Syllabus

B.Voc – Diploma in Software Development (Web App)

NSQF Level	Skill Component Credits	General Education Credits	Total Credits for Award	Duration	Exit Points /Award
5	36	24	60	2 Semesters	Diploma

Semester I

General Education (12 Credit)				Skill Component (18 credit)			
No.	Course Title	Credit	Hrs/Week	No.	Course Title	Credit	Hrs/Week
MSGSD111	Business communication	4	4	MSGSD114	C programming	6	6
MSGSD112	Cyber Law	4	4	MSGSD115	Web fundamentals	6	6
MSGSD113	Software Engineering	4	4	MSGSD116	Mini project	3	3
				MSGSD117	Photoshop	3	3
	Total	12	12		Total	18	18

Semester II

General Education (12 Credit)				Skill Component (18 credit)			
No.	Course Title	Credit	Hrs/Week	No.	Course Title	Credit	Hrs/Week
MSGSD121	Technical Writing	4	4	MSGSD124	Scripting programming	6	6
MSGSD122	Digital marketing	4	4	MSGSD125	W eb Tech PHP with MySQL	6	6
MSGSD123	Software Testing	4	4	MSGSD126	Recent trends in web development	3	3
				MSGSD127	Project Work	3	3
	Total	12	12		Total	18	18

Dr.Pravin S. Patil   Dr.Dinesh F. Shirude

B.Voc Nodal Officer   **Principal**

Semester I

MSGSD111 : Business Communication

Unit 1- Basic Principles of Communication: Introduction, Understanding Communication, the Communication Process, Barriers to Communication, the Importance of Communication in the Workplace

Unit 2-Types and Channels of Communication: Introduction, Types of Communication, Classification of Communication Channels

Unit 3- The Nature of Business Communication: Introduction, Types of Business Communication, Communication Network in Organizations

Unit 4- The Importance of Listening in the Workplace: Introduction, what is listening? Barriers to Listening, Strategies for Effective Listening, Listening in a Business Context

Unit 5- Guidelines for Written Business Communication: Introduction, General Principles of Writing, Principles of Business Writing

Unit 6- Developing Oral Business Communication Skills: Introduction, Advantages of Oral C0mmunication, Oral Business Presentations

Unit 7- Reading Skills for Effective Business Communication: Introduction, what is reading? Types of reading, SQ3R Technique of Reading

Unit 8- Internal Business Communication: Guidelines for Meetings: Introduction, Types of Meetings, Before the Meeting, During the Meeting, After the Meeting, and Common Mistakes made at Meetings

Unit 9- Internal Business Communication: Writing Memos, Circulars and Notices: Introduction, What is a Memo? Circulars and Notices

Unit 10- Internal Business Communication – Electronic Media and Shareholder Communication: Introduction, what is an Intranet? , Communicating through Email, Communication with Shareholders

Unit 11- External Business Communication – Writing Business Letters: Introduction, Principles of Business Letter Writing, Types of Business Letters, Format for Business Letters

Unit 12-Other Forms of External Business Communication: Introduction, Communication with Media through News Releases, Communication about the Organization through Advertising

Unit 13- Internal and External Business -Communication – Writing Business Reports: Introduction, What is a Report? Types of Business Reports, Format for Business Reports, Steps in Report Preparation

Unit 14- Employment Communication – Resumes and Cover Letters: Introduction, Writing a Resume, Writing Job Application Letters, Other Letters about Employment

Unit 15- Employment Communication – Group Discussions and Interviews: Introduction, What is a Group Discussion? Attending Job Interviews

MSGSD112 : Cyber law

Chapter 1	**Chapter 1: New Technology and Copyright** -Copyright protection for computer programs -Literal and Non-Literal copying of computer program -Copyright and electronic publishing	3	1
Chapter 2	**Chapter 2: Cyber Law and IT Act** -Fundamentals of cyber law -Introduction to Indian cyber law -Information Technology Act 2000 -Digital Signature. -Electronic Governance. -Attribution, Acknowledgement and Dispatch of Electronic Records. -Secure electronic Records and Secure Digital Signatures. At least two case studies. -Regulation of certifying Authorities. At least two case studies. -Duties of Subscribers. At least two case studies.	8	1,5
Chapter 3	**Chapter 3: Introduction to Information Security** -History of Information Systems and its Importance -Changing Nature of Information Systems -Basic Principles of Information Security, Confidentiality, Integrity and Availability	4	3, 4

Chapter 4	**Chapter 4: Public Key Cryptography and RSA** **-** Principles of public key cryptosystems **-** The RSA algorithm	6	2
Chapter 5	**Chapter 5: IP and Web Security** -IP security overview -IP security architecture -Authentication Header -Encapsulating Security -Web security consideration -Secure socket layer and Transport layer security -Secure electronic transaction	8	2
Chapter 6	**Chapter 6: Firewalls** **-** Firewall design principles **-** Trusted system	2	2

Reference Books:

1) Cyber Laws- Krishna Kumar Dominant Publishers And Distributors

2) Cryptography and Network Security –William Stallings, Pearson Education.

3) Information Systems Security- Godbole, Willey Publication

4) Information Security- Merkov, Breithaupt , Pearson Education

5) Cyber Law in India — Dr. Farooq Ahmad (Published By- Pioneer Books)

MSGSD113 : Software Engineering

Unit I – Software Life Cycle Models Software Process Introduction – S/W Engineering Paradigm – life cycle models: waterfall, incremental, spiral, win-win spiral, Agile, evolutionary, prototyping – Object-Oriented life cycle models-system engineering – computer-based system – life cycle process – development process.

Unit II – Requirements Software Requirements: Functional & non-functional – user-system requirement engineering process – feasibility studies – elicitation – validation & management – software prototyping – S/W documentation – Analysis and modelling – Case Tools.

Unit III – Design Design Concepts and Principles Modular design – design heuristic – Software architecture – data design – architectural design – transform & transaction mapping – Introduction to SCM process – Software Configuration Items.

Unit IV – Testing Software Testing Taxonomy of Software testing – levels – black box testing – testing boundary conditions – structural testing — regression testing– Software testing strategies – unit testing – integration testing – validation testing – system testing and debugging – Traceability matrix.

Unit V – Software Project Management Software cost estimation – Function point models – COCOMO model –Project Scheduling-Delphi method – Software challenges – Software Maintenance-Reliability – Reliability and availability models.

MSGSD114 : C Programming

The course will cover the following topics:

 Functions

 Primitive variables

Interoperability

Loops and conditionals

 Arrays, structures and unions (data aggregates)

 Pointers to primitives and data aggregates

 Pointers to functions

 Enumerations

 Stacks and lists

 C preprocessor

MSGSD115 : Web fundamentals (HTML5 AND CSS3)

Module I
Overview of HTML5

Defining HTML5 - HTML5 markup - Key HTML5 elements - Web forms - New HTML5 elements - HTML5 APIs and supporting technologies - Geolocation in action - Web workers - Web storage - CSS animations - CSS transitions - CSS 2D and 3D transformations - CSS3 backgrounds, borders, RGBa colors, gradients, drop shadows, and rounded corners - @font-face web fonts.

Fundamentals of HTML, XHTML, and CSS

Web languages - Details of XHTML syntax - W3C and page validation - HTML structure - Placing images in HTML - Role of CSS - Styling a heading - Class styles and the element - Three ways to use styles - Internal vs. external style sheet

Module II
Formatting Text with CSS

Importance of typography on the web - Challenges of fonts on the web - Setting a fontfamily - Sizing text with CSS - Pixels and points are not the best choices - Using a combination of percent and the em measurement - Using margins to modify space between your text - Setting paragraph line-height - Transforming text with CSS - Working with HTML lists - Styling HTML lists

Basic (X)HTML Formatting

Making Text Bold or Italic - Changing the Size of Text and Using a Monospaced Font - Using Preformatted Text - Quoting, Superscripts, and Subscripts - Marking Changed Text .

Module III
Introduction to CSS Layout

Working with the CSS reset file - Brief history of layout techniques on the Web - Page layout options - <div> element: creating a two-column fixed-width CSS layout - CSS float property - Creating columns with the float property - Working with the clear property - Creating a list-based navigation using floats - Adding text styles - Effect of margins and padding on your fix-width layout - Using margins and padding for layout - Styling your footer with a background image.

Module IV
Advanced CSS Layout

Building your page layout - Removing the background color - Working with CSS background images - Using hacks to solve layout problems - Enhancing your CSS navigation bar - Moving internal styles to the external style sheet - Creating a style for the active page - Adding images to sidebar - Working with absolute positioning

Module V

Creating HTML5 Forms

Need for updated forms – Forms - Components of a form - Adding new HTML5 input types and attributes - Creating an order form with new HTML5 input type and attributes - HTML5 form features under development.

Offline Storage in HTML5

Offline storage in HTML5 - HTML5 storage types – Local Storage methods and example

Course Competencies

- Build effective web sites with HTML5
- Comprehend the benefits of CSS3 to web pages
- Acknowledge browser variations in handling CSS

References

1. Beginning HTML5 and CSS3 , Christopher Murphy, Richard Clark, Oli Studholme, Divya Manian, Apress

MSGSD116 : - Mini Project (Project Work)

Project Guidelines

- Group Size – 2 (Maximum)
- Documentation

Index

1. Introduction
   - o Company Profile
   - o Introduction to system
   - o Scope of the system
   - o Proposed System

2. Analysis
   - o Fact Finding Technique
   - o Feasibility Study
   - o Hardware & Software Requirement

3. System Design
   - o E-R Diagram
   - o Context Level Diagram
   - o Data Flow Diagram
   - o File Design
   - o Data Dictionary

4. Form Design (with input values)

5. Reports

6. Advantages & Limitations

7. Future Enhancement

8. Bibliography
   - Areas (VB) only for Sem-V

        For Example - Hospitality, Hotel, Railway, Library etc

   - Areas (VB.NET, Java) only for Sem-VI

   For Example - (Banking & Finance , Cost Analysis ,Financial

   Analysis,Payroll , EDP ,ERP etc.)

Marks allotment for Project

	External (60 Marks)	Internal (40 Marks)	Total Marks (100 Marks)
Coding	30	10	40
Viva	10	10	20
Documentation	10	15	25
Presentation	10	5	15

MSGSD117 :- MS OFFICE , PHOTOSHOP/ CORELDRAW

Module–1:

Word Basics, Work with Text, Format Documents, Work with Text Objects, Work with References, Work with Illustrations, Specialized Documents, Collaborate with Others, Web Pages.

Excel Basics, Work with Cells and Worksheets Calculate Your Data, Format your Workbook, Add Charts and Graphics, Collaborate with Others, Analyze your Data, Work with Macros and the Web.

Module–2:

PowerPoint Basics, Create Presentations, Insert and Modify Text, Work with Graphics and Media, Final Preparations, Deliver a Presentation.

INTRODUCTION TO ADOBE PHOTOSHOP CS4

About Photoshop - Navigating Photoshop - Menus and panels- Opening new files - Opening existing files-Exploring the Toolbox- The New CS4 Applications Bar & the Options Bar-Exploring Panels & Menus- Creating & Viewing a New Document- Customizing the Interface- Setting Preferences -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 & Vibrance Color Correction Command.

75

RESIZING & CROPPING IMAGES

Understanding Pixels & Resolution-The Image Size Command-Interpolation Options-Resizing for Print & Web-Cropping & Straightening an Image-Adjusting Canvas Size & Canvas Rotation.

Module–3:

WORKING WITH BASIC SELECTIONS

Selecting with the Elliptical Marquee Tool-Using the Magic Wand & Free Transform Tool-Selecting with the Regular & Polygonal Lasso Tools-Combining Selections-Using the Magnetic Lasso Tool-Using the Quick Selection Tool & Refine Edge-Modifying Selections.

GETTING STARTED WITH LAYERS

Understanding the Background Layer- Creating, Selecting, Linking & Deleting Layers- Locking & Merging Layers- Copying Layers, Using Perspective & Layer Styles- Filling & Grouping Layers- Introduction to Blending Modes- Blending Modes, Opacity & Fill- Creating & Modifying Text.

PAINTING IN PHOTOSHOP

Using the Brush Tool- Working with Colors & Swatches- Creating & Using Gradients- Creating & Working with Brushes- Using the Pencil & Eraser ToolsPainting with Selections.

PHOTO RETOUCHING

The Red Eye Tool-The Clone Stamp Tool-The Patch Tool & the Healing -brush Tool-The Spot Healing Brush Tool- The Color Replacement Tool-The Toning & Focus Tools-Painting with History.

Module–4:

INTRODUCTION TO COLOR CORRECTION

Color Spaces & Color Modes-The Variations Command-The Auto CommandsAdjusting Levels-Adjust Curves, Non-Destructively, with Adjustment Layers.

USING QUICK MASK MODE

Quick Mask Options - Painting a Selection- Saving & Removing a Selection from the Background

WORKING WITH THE PEN TOOL

Understanding Paths & the Pen Tool-Creating Straight & Curved Paths- Creating
Combo Paths- Creating a Clipping Path

CREATING SPECIAL EFFECTS

Getting Started with Photoshop Filters- Smart Filters- Creating Text EffectsApplying Gradients
to Text.

Module–5:

Introduction to Corel Draw Tools-Tools-Corel draw Layout-Working with CurvesWorking with
Shapes & Objects-Working with Basic shape, Arrows -Flowchart
Shape, Banner Shape -Working with Text & Line-Interactive Tool -
Working with Bitmaps -Arranging Object

Course Competencies :

1. Examine word processing concepts and explore the Microsoft Office Word
environment.
2. Examine spreadsheet concepts and explore the Microsoft Office Excel
environment.
3. Examine slide show presentation concepts and explore the Microsoft Office
PowerPoint environment.
4. Demonstrate competency in identifying Photoshop interface elements.
5. Construct simple documents utilizing selections, layers, and blending modes.
6. Differentiate between simple graphic file formats and choose the appropriate
usage for each.
7. Designing visiting cards, brochures etc.

Resources

1. Adobe Photoshop
2. Adobe Photoshop CS4
3. CorelDraw Graphic Suite

Semester II

MSGSD121 : Technical writing

INTRODUCTION

An overview of Technical Writing –Definition, Importance of technical writing, The three C"s of technical writing, The writing process –Prewriting, writing and rewriting, Role of a technical writer, Skills of a technical writer.

(PRINCIPLES AND Applications of Technical Writing)

Principles of Technical writing,Technical Reports, Technical Editing , Business Plans , Proposals , Progress Reports , Instruction Manuals, User Guides, Oral Presentations, PLANNING

Audience analyses and Document planning –SDLC and DDLC.

Document Design

Book Design, Page Design, Headings, Lists, Special Notices, Graphics, Tables, Report Format and Final Packaging, Highlighting and Emphasis, Indexing.

ROBOHELP –Part 1

Help Basics, Types of Help, Help System Components, Basic Steps in Creating a Help File. Introduction to RoboHelp – basic concepts and terminologies , familiarising with the UI

Module II

RoboHELP – Part 2

Using CSS, Browse Sequences, Linking and Navigation, Text-only Pop-ups, Build Tags, Images, Context Sensitive Help. Training on creating web help, html help and flash help

Course Competencies

Upon satisfactory completion of the course, students will be able to:

1. Design and create effective technical documents for both print and digital media.

2. Understand and use Adobe RoboHelp for creating user manuals.

3. Improve the overall understanding on how to communicate professionally.

Text Book:

1. Sharon J. Gerson and Steven M. Gerson, Technical Writing Process and Product. 3rd Edition,2004

Reference Books:

1. Rubens,Philip, Science and Technical Writing - A manual of style; 2nd edition, 2004.

2. Anderson,Paul ; Technical Writing - A Reader Centered Approach; 3rd edition, 1995.

MSGSD123 : Software Testing

Module I

Introduction to quality, software quality, fundamentals of software testing, VV model of testing.Functional Testing: Boundary value Testing, Equivalence class testing, Decision Table based testing, Retrospection.

Module II

Structural Testing: Path Testing, Data Flow Testing, Retrospection - Levels of Testing, Integration Testing, System Testing, Interaction Testing - Object Oriented Testing: Issues, Class Testing, Object Oriented Integration -Testing, Object Oriented System Testing.

Testing Process: Planning, Metrics and Reports, Quantitative and Qualitative Analysis, Improvements.

MSGSD124 : Scripting programming

JavaScript
Intro to script types
 intro of JavaScript
 JavaScript identifiers
 operators
control & Looping structure
 Intro of Array, Array with methods
 Math, String, Date Objects with methods
 User defined & Predefined functions
 DOM objects
 Window Navigator, History, Location
 Event handling
 Validations On Forms
 Programs are to be covered on all topics

VB Scripts
Intro. To VBSCript
Variables
Data types
 Control Structures & Loops
Functions in VBSCript,
 Client side web scripting
 Validating forms
 DOM
 Handling errors
Programs are to be covered on all topics

PHP
Obtaining, Installing & Configuring PHP
Introduction PHP & web server Architecture Model
Overview of PHP
XML Intro & features of XML, XML writing elements, attributes etc. XML with CSS, DSO, XML Namespaces XML DTD, XML Schemas, Writing Simple sheets using XSLT, SAX & DOM Parsers, SOAP Intro.

Reference Books:
1. Complete reference HTML.
2. JavaScript Bible
3. HTML, DHTML, JavaScript, Perl & CGI Ivan Bayross

4. VBScript Programmers reference wrox Press

5. VBScript in Nutshell

6. Internet Technology at work Hofstetter fred

7. Programming the World Wide Web Robert W. Sebesta

8. Beginning PHP5

Reference Sites:

1. www.w3schools.com

2. www.devguru.com

MSGSD125   : Web Tech PHP with MySQL

PHP Introduction
- Introduction PHP and MySQL
- Benefits of using PHP MySQL
- Setup of PHP Environment
- Testing the Page
- Troubleshooting Installation Error1s

PHP Programming Concepts
- Write your First PHP Program
- Embed PHP in HTML / HTML in PHP
- PHP Data Types
- Variables in PHP
- SuperGlobal Variables
- Operators in PHP
- Conditional Statements
- Loops (For, While, Do While, Foreach)

PHP Functions
- Using Functions in PHP
- Userdefined Functions
- Predefined Functions
- Common Functions
- String Functions
- File Functions
- Date Functions
- Hash Functions
- Mail Function

My SQL Database Training
- What is Database ?
- Understanding an RDBMS
- Understanding Tables, Records, and Fields
- SQL Language
- Using the MySQL Command-Line Client

Working With My SQL Admin
- Working with PHP MyAdmin1
- Creating Databases
- Types of Databases
- Creating Tables in Database
- Specifying Field Data Types
- Selecting the Most Appropriate Data Type
- Adding Field Modifiers and Keys
- Selecting a Table Type Altering Tables
- Altering Table and Field Names
- Altering Field Properties
- Adding and Removing Fields and Keys
- Altering Table Types
- Backing Up and Restoring Databases and Tables
- Backing Up Databases and Tables
- Restoring Databases and Tables from Backup
- Dropping Databases and Tables

- Viewing Database, Table, and Field Information

SQL Queries
- Inserting Records
- Editing and Deleting Records
- Performing Queries
- Retrieving Specific Columns
- Filtering Records with a WHERE Clause
- Using Operators
- Sorting Records and Eliminating Duplicates
- Limiting Results
- Using Built-In Functions
- Grouping Records
- Joining Tables
-

Arrays and Arry Function
- Why use Arrays
- Types of Arrays
- Creating Arrays
- Accessing Arrays
- Array Functions
- Using Array Functions

MSGSD126 : - Mini Project (Project Work)

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