

॥ सा विद्या या विमुक्तये ॥



# स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

“ज्ञानतीर्थ” परिसर, विष्णुपुरी, नांदेड - ४३१६०६ (महाराष्ट्र)

**SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED**

“Dnyanteerth”, Vishnupuri, Nanded - 431606 Maharashtra State (INDIA)

Established on 17th September 1994 – Recognized by the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'A' Grade

## ACADEMIC (1-BOARD OF STUDIES) SECTION

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विद्यापीठ अनुदान आयोगाने शैक्षणिक वर्ष २०२०-२१ पासून मान्यता दिलेल्या व्होकेशनल कोर्सेसचे (बी.व्होक पदवी, अॅडव्हॉस डिप्लोमा, डिप्लोमा व सर्टिफिकेट ) अभ्यासक्रम शैक्षणिक वर्ष २०२०-२१ पासून लागू करणे बाबत.

### परिपत्रक

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, विद्यापीठ अनुदान आयोगाने शैक्षणिक वर्ष २०२०-२१ पासून मान्यता दिलेल्या व्होकेशनल कोर्सेसच्या (बी. व्होक पदवी, अॅडव्हॉस डिप्लोमा, डिप्लोमा व सर्टिफिकेट्स) अभ्यासक्रमांना मा विज्ञान व तंत्रज्ञान विद्याशाखेने दिनांक ३१ मे २०२१ रोजीच्या बैठकीतील केलेल्या शिफारशीप्रमाणे व मा. विद्यापरिषदेच्या दिनांक १२ जून २०२१ रोजीच्या बैठकीतील विषय क्रमांक २६/५१-२०२१ च्या ठरावानुसार खालील अभ्यासक्रमांस मान्यता देण्यात आली आहे.

1. B. Voc. IT/Hardware and Networking.
2. B. Voc Software Development.
3. B. Voc. Medical Laboratory Technology.
4. B. Voc. Horticulture and Post-Harvest Technology.
5. B. Voc. Herbal Medicine.
6. B. Voc. Commercial Aquaculture.
7. B. Voc. Food Processing Technology.
8. B. Voc. Skill Based Zoology.
9. B. Voc. Vocational Biotechnology.
10. B. Voc. Plant Tissue Culture Secretary.
11. Advance Diploma Radiological Physics.
12. Diploma – Computer Hardware.
13. Diploma – Computer Network Assistant.
14. Diploma – PGDMLT.
15. Diploma – Embedded System Design.
16. Diploma- Biofertilizer.
17. Diploma- Fisheries and Farm Management.
18. Diploma - Bee Keeping.

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या [www.srtmun.ac.in](http://www.srtmun.ac.in) या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी. ही विनंती.

जा.क्र.:शैक्षणिक-१/परिपत्रक/व्होकेशनल अभ्यासक्रम/N-  
२०२०-२१/६८

दिनांक : ०५.०७.२०२१

प्रत माहिती व पुढील कार्यवाहीस्तव :

- १) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
- २) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
- ३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
- ४) साहाय्यक कुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
- ५) उपकुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
- ६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.

स्वाक्षरित

सहा कुलसचिव

शैक्षणिक (१-अभ्यासमंडळ) विभाग



# Swami Ramanand Teerth Marathwada

## University Nanded

### Program Structure for B. Voc. in Software Development B. Voc. F. Y. (Semester I + Semester II)

Class	Course Code	Course Title	Lect. per week	No. of Credits	Marks ESC	Marks CE	Total Marks	
<b>SEMESTER – I</b>								
NSQF Level-4 Qualification Title: Junior Software Developer								
<b>F. Y. B. Voc.</b>	General Education Component	BVOC.1.01	Practical English Part I	4	4	75	25	100
		BVOC.1.02	Numerical Aptitude & Logical reasoning	4	4	75	25	100
		BVOC.1.03	Fundamental of Information Technology	4	4	75	25	100
	Skill Component	BVOC.1.04	Programming Language Concepts	4	4	75	25	100
		BVOC.1.05	Software Engineering and Testing	4	4	75	25	100
		BVOC.1.06	Office Automation	4	4	75	25	100
		BVOC.1.07	Lab 1: Programming Language Concepts	2	2	30	20	50
		BVOC.1.08	Lab 2: Office Automation	2	2	30	20	50
		BVOC.1.09	Lab 3: Software Engineering and Testing	2	2	30	20	50
			<b>30</b>				<b>750</b>	
<b>SEMESTER – II</b>								
NSQF Level-5 Qualification Title: Web Developer								
<b>F. Y. B. Voc.</b>	General Education Component	BVOC.2.01	Practical English Part II	4	4	75	25	100
		BVOC.2.02	Data Analysis and Discrete Mathematics	4	4	75	25	100
		BVOC.2.03	Operating System	4	4	75	25	100
	Skill Component	BVOC.2.04	Web Technology	4	4	75	25	100
		BVOC.2.05	Graphics Design and Content Management Tools	4	4	75	25	100
		BVOC.2.06	Desktop Publishing	4	4	75	25	100
		BVOC.2.07	Lab 1: Web Technology	2	2	30	20	50
		BVOC.2.08	Lab 2: Graphics Design and Content Management Tools	2	2	30	20	50
		BVOC.2.09	Lab 3: Desktop Publishing	2	2	30	20	50
			<b>30</b>				<b>750</b>	

**B. Voc. in Software Development**  
 B. Voc. F. Y. (Semester I)  
 B VOC.1.01 Practical English Part I

**Course Objectives:**

1. To make a comprehensive use of English in day-to-day life.
2. To help Students develop the ability to learn and contribute critically.
3. To develop the writing skills of the students.
4. To help the students to understand the basic usages of English.

**Course Outcome:**

**By the end of this course students should be able to:**

1. Understand and demonstrate Basic English usages for their different purposes.
2. Clear entrance examination and aptitude tests.
3. Write various letters, reports required for professional life.

<b>Unit-1: Basic English Grammar</b>	NOS	Hours
Noun, Verb, Adjective, Adverb	SSC/N9001	10
<b>Unit-2: Sentence Elements</b>	NOS	Hours
Elements of sentences and their structures, Clauses: - Noun, Adjective, Adverb, Sentence: - Simple, Compound, Complex	SSC/N9001	
<b>Unit-3: Morphology</b>	NOS	10
Affixes, Processes of Word Formation: Major and Minor Processes, Morphological Analysis of words	SSC/N9001	
<b>Unit-4: Writing Skills</b>	NOS	Hours
Essay Writing, Email Writing, Resume	SSC/N9001	10
<b>Unit-5: Oral Communication</b>	NOS	Hours
Group Discussion, Interview	SSC/N9001	10
<b>Unit-6: Situational English</b>	NOS	Hours
Greetings, Introducing oneself, Requesting	SSC/N9001	10

**Reference Books**

1. Modern English Grammar-L. S. Deshpande (creative Publication)
2. A Practical English Grammar- A. J. Thomson. (Oxford University)
3. Macmillan Foundation English. - R. K. Dwivedi & a. Kumar (Mammalian India Ltd)
4. Writing English for You- G. Radhakrishna Pillai (Emerland Publication)
5. High School English Grammar & Composition - Wren & Martin (S. Chand)
6. Radiance Communication Skills- Editorial Board (SRTM University) Orient Black Swan.
7. English Grammer and Composition – Rejendra Pal and Prem Lata Suri (Sultan Chand and Sons)

## B. Voc. in Software Development

B. Voc. F. Y. (Semester I)

BVOC.1.02 Numerical Aptitude & Logical reasoning

### Learning Objectives:

- i. Practicing Basics of mathematics
- ii. Use of Numbers
- iii. This course enables students to develop their ability to reason by introducing them to elements of reasoning
- iv. Basics knowledge of different types of Series and Directions.

### Course Outcomes:

- i. Develops problem solving skills of student
- ii. Improves Basic and advanced calculations used in day to day life.
- iii. Improves Mental Alertness
- iv. Construct a logically sound and well-reasoned argument.

<b>Unit I : Introduction of Number system</b>	NOS	Hours
<b>Numbers:</b> Types of numbers, Divisibility tests of numbers, Formulas for sum of natural numbers, arithmetic progression, Examples for practice.	SSC/N9001	8
<b>Unit II HCF and LCM</b>	NOS	Hours
<b>HCF and LCM :</b> Methods of calculating highest common factor and greatest common divisor, factorization method, Division method, Finding HCF and LCM more than two numbers, LCM factorization method, Division method, Finding HCF and LCM more than two numbers, LCM and HCF of fractions and decimal numbers, Applications of LCM and HCF.	SSC/N9001	8
<b>Unit III: Average</b>	NOS	Hours
<b>Average:</b> Definition of average, Formulae and theoretical problem on average.	SSC/N9001	6
<b>Unit IV: Series of Numbers and Alphabets</b>	NOS	Hours
<b>Series:</b> Types of series, Number Series, Alphabet series, Alpha numeric series.	SSC/N9001	8
<b>Unit V: Analogy</b>	NOS	Hours
<b>Analogy:</b> Completing the Analogous Pair, Direct/Simple Analogy, Choosing the Analogous Pair, Double Analogy, Number analogy, Alphabet analogy, Correlation between letters/numbers.	SSC/N9001	8
<b>Unit VI: Direction Sense Test</b>	NOS	Hours

A. Introduction	SSC/N9001	10
B. Problems based on angular changes in direction		
C. General Problems based on Pythagoras Theorem		
D. Problems on shadows		

### References

1. Quantitative Aptitude, Dr.R.S Aggarwal, S.Chand and Company
2. A Modern Approach to Verbal & Nonverbal Reasoning, Dr.R.S Aggarwal, S.Chand and Company
3. [www.indiabix.com](http://www.indiabix.com)
4. [www.allindiaexams.in](http://www.allindiaexams.in)

**B. Voc. in Software Development**  
 B. Voc. F. Y. (Semester I)  
 BVOC.1.03 Fundamental of Information Technology

**Learning Objectives:**

- i. To create overall generic awareness about scope of the field of IT and to impart basic personal computing skills.
- ii. To create background knowledge for the various courses in the programme.
- iii. It will help them to pursue specialized programs leading to technical and professional careers and certifications in the IT industry.

**Course Outcomes:**

At the end of this course, student should be able to

- i. Understand basic concepts and terminology of information technology.
- ii. Have a basic understanding of computers and their operations.
- iii. Identify issues related to basic parts.
- iv. Understand number systems used in computers
- v. To impart functional knowledge about networks and internet. To give an overview of computer application in various fields and an overall generic awareness about the scope of the field of IT

<b>Unit I: Introduction to Information Technology</b>	NOS	Hours
Introduction, Characteristics of computer, Evolution of Computer, Block Diagram of a computer, Digital signals, Binary System, ASCII; Historic Evolution of Computers; Classification of computers: Microcomputer, Minicomputer, mainframes, Supercomputers; Personal computers: Desktop, Laptops, Palmtop, Tablet PC, Workstations, Client and Server Architecture, Hardware & Software; Von Neumann model, Applications of Computer, Capabilities and limitations of computer.	SSC/N9001	10
<b>Unit II Basic Computer Organization</b>	NOS	Hours
Input Devices :- Keyboard, Mouse, trackball, Joystick, electronic pen, Touch Screen, Image Scanner, OCR, OMR, MICR, Bar code reader, Digitizer, speech recognition devices. Output Devices :- Monitors, Dot-matrix printer, Ink-jet printer, Laser Printer, Plotter Modem and Projector Bio-metric devices Main Memory: - RAM, ROM, PROM, EPROM, UVEPROM,	SSC/N9001	

EEPROM, Base Memory, Cache Memory, Sequential Access Memory: - Magnetic Tape, Direct Access Memory: - HDD. Optical Storage: - CD, DVD, Blue-ray disk. Flash Memory: - Pen-drive, memory card.		
<b>Unit III: Operating System and Introduction to Windows 10</b>	NOS	10
Introduction to Operating System, Functions of Operating System, Types of Operating System, DOS and Windows OS, Linux OS, Smart phone OS and Android Operating System Architecture of DOS, Windows, Linux and Android Operating System.	SSC/N9001	
<b>Unit IV: Number System and Computer Arithmetic</b>	NOS	Hours
Number system types: Decimal, Binary, Octal, Hexadecimal, Conversions from one number system to other number system, Binary Arithmetic: Addition, Subtraction, Multiplication, Division, Complementation Method: One's Complement, Two's complement	SSC/N9001	10
<b>Unit V: Introduction to signals and Logic Gates</b>	NOS	Hours
Introduction to signals: Analog signal, Digital signal Basic Logic Gates: AND, OR, NOT Universal gates: NAND and NOR Special purpose gates: EX-OR and EX-NOR	SSC/N9001	10
<b>Unit VI: Introduction to Computer Network &amp; Internet</b>	NOS	Hours
Definition of Network, Web Browser, Types of Web Browser Introduction to Google chrome, Searching and Browsing Websites, URL, Search engines, Search tips; Server, Workstation, switch, router, network operating systems; Internet: brief history, World Wide Web, Types of Network: - LAN, MAN, WAN, Data Transmission Modes, Internet connections: ISP, Dial-up, cable modem, WLL, DSL, leased line; E-Mail, Email software features (send receive, filter, attach, forward, copy, blind copy); File Transfer Protocol, Characteristics of web-based systems, Web pages, introduction to HTML.	SSC/N9001	10

**References:**

1. Fundamentals of Computer by P.K. Sinha BPB publication 6th Edition ISBN: 81-7656- 752-3
2. Fundamentals of Microprocessor and Microcontrollers by B. Ram
3. Modern Digital Electronics -by R. P. Jain Tata McGraw -Hill Publication 3rd Edition ISBN: 978-0-07-049492-3
4. MICROPROCESSOR -by B. Ram publication 5th Edition.
5. Inside the PC by Peter Norton



## B. Voc. in Software Development

B. Voc. F. Y. (Semester I)

BVOC.1.04 Programming Language Concepts

### Learning Objectives:

- i. Programming Language Concepts course would enable the students in understanding Basics of Programming Languages and design & write the simple software applications using C programming.
- ii. Learn how to design algorithms and flowcharts.
- iii. Learn fundamental concepts of C Programming such as. Variables and constants, Operators, conditional and looping statements, Arrays, functions, structure and union, pointer, file handling etc.

### Course Outcomes:

After successful completion of this course, students should be able to:

- i. To design algorithms and flowcharts to solve any problems.
- ii. To write software program to solve the given problem
- iii. To use file handling for storing and processing data.
- iv. To design program using graphics function in C

<b>Unit I: Introduction to Programming languages</b>	NOS	Hours
Introduction to Computer and Its Types, Introduction to software's: System software, Application software, Database software, Why to Learn about programming Languages, Types of programming Languages, Compilers and Its Types, Interpreter, Algorithm, Flowcharts and Symbol for creating flowchart, Converting algorithm to flowchart, Overview of C Programming, Advantages and Application of C Language Character set, Keywords and Identifiers, Constants and Variables, Data types, Operators and Expressions, Operator precedence and associativity, Type casting	SSC/NOS-501	10
<b>Unit II Data I/O, Control Structures</b>	NOS	Hours
Basic structure of C program, Formatted and Unformatted Input and Output, Conditional branching - if, switch statement, Iterative loops - while, do while and for statement, break and continue statement, goto statement.	SSC/NOS-501	
<b>Unit III: Arrays and Functions</b>	NOS	10

Introduction, Declaration and Initialization, Accessing Array elements, Memory, representation of Array, One dimensional Arrays, Two dimensional Arrays ,Character Arrays and Strings. Introduction to Functions, Standard Library Functions, User Defined Functions (UDF) – Declaration, Definition, Function call, Parameter Passing - by value and by reference, Recursion, Storage Classes, Macros.	SSC/NOS-501	
<b>Unit IV Structure, Union and Pointers</b>	NOS	Hours
Defining Structure, Declaration, Initialization, Array of Structures, Structure and Functions, Nested Structures, Unions, Enumerated data type, typedef, Pointers and Dynamic Memory Allocation	SSC/NOS-501	10
<b>Unit V: File Handling</b>	NOS	Hours
Creation of a new file, file opening mode, Opening an existing file, Reading from file (fscanf, fgets, fgetc), Writing to a file (fprintf or fputs, Moving to a specific location in a file (ftell, fseek, rewind), Reading and Writing Binary files, Closing a file (fclose)	SSC/NOS-501	10
<b>Unit V: Introduction to Graphics Programming in C</b>	NOS	Hours
Introduction, initializing the graphics, C Graphical functions: initgraph, setbkcolor, setcolor, textcolor, settextstyle, gotoxy, line, circle, rectangle, ellipse, floodfill, , getimage, putimage, , Closegraph, cleardevice, sleep, sound, delay etc. simple programs	SSC/NOS-501	10

**References:**

1. Let us C-YashwantKanetkar.
2. Programming in C- Balguruswamy
3. The C programming Lang., Pearson Ecl – Dennis Ritchie
4. Structured programming approach using C- Forouzah&Ceilberg Thomson learning publication.
5. Pointers in C – YashwantKanetkar

## B. Voc. in Software Development

B. Voc. F. Y. (Semester I)

BVOC.1.05 Software Engineering and Testing

### Learning Objectives:

- i. To develop software engineering skills and testing plans.
- ii. To understand system concepts and its application in Software development.
- iii. To enhance skills of designing and testing software.
- iv. To learn technical skills to assure production of quality software.

### Course Outcomes:

- i. Ability to learn various methods of software development.
- ii. Ability to apply various software testing techniques

<b>Unit I: Introduction to Software Engineering</b>	<b>NOS</b>	<b>Hours</b>
The Evolving Role of Software, Software, Software Characteristics, Software Applications, Software Evolution, Software Crisis & Horizon, Software Myths		10
<b>Unit II: Process Of Software</b>	<b>NOS</b>	<b>Hours</b>
Software Engineering, Software Process, The Waterfall Model, Incremental Process Models, Evolutionary Process Models, Spiral Model		08
<b>UNIT-III: A Generic View of Process</b>	<b>NOS</b>	<b>Hours</b>
Software Engineering – A Layered Technology, Process Framework, Personal and Team Process Models, Personal Software Process (PSP), Team Software Process (TSP), Process Technology, Product and process		10
<b>UNIT-IV: AGILE DEVELOPMENT</b>	<b>NOS</b>	<b>Hours</b>
What Is Agility?, What Is an Agile Process?, The Politics of Agile Development, Agile Process Models, Feature Driven Development (FDD), Software Engineering Practice, The Essence of Practice,		14

Core Principles, Communication, Planning, Modeling Practices		
<b>UNIT-V: SOFTWARE TESTING STRATEGIES</b>	<b>NOS</b>	<b>Hours</b>
A Strategic Approach to Software Testing, Unit Testing, Integration Testing, Validation Testing, System Testing, The Art Of Debugging		8
<b>UNIT-VI: TESTING APPLICATION</b>	<b>NOS</b>	<b>Hours</b>
Software Testing Fundamentals, Internal and External Views of Testing, White-Box Testing, Basic Path Testing, Control Structural Testing, Black Box Testing		10

**References:**

1. Software Engineering (7 th edition) R.Pressmen M C Graw Hill ISBN-13: 978-0078022128
2. Software Engineering (8 th edition) R.Pressmen M C Graw Hill ISBN-10: 9780089022382
3. Software Testing Concepts and Tools Nageswara Rao Dreamtech Publication ISBN 8177227122, 9788177227123
4. Software Engineering by Roger S. Pressman, Sixth Edition, McGraw Hill International Pub, ISBN- 0077227808.
5. Software Testing in the Real World by Edward Kit, Addition – Wesley Pub, ISBN-0201877562
6. Software Testing by Ron Patton, Second Edition, BPB Publication, ISBN-9780672327988
7. The Art of Software Testing by G. J. Myers, Third Edition, Wiley-InterScience Pub, ISBN: 9781118031964

## B. Voc. in Software Development

B. Voc. F. Y. (Semester I)

BVOC.1.06 Office Automation

### Learning Objectives:

- i. Office Automation course would enable the students in crafting professional word documents, excel spread sheets, power point presentations using the Microsoft suite of office tools.
- ii. This will help students to develop accurate and well-designed documents.
- iii. To familiarize the students in managing database with Microsoft Access.

### Course Outcomes:

After successful completion of this course, students should be able to:

- i. To prepare well designed documentation.
- ii. To create, modify format and print document using MS Word.
- iii. To design pages using different page layouts.
- iv. To work with a Spreadsheet, Charts and perform basic calculations.
- v. To create effective presentations using power point.
- vi. To apply animations and themes to enhance the looks of the Presentation.
- vii. To design a database with related tables using MS Access.

<b>Unit I: Introducing Windows 10</b>	NOS	Hours
Windows concepts and Features, Windows Structure, Desktop, Taskbar, Start Menu, My Computer, Creating, Copying, Moving and Deleting files, Recycle Bin, Windows Accessories- Calculator, Notepad, Paint, WordPad, Using Scanner, System Tools, Basic DOS Commands	SSC/9004	10
<b>Unit II Word Processing Part-I</b>	NOS	Hours
Introduction to MS Word, Features of MS Word, Creating Opening and editing documents, Menus and Toolbars, Keyboard shortcuts, Formatting text and paragraph, Find and Replace, AutoText, Auto Correct, Envelopes and labels	SSC/9004	6
<b>Unit III: Word Processing Part-II</b>	NOS	Hours
Numbers and bullets, Page Layouts, Working with Tables,	SSC/9004	14

Inserting mathematical formulae, Graphics and Frames, Converting a word document into various formats like- Text, Rich Text format, PDF, Mail Merging, Table of Content, Insert End Note and Foot Note, Insert Table of Figures		
<b>Unit IV: Working with Workbook and Spreadsheet</b>	NOS	Hours
Creating and Opening Workbooks, Compatibility mode, Saving and Sharing Workbooks, Exporting workbooks, Cell Basics, Formatting Cells, Modifying Columns, Rows and Cells, Formulas and Functions, Working with Data, Working with Charts, Printing Workbooks	SSC/9004	10
<b>Unit V: Designing Presentation</b>	NOS	Hours
Getting Started with PowerPoint, Working with Slides, Working with Headers, Footers, and Notes, Inserting and Formatting Pictures, Formatting Text, Displaying the Presentation Outline, Inserting Charts, Tables, Videos, Audios and Objects, Arranging Slides, Adding Slide Transitions, Using animations.	SSC/9004	10
<b>Unit VI: Database Management with MS Access</b>	NOS	Hours
Creating a New Database, Creating Tables, Working with Forms, Creating queries, Finding Information in Databases, Creating Reports, Types of Reports, Printing & Print Preview, Importing data from other databases viz. MS Excel.	SSC/9004	10

**References:**

1. EXCEL 2007 Made Simple by Satish Jain, BPB
2. Word 2007 by Rutkosky, BPB 3
3. PowerPoint 2007 Made Simple by Satish Jain, BPB
4. Mastering EXCEL 4 for Windows - Chester – BPB
5. Learning Microsoft Office 2010, Lisa Bucki, Chirsty Parish, SuznneWeixel

## **B. Voc. in Software Development**

B. Voc. F. Y. (Semester I)

BVOC.1.07 Lab 1: Programming Language Concepts

### **Learning Objectives:**

- i. Programming Language Concepts course would enable the students in understanding Basics of Programming Languages and design & write the simple software applications using C programming.
- ii. Learn how to design algorithms and flowcharts.
- iii. Learn fundamental concepts of C Programming such as. Variables and constants, Operators, conditional and looping statements, Arrays, functions, structure and union, pointer, file handling etc.

### **Course Outcomes:**

After successful completion of this course, students should be able to:

- i. To design algorithms and flowcharts to solve any problems.
- ii. To write software program to solve the given problem
- iii. To use file handling for storing and processing data.
- iv. To design program using graphics function in C

### **Lab Work/ Practical List**

Programs for the demonstration of all the concepts in C Programming Language.

Following List should be covered after the Programs for the demonstration of concepts of C language.

1. Write a C program for the following:
  - a) Swapping using third variable
  - b) Swapping without using third variable
2. Write a C program to find Largest of the three Number using ternary operator.
3. Write a C program to print grade of the Students based on percentage as follows:  
>=80% -- Distiction  
>=60% -- First Class  
>=40% -- Pass Class  
Otherwise -- Fail
4. Write a C program to Check whether given number is Armstrong Number.
5. Write a C program to convert given number into word format using switch control Structure  
e.g. 123 >>>OneTwoThree
6. Write a C program to print all prime Number between 1 to n.

7. Write a C program to Print given Pattern:

1>>>

2>>>

3>>>

8. Write a C program to find sum series:  $1/1! - 2/2! + 3/3! - 4/4! \dots \dots \dots N/N!$  .

9. Write a C program to find GCD and LCM of the given numbers.

10. Write a C program to find smallest and largest of n numbers using Arrays.

11. Write a C program to sort n numbers using Arrays in ascending or descending order.

12. Write a C program to find Addition of the two Matrix.

13. Write a C program to find Multiplication of the two Matrix.

14. Write a C program to find Transpose of the Matrix.

15. Write a C program to find sum of the diagonal of the Matrix.

16. Write a C program to find sum of the digits of the Number with and without Recursion.

With Recursion

Without Recursion

17. Write a C program to find Fibonacci series using recursion.

18. Write a C program to count the Number of the vowels and consonants in the String.

19. Write a C program by using Structure to display the information of the students. it include roll no.(int) , Name(char) , Gender(char) , fees(float).

20. Write a C program to swap two numbers using Call by Reference And call by value.

Call by Value

Call by Reference

21. Write a C program to add two integer using Pointers.

Using Function

Without Using Function

22. Write a C program to count number of the Characters, words and lines in the txt file.

23. Write a C program to display the contents of file on screen.

24. Write a C program to copy contents of one file to another.

25. Write a C program to read name and marks of n number of students from and store them in a file. If the file previously exists, add the information to the file.

26. Write a C program to write all the members of an array of structures to a file using fwrite().

Read the array from the file and display on the screen.

27. Write a C program to sort n strings using Arrays in ascending or descending order

28. Write a Program to draw basic graphics construction like line, circle, arc, ellipse and rectangle.

29. Write a Program to draw animation using increasing circles filled with different colors and patterns.

30. Program to make screen saver in that display different size circles filled with different colors and at random places.

31. Write a Program to make a moving colored Airplane/car using inbuilt functions.

32. Write a C Program to Remove Characters in String except Alphabets

33. Write a program in C to print individual characters of string in reverse order



34. Write a program in C to count total number of alphabets, digits and special characters in a string

35. Write a C program to check whether a given substring is present in the given string

36. Write a program in C to convert a string to lowercase

37. Write a program in C to make such a pattern like right angle triangle with a number which will repeat a number in a row.

The pattern like :

```
1
22
333
4444
```

38. Write a program in C to make such a pattern like right angle triangle with number increased by 1

The pattern like :

```
1
2 3
4 5 6
7 8 9 10
```

39. Write a program in C to make such a pattern like a pyramid with numbers increased by 1. Go to the editor

```
1
2 3
4 5 6
7 8 9 10
```

40. Write a program in C to make such a pattern like a pyramid with an asterisk. Go to the editor

```
*
* *
* * *
* * * *
```

41 Write a C program to reverse the digits of a given integer.

42. Write a C program to check whether an integer is a palindrome or not. An integer is a palindrome when it reads the same forward as backward

### References:

1. Let us C-YashwantKanetkar.
2. Programming in C- Balguruswamy
3. The C programming Lang., Pearson Ecl – Dennis Ritchie
4. Structured programming approach using C- Forouzah&Ceilberg Thomson learning publication.
5. Pointers in C – YashwantKanetkar

**B. Voc. in Software Development**  
B. Voc. F. Y. (Semester I)  
BVOC.1.08 Lab 2: Office Automation

**Lab Work/ Practical List**

**Task 1 Create project certificate** Features to be covered:-Formatting Fonts in word, Drop Cap in word, Applying Text effects, Using Character Spacing, Borders and Colours, Inserting Header and Footer, Using Date and Time option in Word.

**Task 2: Creating project** Features to be covered:-Formatting Styles, Inserting table, Bullets and Numbering, Changing Text Direction, Cell alignment, Footnote, Hyperlink, Symbols, Spell Check, Track Changes.

**Task 3: Creating a Newsletter:** Features to be covered: - Table of Content, Newspaper columns, Images from files and clipart, Drawing toolbar and Word Art, Formatting Images, Textboxes and Paragraphs

**Task 4: Creating a Feedback form** - Features to be covered- Forms, Text Fields, Inserting objects, Mail Merge in Word.

*Tasks to be completed using MS Excel*

**Task1: Creating a Scheduler** - Features to be covered: Gridlines, Format Cells, Summation, auto fill, formatting Text.

**Task 2: Calculations** - Features to be covered:- Cell Referencing, Formulae in excel – average, std. deviation, Charts, Renaming and Inserting worksheets, Hyper linking, Count function, LOOKUP/VOOKUP

**Task 3: Performance Analysis** - Features to be covered: - Split cells, freeze panes, group and outline, Sorting, Boolean and logical operators, Conditional formatting

*Tasks to be completed using MS Power Point*

**Task1:** Students will be working on basic power point utilities and tools. Topic covered includes :- PPT Orientation, Slide Layouts, Inserting Text, Word Art, Formatting Text, Bullets and Numbering, Auto Shapes, Lines and Arrows

**Task 2:** Concentrating on the in and out of Microsoft power point. Topics covered includes: - Master Layouts (slide, template, and notes), Types of views (basic, presentation, slide slotter, notes etc.), and Inserting – Background, textures, Design Templates, Hidden slides. Auto content wizard, Slide Transition, Custom Animation, Auto Rehearsing

**Task 3:** Power point test would be conducted. Students will be given model power point presentation which needs to be replicated (exactly how it's asked).

*Tasks to be completed using MS Access*

**Task 1:** Creating Student's address Database and then list the data on the screen in alphabetical order and performing various queries.

**Task 2:** Generating Query in Access

**Task 3:** Generating the Report from Database and Importing and exporting data

## **B. Voc. in Software Development**

B. Voc. F. Y. (Semester I)

BVOC.1.09 Lab 3: Software Engineering and Testing

### **Lab Work/ Practical List**

- 1) Develop requirement specification of our project
- 2) Develop DFD model(level-0,level-1 dfd and data dictionary of the project)
- 3) Develop UML use case model for a problem
- 4) Develop sequence diagram
- 5) Develop class diagram
- 6) Take any system( e.g. ATM system) and study its system specification and report the various bugs
- 7) Write the any test case for any known application(e.g. banking system)
- 8) Create a test plan document for any application(library mgmt. system)
- 9) Study of any testing tool (e.g. winrunner)
- 10)Study of any testing tool(e.g. selenium)
- 11) Study of any bug tracking tool (e.g. Bugzilla,bugbit)
- 12) Study of any Test management tool (e.g. test director)
- 13) Study of any Open source testing tool (e.g. test link)

**B. Voc. in Software Development**  
 B. Voc. F. Y. (Semester II)  
 BVOC.2.01 Practical English Part II

**Course Objectives:**

1. To make a comprehensive use of English in day-to-day life.
2. To help Students develop the ability to learn and contribute critically.
3. To develop the writing skills of the students.
4. To help the students to understand the basic usages of English.

**Course Outcome:**

**By the end of this course students should be able to:**

1. Understand and demonstrate Basic English usages for their different purposes.
2. Clear entrance examination and aptitude tests.
3. Write various letters, reports required for professional life.

<b>Unit-1: Morphology</b>	NOS	Hours
Morphology: Free & Bound Morphemes, Word Formation Processes, Morphological Analysis of words	SSC/N9001	10
<b>Unit-2: Grammar in day-to-day use:</b>	NOS	Hours
Word Classes: Open and Closed Word Classes, Phrase: Types and functions of the phrases	SSC/N9001	
<b>Unit-3: Auxiliary Verbs</b>	NOS	10
Verbs: Primary Auxiliary and Secondary Auxiliary, Usages and Functions of modal auxiliaries, Questions using Model Auxiliaries	SSC/N9001	
<b>Unit-4: Transformation of Sentences</b>	NOS	Hours
Voice: Active & Passive, Speech: Direct & Indirect	SSC/N9001	10
<b>Unit-5: Error Detection</b>	NOS	Hours
Determiners: Article, Quantifiers and Demonstratives, Subject – Verb Agreement	SSC/N9001	10
<b>Unit-6: Tenses and their usages</b>	NOS	Hours
Simple Present, Simple Past, Simple Future	SSC/N9001	10

**Reference Books**

1. Modern English Grammar-L. S. Deshpande (creative Publication)
2. A Practical English Grammar- A. J. Thomson. (Oxford University)
3. Macmillan Foundation English. - R. K. Dwivedi & a. Kumar (Mammalian India Ltd)
4. Writing English for You- G. Radhakrishna Pillai (Emerland Publication)
5. High School English Grammar & Composition - Wren & Martin (S. Chand)
6. Radiance Communication Skills- Editorial Board (SRTM University) Orient Black Swan.
7. English Grammer and Composition – Rejendra Pal and Prem Lata Suri (Sultan Chand and Sons)

## B. Voc. in Software Development

B. Voc. F. Y. (Semester II)

BVOC.2.02 Data Analysis and Discrete Mathematics

### Learning Objectives:

- i. Practicing Basics of mathematics
- ii. Use of Numbers
- iii. This course enables students to develop their ability to reason by introducing them to elements of reasoning
- iv. Basics knowledge of different types of set mathematical logic relations and probability.

### Course Outcomes:

- i. Develops problem solving skills of student
- ii. Improves Basic and advanced calculations used in day to day life.
- iii. Improves basics mathematics and statistics
- iv. Construct a logically sound and well-reasoned argument.

<b>Unit-1: Set,</b>	NOS	Hours
Meaning, Types of Set, Sub Set, Equity of Set, Operation on Set, Venn diagram, Problems on Set	SSC/N9001	10
<b>Unit -2 : Mathematical Logic</b>	NOS	Hours
Proposition & Logical Operations, Truth Tables, Equivalence, Implications, Law of Logic, Predicates & Quantifier	SSC/N9001	
<b>Unit -3: Relation</b>	NOS	10
Meaning, Types of Relation, Operation on Relation, Function, Types of Function,	SSC/N9001	
<b>Unit -4 : Frequency Distribution</b>	NOS	Hours
Introduction of Statics, Meaning of Data, Descript Variates, Continuous Variates, Formation of Frequency Distribution,	SSC/N9001	10
<b>Unit -5: Measure of Central Tendency</b> Arithmetic Mean, Median, Mod-Definitions & Calculations, Quartile, Deciles & Percentile, Definitions & Calculations,	NOS	Hours
	SSC/N9001	10
<b>Unit -6: Probability</b>	NOS	Hours
Definition, Random Experiment, Sample Space, Events, Definition of Probability, Examples on Probability	SSC/N9001	10

1. Statistical Method –S. P. Gupta 9<sup>th</sup> Edition, S. Chand Publication
2. Fundamental of Statics - S. C. Gupta, 6<sup>th</sup> Edition, Himalaya Publication.
3. Discrete Mathematical Structure- Y. N. Singh

## B. Voc. in Software Development

B. Voc. F. Y. (Semester II)

BVOC.2.03 Operating System

### Learning Objectives:

- i. Demonstrate a knowledge of process control, threads, concurrency, memory management Scheduling, I/O and files, distributed systems, security, networking.
- ii. Understand the services provided by and the design of an operating system.
- iii. Understand the structure and organization of the file system.
- iv. Understand what a process is and how processes are synchronized and scheduled.

### Course Outcomes:

After successful completion of this course, students should be able to:

- i. Understand and analyse theory and implementation of: processes, resource control (concurrency etc.), physical and virtual memory, scheduling, I/O and files
- ii. Use system calls for managing processes, memory and the file system.
- iii. describe, contrast and compare differing structures for operating systems
- iv. Understand the data structures and algorithms used to implement an OS.

<b>Unit I: Overview of Operating System</b>	NOS	Hours
What is an OS, Brief history, Architecture, Goals & Structures of O.S, Basic functions, Interaction of O. S. & hardware architecture, System calls, Batch, multiprogramming. Multitasking, time sharing, parallel, distributed & real -time O.S.	SSC/ N0503	8
<b>Unit II Process Management</b>	NOS	Hours
Process Concept, Process states, Process control, Threads, Uniprocessor Scheduling: Types of scheduling: Pre-emptive, Non pre-emptive, Scheduling algorithms: FCFS, SJF, RR, Priority, Thread Scheduling, Real Time Scheduling. System calls like ps, fork, join, exec family, wait.	SSC/ N0501	10
<b>Unit III: Concurrency control</b>	NOS	Hours
<b>Concurrency:</b> Principles of Concurrency, Mutual Exclusion: S/W approaches, H/W Support, Semaphores, pipes, Message Passing, signals, Monitors, Classical Problems of <b>Synchronization:</b> Readers-Writers, Producer Consumer, and	SSC/ N0501	10

Dining Philosopher problem. <b>Deadlock:</b> Principles of deadlock, Deadlock Prevention, Deadlock Avoidance, Deadlock Detection, System calls like signal, kill.		
<b>Unit IV: Memory Management</b>	NOS	Hours
Memory Management requirements, Memory partitioning: Fixed and Variable Partitioning, Memory Allocation: Allocation Strategies (First Fit, Best Fit, and Worst Fit), Fragmentation, Swapping, and Paging. Segmentation, Demand paging <b>Virtual Memory:</b> Concepts, management of VM, Page Replacement Policies (FIFO, LRU, Optimal, Other Strategies), Thrashing.	SSC/ N0501	10
<b>Unit V: I/O management &amp; Inter Process Communication</b>	NOS	Hours
I/O Devices, Organization of I/O functions, Operating System Design issues, I/O Buffering, Disk Scheduling (FCFS, SCAN, C-SCAN, SSTF), RAID, Disk Cache. Basic Concepts of Concurrency, Cooperating process, Advantage of Cooperating process, Bounded- Buffer - Shared-Memory Solution, Inter-process Communication (IPC), Basic Concepts of Inter-process Communication and Synchronization	SSC/ N0501	10
<b>Unit VI: Multi-Processor Based and Virtualization Concepts</b>	NOS	Hours
Virtual machines; supporting multiple operating systems simultaneously on a single hardware platform; running one operating system on top of another. Reducing the software engineering effort of developing operating systems for new hardware architectures. True or pure virtualization. Para virtualization; optimizing performance of virtualization system; hypervisor call interface. Basics of Network Operating System, Server Operating System and Real Time Operating System	SSC/ N0501	12

## References:

### Reference Books:

1. Operating System Concepts by Abraham Silberschatz, Peter B. Galvin, Greg Gagne.
2. Modern Operating Systems by Andrew Tanenbaum, Prentice Hall.
3. Operating Systems by William Stallings Prentice Hall
4. Fundamentals of Operating Systems by A.M. Lister, Macmillan

## B. Voc. in Software Development

B. Voc. F. Y. (Semester II)

BVOC.2.04 Web Technology

### Learning Objectives:

- i. To impart basic Web Designing skills.
- ii. To provide the in-depth knowledge about Static and Dynamic Web Designing and make them ready for designing such websites
- iii. Develop the modern Web applications using the client and server side technologies and the web design fundamentals

### Course Outcomes:

- i. Describe the concepts of WWW including browser and HTTP protocol.
- ii. List the various HTML tags and use them to develop the user friendly web pages.
- iii. Define the CSS with its types and use them to provide the styles to the web pages at various levels.
- iv. Develop the modern web pages using the HTML and CSS features with different layouts as per need of applications.
- v. Use the JavaScript to develop the dynamic web pages.
- vi. Use server side scripting with PHP to generate the web pages dynamically using the database connectivity.

<b>Unit I: Introduction to Web Technology</b>	NOS	Hours
Internet and WWW, HTTP Protocol : Request and Response, Web browser and Web servers, Features of Web 2.0, Concepts of effective web design, Web design issues including Browser, Bandwidth and Cache, Display resolution, Look and Feel of the Website, Page Layout and linking, User centric design, Sitemap, Planning and publishing website, Designing effective navigation	SSC/N0501	10
<b>Unit II HTML</b>	NOS	Hours
Basics of HTML, formatting and fonts, commenting code, color, hyperlink, lists, tables, images, forms, XHTML, Meta tags, Character entities, frames and frame sets, Browser architecture and Web site structure. Overview and features of HTML5	SSC/N0501	
<b>Unit III: Style sheets</b>	NOS	10



Style sheets : Need for CSS, introduction to CSS, basic syntax and structure, using CSS, background images, colors and properties, manipulating texts, using fonts, borders and boxes, margins, padding lists, positioning using CSS, CSS2, Overview and features of CSS3	SSC/N0501	
<b>Unit IV: JavaScript</b>	NOS	Hours
Client side scripting with JavaScript, variables, functions, conditions, loops and repetition, Pop up boxes, Advance JavaScript: Javascript and objects, JavaScript own objects, the DOM and web, browser environments, Manipulation using DOM, forms and validations, DHTML : Combining HTML, CSS and Javascript, Events and buttons	SSC/N0501	10
<b>Unit V: XML</b>	NOS	Hours
Introduction to XML, uses of XML, simple XML, XML key components, DTD and Schemas, Using XML with application. Transforming XML using XSL and XSLT	SSC/N0501	10
<b>Unit VI: PHP and MySQL</b>	NOS	Hours
PHP : Introduction and basic syntax of PHP, decision and looping with examples, PHP and HTML, Arrays, Functions, String, Form processing, Date and Time Functions, Sending Email, Files, Cookies and Sessions, Connecting to MySQL and Selecting the Database, Executing Simple Queries, Retrieving Query Results, Ensuring Secure SQL, Counting Returned Records, Updating Records with PHP	SSC/N0501	10

**References:**

1. Developing Web Applications, Ralph Moseley and M. T. Savaliya, Wiley-India
2. Web Technologies, Black Book, Dreamtech Press
3. HTML 5, Black Book, Dreamtech Press
4. Web Design, Joel Sklar, Cengage Learning
5. Developing Web Applications in PHP and AJAX, Harwani, McGrawHill
6. Internet and World Wide Web How to program, P.J. Deitel & H.M. Deitel, Pearson
7. HTML The complete Reference -2nd Edition Thomas A Powel Tata McGraw Hill publication
8. The complete Reference (HTML & XHTML)-5th Edition Thomas A Powel Tata McGraw Hill publication
9. Computer Fundamental s (6th Edition) P. K. Sinha BPB Publication

## B. Voc. in Software Development

B. Voc. F. Y. (Semester II)

BVOC.2.05 Graphics Design and Content Management Tools

### Learning Objectives:

- i. Create, manipulate, and edit text and graphics to obtain desired graphical outcomes.
- ii. Define a relational database management system (RDBMS) and describe its structure.
- iii. Define data definition language (DDL) and data manipulation language (DML).
- iv. Provide the skills to effectively create and operate WordPress sites.

### Course Outcomes:

After successful completion of this course, students should be able to:

- i. Utilize several Flash tools and tactics learned throughout the course to produce an interactive flash based website.
- ii. Publish flash movies in numerous formats and contexts in a professional and web friendly manner.
- iii. Know types of databases and how to design them.
- iv. Know advanced queries and advanced concepts in MySQL.
- v. Plan website by choosing colour schemes, fonts, layouts, and more.
- vi. Select, install, and activate a theme in word press.
- vii. Design e-commerce site using woo commerce plugin.

<b>Unit I: Getting Started with Flash</b>	NOS	Hours
Create Flash movie file, Draw the characters and background, Basic drawing tools i.e. Pencil, Brush, Paint Bucket, and Text tools, Previewing and Publishing Movie, Scenes, Layers, and Library Symbols, Frames, Tweening, and Onion Skinning, Creating Curves, Importing Illustrator/Photoshop Files, Understanding Blend Effects	SSC/ N0503	8
<b>Unit II Advanced Drawing Techniques</b>	NOS	Hours
Animating 3D motion, Articulated Motion with Inverse Kinematics, Constraining Joints, Inverse Kinematics with Shapes, Designing a Layout, Creating Buttons and Actions, Creating Event Handlers, Using Sounds, Using Adobe Media Encoder, Playback of External Video, Working with Video and Transparency, Embedding Flash Video, Using Components,	SSC/ N0503	12

Creating Masks, Adding Metadata, Publishing Movie for the Web		
<b>Unit III: RDBMS with MySQL</b>	NOS	Hours
Introduction to database, Features of MySQL, Basics of Relational Databases, Creating and Selecting a Database, Creating a Table, Loading Data into a Table, Modifying and Deleting Data from Table, Retrieving Information from a Table, Selecting All Data, Selecting Particular Rows, Selecting Particular Columns, Sorting Rows, Date Calculations, Working with NULL Values, Pattern Matching, Counting Rows, Using More Than one Table, Getting Information About Databases and Tables, Creating Sequence, Database Backup and Restore	SSC/ N0501	10
<b>Unit IV: Website Development using WordPress</b>	NOS	Hours
Installing WordPress, Installing Themes, Creating a Child Theme, Modifying a Theme, Setting Up a WordPress Site, Starting the MRP Theme, The WordPress Loop, Continuing with the Loop, Splitting the Page into Templates, Creating a Page for Single Posts, Creating Pages, Customizing the Navigation Menu, Customizing the Sidebar, Creating a Custom Page Template, Adding a Contact Form, Uploading a WordPress Site	SSC/ N0501	10
<b>Unit V: Advanced WordPress Concepts</b>	NOS	Hours
What are plugins? Finding plugins, Installing plugins, Activating and deactivating plugins, Editing plugin settings, Deleting plugins, Adding, editing, and deleting users, User roles and permissions, Importing content from another site, Exporting your WordPress data, WordPress General settings, Changing the site title and tagline, Changing your URL, Using a different homepage, Updating the admin email address, Changing time zones Date/Time formats	SSC/ N0501	10
<b>Unit VI: Woo Commerce Plugin</b>	NOS	Hours
Introduction to Woo Commerce, Woo Commerce installation, Convert HTML to Woo commerce using [short-code], Recent Products, Featured Products, Variable Products, Woo commerce Settings, Payment Gateway Integration, Moving woo commerce site from Local Server to Live Server	SSC/ N0501	10

**References:****Reference Books:**

1. Adobe Flash Professional CS6 Classroom in a Book by Adobe Creative Team
2. Exploring Adobe Flash CS4-Annesha Hartman, Cengage Learning Publication
3. MySQL Explained by Mr. Andrew Comeau, CreateSpace Independent Publishing Platform
4. Professional WordPress: Design and Development by Brad Williams, David Damstra, Hal Stern
5. WordPress To Go by Sarah McHarry.
6. WooCommerce Explained by Stephen Burge

## B. Voc. in Software Development

B. Voc. F. Y. (Semester II)

BVOC.2.06 Desktop Publishing

### Learning Objectives:

- i. To understand the fundamentals & concepts of Page Maker, Coreldraw, Photoshop
- ii. To give the students a hands on experience on Page Maker, Coreldraw, Photoshop
- iii. To give students the skills to create book works, building booklets.

### Course Outcomes:

- i. Ability to learn various methods of Pagemaker, Coreldraw, Photoshop
- ii. Ability to apply various Desktop Publishing

<b>Unit I: Page Maker: An overview</b>	<b>NOS</b>	<b>Hours</b>
Introduction to page maker, Creating & opening publications , using the tool box, working with Palettes, text & Graphics, Starting a publication from a template, saving & closing a publication		10
<b>Unit II: Drawing &amp; Shaping Objects</b>	<b>NOS</b>	<b>Hours</b>
Positioning ruler guides, typing text, formatting graphics, creating columns, creating styles, changing type style & alignment , rotating & moving of text block & graphics , placing text file, setting tab, indents, leaders, copying graphic between publications , positioning & resizing the logo, Setting up pages, Changing document setup, using master pages, choosing a measurement system & setting up rulers, adjusting layout, numbering pages, rearranging pages, creating running header & footers , importing text, threading text blocks, balancing columns, edit story, customizing the dictionary, hyphenation, layers, frames, locking object, wrapping text around graphics, cropping a graphic		08
<b>UNIT-III: Working in Photoshop</b>	<b>NOS</b>	<b>Hours</b>

Getting Acquainted with Photoshop , Basic Image Manipulation , Color Basics Painting Tools ,Brush Settings , Making Selections ,Filling and stroking , Layers ,Advanced Layers ,Text ,Drawing ,Using Channels and Masking ,Manipulating images ,Getting to know the work area ,Using Adobe Bridge , Basic Photo Corrections ,Retouching and Repairing.		10
<b>UNIT-IV: Designing using Photoshop</b>	<b>NOS</b>	<b>Hours</b>
Working with selections , Layer Basics ,Masks and channels , Correcting and enhancing digital photographs , Topographic design , Vector drawing techniques , Advanced Layer techniques , Vector Composting , Creating Links within an image ,Creating rollover web visuals ,Animating GIF images for the web ,Producing and printing consistent color		14
<b>UNIT-V: Introduction to Corel Draw</b>	<b>NOS</b>	<b>Hours</b>
Getting started with Corel Draw, Introduction to Corel Draw, Drawing and Coloring, Mastering with Text, Text Tool Artistic and paragraph text, Applying Effects, Power of Blends Distortion,		8
<b>UNIT-VI: Working with bitmap and web resources</b>	<b>NOS</b>	<b>Hours</b>
Working with Bitmap Commands, Working with Bitmaps, Editing Bitmaps, Applying effects on Bitmaps, Printing Corel Draw- Web resources, Internet Tool bar, Setting your webpage, Exporting files, Creating buttons with rollover effects		10

### References:

1. Adobe PageMaker 7.0 Classroom in a Book by Adobe Creative Team (Author), ISBN-13 : 978-0201756258,Item Weight : 692 gPaperback : 336 pages ISBN-10 : 0201756250,Publisher : Adobe; Pap/Cdr edition (25 October 2001)
2. Adobe PageMaker 7.0,by Kevin Proot,ISBN-13 : 978-0619109561,Publisher : Course Technology; Illustrated edition (1 December 2002)
3. Photoshop CC in Simple Steps, by DT Editorial Services (Author),ISBN-10 : 9388425243,Publisher : Dreamtech Press (1 January 2019)

4. CorelDRAW 2018 in Simple Steps, DT Editorial Services (Author),ISBN-10 : 9388425251,Publisher : Dreamtech Press (1 January 2018)

## **B. Voc. in Software Development**

B. Voc. F. Y. (Semester II)

BVOC.2.07 Lab 1: Web Technology

### **Lab Work/ Practical List**

#### **HTML**

1. Write a HTML page to print Hello World in bold and italic font
2. Display various text formatting methods available in HTML.(i.e.<h1>,<b>,<i> etc...)
3. Create a HTML file using special characters.
4. Create a HTML file which displays 3 images at LEFT, RIGHT and CENTER respectively in the browser
5. Create a HTML file which contains hyperlinks

#### **Table of Contents**

**Chapter 1: Introduction**

**Chapter 2: What is HTML?**

**Chapter 3: What is Javascript?**

.  
.

By clicking on the link takes to the respective topic within the same page.

6. Create a HTML page as given below

#### List of Subjects

1. Computer Engineering Department
    - a. Software Engineering
    - b. Information Security
    - c. Computer Graphics
  2. Electrical Engineering Department
    - Electrical Machine
    - Power Electronics
    - Micro Controller
  3. Computer Engineering  
Is a discipline that integrates several fields required to develop computer systems.
7. Create table with ROWSPAN and COLSPAN attribute of TABLE in HTML (Prepare timetable of your class).Include CELLSPACING & CELL PADDING



8. Create HTML page using Frames.

Web Technology Author: Date:	
TOC 1. <a href="#">Link1</a> 2. <a href="#">Link2</a> - -	CONTENT

9. Create a simple form that will show all the INPUT METHODS available in HTML.

<b>WEB Technology</b> Author: Date:	
1. <a href="#">Link1</a> 2. <a href="#">Link2</a> . .	CONTENT

### JAVA SCRIPT

10. Create simple application that will do following

- a. Declare And assign variable
- b. Operators and expression in JavaScript
- c. Looping in JavaScript
- d. Declare an Array
- e. User defined functions in JavaScript
- f. Built in functions in JavaScript
- g. Dialog boxes

11. For the form created in HTML provide various form values checking passed by user.

12. A document contains two forms, named specifications and accessories. In the accessories form is a field named acc1(type=text). Write two different statements that set the contents of that field to "New value".

13. Create a page that includes a select object to change the background color of the current page. The property that needs to be set is bgColor, Similar things for foreground color.
14. Put a button in "MAIN HTML" page, on click of that button, execute some JavaScript code that will open one child window. In the "MAIN HTML" page there should be one text field named "location" Inside "Child Window" put one Button. When this button of "Child Window" is clicked, it will write the Location value (URL) of "MAIN WINDOW" inside the LOCATION field of "MAIN WINDOW".
15. Scroll some message in Status window of browser.
16. Write down simple JavaScript using timeout such that image will be changed after every 1 ms at a specified position.

### **CSS**

17. Practical based on the following attributes using  
CSS Color and background  
Font Text Border  
Margin and list
18. Practical based on use of external style sheet.

### **XML**

19. Write an XML example of given tree that demonstrates the creation of user-designed tags and display it in a browser.  
college ☐ employee ☐ fname, lname, joindate, bdate, age, salary (with atleast 3 elements)
20. Write an XSL code for the above XML file that displays the information in a table structure.
21. Write a template file for the above code.

### **PHP**

22. Understand the PHP interface. Study PHPMyAdmin.
23. Write a PHP script to create a database StudentDB.
24. Write a PHP script to list all the databases available in mysql.
25. Write a PHP script to list all the tables available in a particular database.
26. Write a PHP script to create a table student in the database StudentDB.
27. Write a PHP script to insert a row into the table student. The values to be inserted are taken from a HTML page.
28. Write a PHP script to alter student table. For ex: modify sname by increasing its length.

29. Write a PHP script to list all the records in the student table in tabular format.
30. Write a PHP script to delete all rows from student table whose roll numbers are between 1 and 3.
31. Write a PHP script to drop the table student and drop the database StudentDB.

## **B. Voc. in Software Development**

B. Voc. F. Y. (Semester II)

BVOC.2.08 Lab 2: Graphics Design and Content Management Tools

### **Lab Work/ Practical List**

#### *Tasks to be completed using Macromedia Flash*

**Task 1** Create a movie in Flash using the concept of Masking.

**Task 2:** Create a movie in Flash using the concept of Motion Guide.

**Task 3:** Create a movie in Flash using the concept of Onion Skinning.

**Task 4** Create a movie in Flash using the concept of Blinking Text.

**Task 5** Create a movie in Flash using the concept of Frame by Frame animation.

#### *Tasks to be completed using MySQL*

**Task 1:** Write a MySQL statement to create a table named ECHARGE containing information of the customers using electricity produced by XYZ company, having the columns Customer's identification number (C\_ID, distinct integer), Customer name (CNAME, Character, variable width 20, not empty ), Customer's address (C\_ADDR, character, variable width, 30), type of connection (TYPE, character, of width 12, containing default entry 'RESIDENTIAL' should not be empty) and units consumed (UNITS, positive integer).

**Task 2:** There exist a table RAILWAYS with columns for Passenger number (PNR), Passenger name (PNAME), age (AGE), sex (SEX), boarding station (BSTN), destination (DSTN) and FARE (fare). Write MySQL query to do the following.

1. Display passenger name, age, boarding station and destination station.
2. Display names of the passenger whose age is greater than or equal to 65.
3. Delete the table RAILWAYS.

**Task 3:** There exist a table called RAIL containing the columns station number (SNO, numeric), date (DT, date), station name (SNAME, character) and amount collected (AMT, numeric). Write MySQL statements for the following

- 1) Display the station number, station name and minimum and maximum of the amount collected of each station.
- 2) Display station name, the total and average of the amount collected of each station.

**Task 4:** There exists a table called ATTEND containing the columns student name (SNAME, character), class (CLASS, character), division (DIV, character) and no. of lectures attended (TOTAL\_LEC, numeric).

Write MySQL statements for the following

- 1) Add a new column for roll number (ROLL, integer) as first column the table.
- 2) Display all the rows arranged in ascending order of the student's name of the table.
- 3) Delete the column SNAME from the table.
- 4) Rename the table as 'ATTD REPORT'.

**Task 5:** There exists a table called SALARY containing Employee number (ENO, numeric, primary key) employee name (ENAME, character), age (AGE, numeric) and basic salary (BPAY).

Write MySQL query to display employee number, employee name, age and 'Bonus' to be calculated as 10% of basic salary for those employees whose basic salary is below the average basic salary.

*Tasks to be completed using **WordPress and Woo Commerce***

**Task1:** Develop e-commerce web application for online shopping of Organic Vegetables using WordPress and Woo Commerce plugin.

## **B. Voc. in Software Development**

B. Voc. F. Y. (Semester II)

### BVOC.2.09 Lab 3: Desktop Publishing

- 1) Using a logo provided by the teacher, measure and design it in a desktop publishing software, and then print it.
- 2) Draw a triangle with rounded corners and apply fill and stroke
- 3) Draw the following basic shapes:
  - (a). 5 cm by 7 cm rectangle.
  - (b). A circle with 6 cm radius.
  - (c). A hexagon
  
- 4) To Create a Label using PageMaker software.
- 5) Create a visiting card in PageMaker
- 6) Create a corner design in PageMaker
- 7) Create a border design in PageMaker
- 8) Open PageMaker and create a new magazine layout which includes the following setup options:
  - Page size - magazine narrow
  - Orientation tall
  - 4 page spread
  - Numbering - Lower Roman
  - Margins 1.25 inches- top, and .75 inches - all other sides.
  
- 9) Draw a floral design or a cartoon motif in CorelDraw. for a bed sheet.
- 10) Design a top for Jeans with a printed logo at the front side.
- 11) Do the following
  - i) Draw multiple Rectangles and try vertical alignment.
  - ii) Try Grouping and Ungrouping of objects.
  - iii) Try rotation and skewing of objects.
  - iv) Try duplication of objects.
- 12) Create a Visiting Card project using CorelDraw. .
- 13) Design a 3D button for a Web Page using CorelDraw. .
- 14) Create artistic text and apply a Drop Shadow and adjust the

Settings using Photoshop.

15) Create a text design in Photoshop

16) Create a logo design in Photoshop

17) Create a t-shirt design in Photoshop

18) Create a banner design in Photoshop

19) Create a nature background design in Photoshop

20) Create a background design in Photoshop