & Devices, Printing Options,	05          10	18.12.2021 to 25.12.2021   27.12.2021 to 31.12.2021	PPT Presentation for Working with Tools And also by using board	Activity Based Unit Test-II



**Course: Design and Analysis of Algorithm (M. Sc CS-FY)**

## 1. Summary of Lesson Plan

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2	<p><b>UNIT II: Divide and Conquer Algorithms, Greedy Algorithms</b></p> <p>Introduction to Divide and Conquer Algorithms, Finding the Maximum and Minimum, Quick sort (Derivation of Average case analysis and Worst case analysis),</p> <p>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><b>UNITIII: Dynamic Programming, Back Tracking and Branch &amp; Bound Algorithms</b></p> <p>Dynamic Programming Definition - All-pairs shortest paths, Traveling salesman problem and optimal parameterization</p>	07	2.11.2021 To 13.11.2021	<p>PPT presentation on Dynamic Programming, Back Tracking and Branch &amp; Bound Algorithms</p> <p>And also by using board</p>	



	<p>for product of sequence of matrices</p> <p>Back tracking and Branch and Bound Algorithms</p> <p>Introduction – N queens Problem, Sum of Subsets problem using Back tracking algorithms. Traveling Salesman problem using branch and bound method</p>	08	<p>15.11.2021 To 23.11.2021</p>		
4	<p><b>UNIT – IV Graphs and Heaps &amp; Lower bound Theory</b></p> <p>Graphs and Heaps</p> <p>Definitions – Adjacency Matrix, Adjacency Lists.</p> <p>Breadth First Search and Traversal, Depth First Search and Traversal.</p> <p>Priority Queues using Heap and Design of Heap sort using Priority Queues</p> <p>Lower bound Theory A brief introduction to comparison trees and NP hard and NP complete problems.</p>	<p>05</p> <p>10</p>	<p>24.11.2021 To 04.12.2021</p> <p>06.12.2021 To 31.12.2021</p>	<p>PPT</p> <p>Presentation on Graphs and Heaps &amp; Lower bound Theory</p> <p>And also by using board</p>	<p>Activity based</p> <p>Unit test-II</p>

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


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><b>Unit-I Introduction to Data mining with related concepts</b></p> <p>Introduction to Data mining with related concepts: -Basic Data Mining Tasks,Data Mining Issues. -Knowledge Discovery in Databases (KDD Process). -OLTP system, Information Retrieval system, Decision Support Systems, Multidimensional Schemas, OLAP, Web Search Engines.</p>	<p>12</p> <p>03</p>	<p>27.09.2021 to 8.10.2021</p> <p>09.10.2021 to 12.10.2021</p>	<p>PPT presentation of Introduction to Data mining with related concepts and also by using board</p>	--



2	<b>Unit II: Data Mining Techniques:</b>  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	13.10.2021 To 25.10.2021		Unit test-I
		06	26.10.2021 To 01.11.2021		
3	<b>Unit III: Clustering and Association Rules</b>  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	02.11.2021 To 13.11.2021	PPT presentation On Clustering and Association Rules And also by using board	
		08	15.11.2021 To 23.11.2021		



4	<b>Unit IV Applications and Trends in Data Mining</b> Data Mining Applications: Web mining, Image mining, Text mining, Spatial mining, Fraud Detection. CRM (Customer Relationship Management), Education, Health Care etc., Data Mining System Products.	05          10	24.11.2021 To 04.12.2021   06.12.2021 To 31.12.2021	PPT Presentation on Applications and Trends in Data Mining And also by using board	Activity based Unit Test- II
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 Megha N. Bamankar  
 Name of the Teacher  
 and Signature

  
 Head of Department  
 Head  
 Dept. of Computer Science  
 Rajarshi Shahu Mahavidyalaya, Latur

  
 Principal  
**PRINCIPAL**  
 Rajarshi Shahu Mahavidyalaya  
 (Autonomous), Latur



# **Rajarshi Shahu Mahavidyalaya (Autonomous), Latur**

## **Department of Computer Science**

### **Teaching Plan (Semester-II)**

**(Dec-2021 to May-2022)**

**Name of the Teacher: Miss. Bamankar Megha Nagnath**

#### **1. Details of Classes to be taught**

<b>Sr. No.</b>	<b>Class</b>	<b>Subject</b>	<b>Course code and title</b>	<b>Total Lectures</b>
1	B. Voc. (CT) TY	Computer Technology	CT.GE.601 Cyber Security	60
2	B. Sc. SY	Computer Science	U-ADC-540 HTML Programming	45
3.	B. Voc. (CT) FY	Computer Technology	U-MDG-318 Media Content and Graphics Design	60
4.	M.SC. (CS) FY	Computer Science	P-INT-228-I Internet of Things	60

**Course: Cyber Security (B. Voc. (CT) TY)**

## 2. 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 /Assignmen t with topic and date
1.	<b>UNITI: Introduction to Cyber Security and Basic Terminology</b>  What is cyber security? Need for cyber security (case studies), statistics, Layered approach to 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	10	17/12/2021 To 12/01/2022	Use of white board and black board for presentation on Cyber Security and Basic Terminology	
		10	13/01/2022 To 02/02/2022		

	virtualization and installation of OS on virtual Box, Introduction to virtualization, Installation of virtual box, Installation of OS.				
2.	<p><b>UNITII: Cyber Security, Web Browser Security and Firewall</b></p> <p><b>Cyber Security:</b> Password and its types, BIOS password, System password, Administrator password, User password, Passwords storage – windows and Linux, Types of passwords attacks.</p> <p><b>Web browser Security:</b> Understanding web browsers, Security features of different web browsers, Internet Explorer, Google Chrome, Firefox Mozilla, Opera. Firewall And UTM: Understanding the Firewall, what exactly Unified Threat Management is? Use of Firewall and UTM, Advantages and Disadvantages of UTM.</p>	07	03/02/2022 To 24/02/2022	Use of white board and black board for presentation on Cyber Security, Web Browser Security and Firewall	Unit Test-I
3.	<b>UNIT III: Security and Malwares</b>				



	<b>Physical Security</b> 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. <b>Mobile Security</b> Different Mobile platforms, Mobile security features, Applications of mobile security, Different security options in mobile like encryption etc.	05	17/03/2022 To 24/03/2022	Use of white board and black board for presentation on Physical Security Mobile Security Email Security Malware	
	<b>Email Security</b> 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.	05	25/03/2022 To 01/04/2022		
	<b>Malware</b> Different types of Malwares like viruses, Worms, Trojans, Ad wares, Spywares. Ransomware Rootkits, and Keyloggers etc., How to	05	06/04/2022 To 13/04/2022		

	secure system from malware?				
4.	<b>UNIT IV: Ethical Hacking and Cyber Laws</b> Ethical hacking steps. 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. 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.	10	15/04/2022 To 30/04/2022	Use of white board and black board for presentation on Ethical Hacking and Cyber Laws	Activity based Unit test-II

## Course: HTML Programming (B. Sc. SY)

### 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.	<b>UNIT - I: Introduction To Web Publishing</b> Browser, Web Server, Overview of HTML, Rules and Guidelines Structure Of HTML, Web Browser, WWW, URL Concept, Basic Tags. <b>HTML Formatting</b> Comment Tag, Paragraph Tag, Address Tag, List Tag, Break Tag, Heading Tag <HR>Tag, <Pre>formatted Tag, DIV Tag, Font Tag, Marquee Tag Formatted and unformatted tag, Special Character.	10	12/01/2022 To 09/02/2022	Presentation on HTML Programming,	
2.	<b>UNIT – II: Working With Images in HTML</b> Image Tag & Attributes External Image, Image Map, Inline Image <b>Using Hyperlink in HTML</b> Hyperlink & its Attribute Mail to Anchor, HTML – Image Links	10	16/02/2022 To 09/03/2022	Presentation on HTML Programming,	Unit Test-I



3.	<b>UNIT - III: Using Table in HTML</b> Creating Tables Editing Tables Formatting Tables Deleting Tables	10	16/03/2022 To 06/04/2022	Presentation on HTML Programming,	
4.	<b>UNIT – IV: Basics of Interactivity</b> Overview of Frame, Frame Targeting Floating Frames, Form Basics	10	13/04/2022 To 27/04/2022	Presentation on HTML Programming, Basics of interactivity.	Activity based Unit test-II

## Course: Media Content and Graphics Design (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.	<b>Unit-1 Flash Basics</b> Flash Basics: Creating a Flash Document, Reviewing the Interface, Managing the Workspace. Getting Started: Creating Shapes Using the Primitive Tools, Drawing with Pen, Pencil and Line Tools, Editing Shapes Using the Selection Tools, Managing Color and Gradients, Importing Files. Working with Graphics: Creating Rectangles Using a Gradient, Drawing Ovals, Creating a Simple Animation, Working with Lines, Manipulating Objects, Masking Objects, Testing a Movie. Creating and Editing Symbols: Importing Illustrator Files, About Symbols, Converting Objects to Symbols, Importing Bitmap Images, Adding Bitmaps to a Movie Clip, Symbol Working with Buttons, Adding Transparency.	15	02/02/2022 To 18/02/2022	Use of white board and black board for presentation on Flash Basics	
2.	<b>Unit-2 Creating and Managing Contents with Flash</b> New Document Settings & Navigation: Drawing & Selecting Simple Vector Shapes, Drawing Curves with the Pen & Pencil Tools, Exploring Other Drawing Tools, Interaction between	10	23/02/2022 To 04/03/2022	Use of white board and black board for	Unit Test-I



	<p>Shapes, Grouping Objects, Working in Object Drawing Mode.</p> <p>Managing Website Contents: Working with Layers Using Bitmaps, Adding Text, Use the Regular &amp; Primitive Shape, Tools to Build a Graphic, Creating &amp; Adjusting a Symbol, Transforming Objects with the Free Transform Tool, Exploring Color Types &amp; Gradients.</p> <p>Animation Techniques: Importing Slideshow Content, Working in a Movie Clip, Timeline Animating the First Image in the Slideshow, Non-linear Animation Swapping, Objects Using the Distribute to Layers Command, Timeline View Options &amp; Animation Timing, Introducing Action Scripts and Behavior Using sound and video: Adding a Sound File to the Timeline, Adding Sound to a Button, Encoding Video for Import into Flash, Set Import Options &amp; Choose a Player Skin, The FLV Playback Component &amp; Component Inspector, Flash Video for ActionScript 2 &amp; Older Players Publishing your site: Overview of Flash Publish, Settings Compression in Bitmaps &amp; Sounds, Other Flash Publish Settings, HTML Settings, Publishing Your Flash Movie, Uploading Your Site to a Server via FTP Credits.</p>	10	05/03/2022 To 17/03/2022	presentation on Creating and Managing Contents with Flash	
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3.	<b>Unit - 3 WordPress</b> What is WordPress? Setting up WordPress website, How to pick and Register a domain name, choosing WordPress hosting for website, Installing WordPress, Things to do after installing WordPress, Managing Contents, creating, editing, publishing and deleting blog posts, Managing comments, Managing pages, use of media library, Creating, editing, deleting navigation menus, how to add remove widgets, Design and Layout, Choosing and installing WordPress theme, Keeping your website update.	10	18/03/2022 To 06/04/2022	Use of white board and black board for presentation on WordPress	
4.	<b>Unit-4 WooCommerce and Keeping your website update</b> Installing WooCommerce, WooCommerce compatible themes, Adding and Managing Products, setting up payment Methods, Manage WooCommerce shop, why should always update website	15	07/04/2022 To 30/04/2022	Use of white board and black board for presentation on WooCommerce and keeping your website update.	Activity based Unit test-II

## Course: Internet of Things (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.	<b>Unit-I: Introduction and concepts</b> Definition and characteristics of IoT. Physical Design of IoT, Things in IoT, IoT Protocols. Logical Design of IoT- IoT functional blocks, IoT communication models. IoT enabling Technologies- Wireless sensor networks, cloud computing, big data analytics, communication protocols, embedded systems. IoT Levels and deployment templates-IoT Level1 to IoT Level6.	15	02/02/2022 To 24/02/2022	Use of white board and black board for presentation on Introduction and concepts	
2.	<b>Unit-II: Domain Specific IoTs</b> Introduction Home automation- Smart lighting, smart appliances, intrusion detection, smoke or gas detectors. Cities-Smart parking, smart lighting, smart roads, structural help	10	25/02/2022 To 09/03/2022		Unit Test-I



	<p>monitoring, surveillance, emergency response.</p> <p>Environment-Weather monitoring, Air pollution monitoring, forest fire detection, river flood detection.</p> <p>Retail- Inventory management, smart payments, smart vending machines Logistics- Route generation and scheduling, fleet tracking, ship monitoring, remote vehicle diagnostic. Agriculture- smart irrigation, green house control. Industry- machine diagnostic, prognosis, indoor air quality monitoring. Health and Lifestyle</p>	05	<p>10/03/2022</p> <p>To</p> <p>21/03/2022</p>	<p>Use of white board and black board for presentation on Domain Specific IoTs</p>	
3.	<p><b>Unit-III: IoT vs M2M and Developing IoTs</b></p> <p>M2M, Difference between IoT and M2M, Difference between SDN and NFV for IoT- software defined networking and network function virtualization, IoT Code generator.</p>	15	<p>23/03/2022</p> <p>To</p> <p>16/04/2022</p>	<p>Use of white board and black board for presentation on IoT vs M2M</p>	



4.	<b>Unit-IV: IoT Design Methodology</b> Purpose and requirement specification, Process specification, Domain model specification, Information model specification, Service specification, IoT level specification, Functional View specification, Operational View specification, Device and component integration, Application Development with Python	15	18/04/2022 To 10/05/2022	Use of white board and black board for presentation on IoT Design Methodology	Activity based Unit test-II
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Megha N. Bamanikar  
Name of the Teacher  
and Signature

  
Head of Department  
Head  
Dept. of Computer Science  
Rajarshi Shahu Mahavidyalaya, Latur

  
Principal  
PRINCIPAL  
Rajarshi Shahu Mahavidyalaya  
(Autonomous), Latur