

**SYALLBUS STRUCTURE**  
**FOR**  
**B.VOC**  
**COMPUTER AND PROGRAMMING**

# **SHIVAJI UNIVERSITY, KOLHAPUR**



**Faculty of Interdisciplinary Studies Structure,  
Scheme and Syllabus  
for Bachelor of Vocation (B.Voc)  
Diploma**

## **COMPUTER PROGRAMMING**

**Part I- Sem. I & II**

(Subject to the modifications that will be made from time to time)  
Syllabus to be implemented from 2020-2021 onwards.

**SHIVAJI UNIVERSITY, KOLHAPUR**

**PROPOSED STRUCTURE AND SYLLABUS (SEMESTER PATTERN )**

**Bachelor of Vocation (B. Voc.) Part I computer Programming**

**1. TITLE:** B. Voc. Part I (Diploma in computer programming)  
Syllabus ( Semester Pattern )

**2. YEAR OF IMPLEMENTATION :** Syllabus will be implemented from-2020-2021

**3. DURATION:** B. Voc. Part I, II and III (Three Years)  
B. Voc. Part I - Diploma (First Year )  
B. Voc. Part II - Advanced Diploma ( Second Year )  
B. Voc. Part III – Degree ( Third Year )

**4. PATTERN OF EXAMINATION – Semester Pattern**

- Theory Examination – At the end of semester as per Shivaji University Rules
- Practical Examination–
  - i) In the 1st, 3rd and 5th semester of B. Voc. there will be internal assessment of practical record, related report submission and project reports.
  - ii) In the second semester of B. Voc. I there will be internal practical examination.
  - iii) In the 4th and 6th semester of B. Voc. There will be external practical examination at the end of the semester.

**5. MEDIUM OF INSTRUCTION :** English /Marathi

**6. STRUCTURE OF COURSE :** B. Voc. Part – I, II and III  
Two Semester Per Year  
Two General Papers per year / semester  
Three Vocational Papers per Year /  
Semester Three Practical papers per  
Year / Semester  
One Project / Industry Visit/ Study Tour / Survey

## **7.SCHEME OF EXAMINATION – A) THEORY–**

- The theory examination shall be at the end of the each semester.
  - All the general theory papers shall carry 40 marks and all the vocational theory papers shall carry 50marks.
  - Evaluation of the performance of the students in theory shall be on the basis of semester examination as mentioned above.
- . Question paper will be set in the view of entire syllabus preferably covering each
- unit of the syllabus.
  - Nature of question paper for Theory examination ( excluding Business Communication paper )–
  - There will be seven questions carrying equal Students will have to solve any five marks questions.
- Q. No. 1 : Short answer type question with internal choice ( Two out of Three )
- Q. No. 2 to Q. No. 6 : Long answer type questions
- Q. No. 7 : Short Notes with internal choice (Two out of Three )

## **B ) PRACTICAL**

Evaluation of the performance of the students in practical shall be on the basis of semester examination ( Internal assessment at the end of I, III and IV and V Semester and external examination at the end of IV and VI semester as mentioned separately in each paper.

## **STANDARD OF PASSING –**

As per the guidelines and rules of B. Voc

## STRUCTURE OF THE COURSE

### B. Voc. Part I ( Diploma computer Programming ) Semester – I

SrNo	Pap er No	Title	Theory/practical/ project	Marks(Total)	Theory	Practical
1	I	Business communication part-I	Theory/practical	50	40	10
2	II	Basic computer operating system-I	Theory/practical	50	40	10
3	III	Fundamental of IT	Theory	50	50	-
4	IV	Programming with c .	Theory	50	50	-
5	V	Web Designing	Theory	50	50	-
6	VI	Laboratory Work Paper No.III	practical	50	-	50
7	VII	Laboratory Work Paper No.IV	practical	50	-	50
8	VIII	Laboratory Work Paper No.V	practical	50	-	50
9	IX	Project	practical	50	-	50

### **B. Voc. Part I ( Diploma ) Semester – II**

SrNo	Paper No	Title	Theory/practical/ project	Marks(Total)	Theory	Practical
10	X	Business communication part-II	Theory/practical	50	40	10
11	XI	Basic computer operating system-II	Theory/practical	50	40	10
12	XII	Data structure with c	Theory	50	50	-
13	XIII	Data Base management system	Theory	50	50	-
14	XIV	Cyber Security	Theory	50	50	-
15	XV	LaboratoryWork PaperNo.XII	practical	50	-	50
16	XVI	Laboratory Work Paper No.XIII	practical	50	-	50
17	XVII	Laboratory Work PaperNo.XIV	practical	50	-	50
18	XVIII	Industrial Visit/Study tour	practical	50	-	50

**SCHEME OF TEACHING :****B. Voc. Part I ( Diploma ) Semester – I**

Sr No .	Paper No.	Title	Distribution of workload		
			Theory	Practical	Total
<b>1</b>	<b>I</b>	Business Communication - I	<b>4</b>	<b>2</b>	<b>6</b>
<b>2</b>	<b>II</b>	Basic computer operating system-I	<b>4</b>	<b>2</b>	<b>6</b>
<b>3</b>	<b>III</b>	Fundamental of IT	<b>4</b>	<b>-</b>	<b>4</b>
<b>4</b>	<b>IV</b>	Programming with c	<b>4</b>	<b>-</b>	<b>4</b>
<b>5</b>	<b>V</b>	Web Designing	<b>4</b>	<b>-</b>	<b>4</b>
<b>6</b>	<b>VI</b>	Laboratory Work Paper No. III	<b>-</b>	<b>4</b>	<b>4</b>
<b>7</b>	<b>VII</b>	Laboratory Work Paper No. IV	<b>-</b>	<b>4</b>	<b>4</b>
<b>8</b>	<b>VIII</b>	Laboratory Work Paper No. V	<b>-</b>	<b>4</b>	<b>4</b>
<b>9</b>	<b>IX</b>	Project	<b>-</b>	<b>-</b>	<b>-</b>
			<b>20</b>	<b>16</b>	<b>36</b>

## B. Voc. Part I ( Diploma ) Semester – II

Sr No .	Paper No.	Title	Distribution of workload		
			Theory	Practical	Total
10	X	Business Communication – II	4	2	6
11	XI	Basic computer operating system-II	4	2	6
12	XII	Data structure with c	4	-	4
13	XIII	Data Base management system	4	-	4
14	XIV	Cyber Security	4	-	4
15	XV	Laboratory Work Paper No. XII	-	4	4
16	XVI	Laboratory Work Paper No. XIII	-	4	4
17	XVII	Laboratory Work Paper No. XIV	-	4	4
18	XVIII	Industrial Visit /Study Tour	-	-	-
			20	16	36

Eligibility for Admission : 10 + 2 from any faculty or equivalent Diploma /

- **Eligibility for Faculty:**

Below Qualified Teachers are eligible for Degree in Computer Programming

- 1) Diploma in Computer Programming
- 2) Advanced Diploma in Computer Programming.
- 3) Bachelor Of Vocation in computer Programming.

- **Eligibility for Lab Assistant:** Graduation with related field

- **Staffing Pattern**

Teaching: In the 1st year of B Voc – One Full Time one C. H. B. for Business Communication

Lab. Assistant : For 1st Year of B Voc – 1 CHB

For 2nd (Inclusive of 1st Year) of B Voc. – 2 Full Time



## **Paper – I: Business Communication-I**

**Total Workload:** 06 lectures per week of 60 mins.

### **Distribution of Workload:**

Theory: 04 lectures per week

Practical: 02 lectures per week per batch of 20 students

**Units Prescribed for Theory:** 40

Marks.

### **Unit 1: Use of English in Business**

#### **Environment**

##### **Topics:**

Business Vocabulary: Vocabulary for banking, marketing and for maintaining public relations

What is a sentence?

Elements of a sentence

Types of sentence: Simple, compound, complex

### **Unit 2: Writing a Letter of Application and CV/**

#### **Resume**

##### **Topics:**

Structure of a letter of application for various posts  
CV/ Resume and its essentials

### **Unit 3: Presenting Information/Data**

#### **Topics:**

Presenting information/data using graphics like tables, pie charts, tree diagrams, bar diagrams, graphs, flow charts

### **Unit 4: Interview Technique**

#### **Topics:**

Dos and don'ts of an interview  
Preparing for an interview  
Presenting documents  
Language used in an interview

**Practical: Based on the theory units**

10 Marks.

### **Reference Books:**

- Sethi, Anjanee & Bhavana Adhikari. *Business Communication*. New Delhi: Tata McGraw Hill
- Tickoo, Champa & Jaya Sasikumar. *Writing with a Purpose*. New York: OUP, 1979.
- Sonie, Subhash C. *Mastering the Art of Effective Business Communication*. New Delhi: Student
- Aid Publication, 2008.

Herekar, Praksh. *Business Communication*. Pune: Mehta Publications, 2007.

Herekar, Praksh. *Principals of Business Communication*. Pune: Mehta Publications, 2003

Rai, Urmila & S. M. Rai. *Business Communication*. Himalaya Publishing House, 2007.

Pradhan, N. S. *Business Communication*. Mumbai: Himalaya Publishing House, 2005.

Pardeshi, P. C. *Managerial Communication*. Pune: Nirali Prakashan, 2008

**Pattern of a Question Paper**

**Paper I: Business Communication-I  
Semester –I Paper: I**

**Time -2 hours**

**Total Marks- 40**

Q. 1 Do as directed. Question items on **Unit 1** to be asked.  
10

(10 out 12)

Q. 2 Write a letter of application.  
10

OR

Draft a CV/ Resume for a particular post.

Q. 3 Present a given information or data using a table/ chart/ pie  
diagram, etc. 10  
(Any one diagram to be drawn.)

Q. 4 Fill in the blanks in the given interview.  
10

**Practical Evaluation: 10 Marks**

Oral and Presentation based on the units prescribed.

## **B.VOC Part I - Sem. I**

### **Paper No. II: Computer Operating System I**

Theory : 4 lectures / week

Practical : 2 lectures/week/batch

Total Marks : 50 (Theory 40 + Practical 10)

#### **UNIT I- Knowing computer:**

What is Computer, Basic Applications of Computer; Components of Computer System, Central Processing Unit (CPU), VDU, Keyboard and Mouse, Other input/output Devices, Computer Memory, Concepts of Hardware and Software; Concept of Computing, Data and Information; Applications of IECT; Connecting keyboard, mouse, monitor and printer to CPU and checking power supply.

#### **UNIT II- Operating System**

What is an Operating System; Basics of Popular Operating Systems; The User Interface, Using Mouse; Using right Button of the Mouse and Moving Icons on the screen, Use of Common Icons, Status Bar, Using Menu and Menu-selection, Running an Application, Viewing of File, Folders and Directories, Creating and Renaming of files and folders, Opening and closing of different Windows; Using help; Creating Short cuts, Basics of O.S Setup

#### **UNIT III- Understanding Word Processing:**

Word Processing Basics; Opening and Closing of documents; Text creation and Manipulation; Formatting of text; Table handling; Spell check, language setting and thesaurus; Printing of word document

#### **UNIT IV –Using Spread Sheet:**

Basics of Spreadsheet; Manipulation of cells; Formulas and Functions; Editing of Spread Sheet, printing of Spread Sheet..

##### **➤ Practicals (Based on the above Units) :**

1. Visit to Industry/ Retail Mall
2. Oral / Seminar

#### **Reference Books:**

1. operating system: Author: **Dr Rajesh Kadu**, Publisher: Tech Knowledge.

2. operating system: Author: **Manoj Kavedia** Publisher: Tech-Neopublication.

### **Paper No. III: Fundamental of IT**

Theory : 4 lectures / week

Total Marks : 50

#### **Unit I- Computer System Characteristics And Capability**

Basic structure, ALU, memory, CPU, I/O devices. Development of computers. Classification of computers: (Micro, miniframe, supercomputer, pc, server, workstations)

#### **Unit II- Input Devices and Output Devices & Memory Devices**

Keyboard, Direct Entry: Card readers, scanning devices (BAR CODE, OMR, MICR), Voice input devices, Light pen, Mouse, Touch Screen, Digitizer, Scanner  
CRT, LCD/TFT, Dotmatrix printer, Inkjet printer, Drum plotter, Flatbed plotter.  
RAM, ROM, PROM, EPROM, EEPROM. - Base memory, extended memory,

#### **Unit III- Introduction To Programming Environment**

History of languages, high-level, Low level, Assembly languages etc.  
, Compilers,  
Interpreters, Assemblers, Linkers, Loaders

#### **Unit IV- Algorithm & Flowcharts**

Definition and properties, Principles of flowcharting, Flowcharting symbols, Converting algorithms to flowcharts

#### **Reference Books-**

Computer Science: A Structured Programming Approach Using C, B.A. Forouzan and R.F. Gilberg, Third Edition, Cengage Learning. 2. The C Programming Language by Brian Kernighan and Dennis Ritchie 2nd edition

## **Paper No. IV: Programming with c**

Theory : 4 lectures / week

Total Marks : 50

### **Unit I -Introduction and Basic elements of C programming**

Introduction to problemsolving

through algorithm and flowchart, Overview, Character set, Keywords and Identifiers, Constants and Variables, Data types, Operators and Expressions, Operator precedence and associativity, Typecasting

### **Unit II –Data/I/O,Control Structures**

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

### **Unit III –Arrays**

Introduction, Declaration and Initialization, Accessing Array elements, Memory representation of Array, One dimensional Arrays, Two dimensional Arrays, Character Arrays and Strings.

### **Unit IV – Function**

Introduction, Standard Library Functions, User Defined Functions (UDF) –Declaration, Definition, Function call, Parameter Passing - by value and by reference, Recursion, Storage Classes.

### **Reference Books-**

Starting Out with Python - 3rd Edition - Tony Gaddis Optional (free online resources): A Byte of Python - Swaroop C H. How to Think Like a Computer Scientist - Jeffrey Elkner, Allen B. Downey, and Chris Meyers Course Dynamics

## **Paper No. V: Web Designing**

Theory : 4 lectures / week

Total Marks : 50

### **Unit I- Web Design Principles**

Basic principles involved in developing a website, Planning process, rules of web designing, designing navigation bar, Page design, Home Page Layout, Design

Concept, Brief History of Internet, what is World Wide Web, Why create a website, Web Standards

### **Unit II – Introduction to HTML**

What is HTML, HTML Documents, Basic structure of an HTML document, Creating an HTML document, Markup Tags, Heading-Paragraphs, Line Breaks, Introduction to elements of HTML, Working with Text, Working with Lists, Tables and Frames, Working with Hyperlinks, Images and Multimedia, Working with Forms and controls.

### **Unit III- Algorithm & Flowcharts**

Definition and properties, Principles of flowcharting, Flow chart in symbols, Converting algorithms to flow charts

### **Unit IV – JAVA Script**

Introduction variable function web page dynamic web page graphics

### **Reference Book**

C++ Programming: Program Design Including Data Structures, 6 th Ed. D.S. Malik, Course Technology, 2011 (ISBN 978-113352632)

## **Paper No. VI: Laboratory Work Paper No. III**

Total Marks – 50

Practical : 4 lectures / week/perbatch

1. Introduction to Microsoft Word
2. Presentation ,DOS, DIA & Linuxis divide to four sections.
3. .Microsoft Word & Presentation DOS,.
4. DIA ,
5. Linux
6. Microsoftpower point preasention In this section,
7. Ms-OfficeAcess
8. Ms- Excel



**Paper No. VII: Laboratory Work Paper No. IV**

Total Marks – 50

Practical : 4 lectures / week/perbatch

1. Hello World Programing C
2. Cprogram to check whetherthe given number is positive or negative
3. Reverse an input number using recursion
4. Program to find greatest of three numbers
5. C Program to print Fibonacci series in a given range
6. C Program to find fact orial of a given number
7. Find Prime numbers in a given range
- 8 Array Programs

**Paper No. VIII: Laboratory Work Paper No. V**

Total Marks – 50

Practical : 4 lectures / week/perbatch

1. HTML(Getyourselffamiliarwithalltheseandcode)
  - \* Tags
  - \* Attributes
  - \* Links
  - \* Images
  - \* Tables
  - \* Layouts
2. BasicJavascript,gettoknowthefollowingthings.(Javascriptwillbringlifetoyourwebpages)
  - \* BasicJS(DontjumpintoNode.JSandframeworksfornow)
  - \* Datatypes:String,Number,Arrays,Objectsetc.
  - \* Functions,Conditionals,Loops,Operators,etc.
  - \* Eventhandling
  - \* JSON
  - \* jQuery(**OnlyifyoufeelreallycomfortablewithJS**)
3. Write an HTML code to display your CVon a web page.
4. Write an HTML code to create a Home page having three links: About Us, Our Services and Contact Us.
5. Create separate web pages for the three links.
6. Write an HTML code to create a Registration

## **Paper No-IX. PROJECT**

Total Marks– 50

- i) Submission of practical record book=20marks
- ii) Submission of visit report=15 marks
- iii)Viva-voce 15=marks

## **SEMESTER II**

### **Paper – X: Business Communication-II**

**Total Workload:** 06 lectures per week of 60 mins.

#### **Distribution of Workload:**

Theory: 04 lectures per week

Practical: 02 lectures per week per batch of 20 students

**Units Prescribed for Theory: 40**

Marks

#### **Unit 1: Group Discussion**

##### **Topics:**

- Preparing for a Group Discussion  
Initiating a Discussion
- Eliciting Opinions, Views, etc. Expressing Agreement/ Disagreement
- Making Suggestions; Accepting and Declining Suggestions  
Summing up.

#### **Unit 2: Business Correspondence**

##### **Topics:**

- Writing Memos, e-mails, complaints, inquiries, etc. Inviting Quotations
- Placing Orders, Tenders, etc.

#### **Unit 3: English for Negotiation**

##### **Topics:**

- Business Negotiations  
Agenda for Negotiation  
Stages of Negotiation

#### **Unit 4: English for Marketing**

##### **Topics:**

- Describing/ Explaining a Product/ Service  
Promotion of a Product
- Dealing/ bargaining with Customers
- Marketing a Product/ Service: Using Pamphlets, Hoardings, Advertisement, Public Function/Festival

➤ **Reference Books:**

1. Herekar, Praksh. *Business Communication*. Pune: Mehta Publications, 2007.
2. Herekar, Praksh. *Principals of Business Communication*. Pune: Mehta Publications, 2003.
3. John, David. *Group Discussions*. New Delhi: Arihant Publications.

## **Paper No. XI: Basic computer operating system-II**

Theory : 4 lectures / week

Practical : 2 lectures/week/batch

Total Marks : 50 (Theory 40 + Practical 10)

### **Unit I-Introduction to Internet, WWW and Web Browsers:**

Basic of Computer networks; LAN, WAN; Concept of Internet; Applications of Internet; connecting to internet; What is ISP; Knowing the Internet; Basics of internet connectivity related troubleshooting, World Wide Web; Web Browsing softwares, Search Engines; Understanding URL; Domain name; IP Address; Using e-governance website

### **Unit II- Communications and collaboration**

Basics of electronic mail; Getting an email account; Sending and receiving emails; Accessing sent emails; Using Emails; Document collaboration; Instant Messaging; Netiquettes.

### **Unit III - Making Small Presentation:**

Basics of presentation software; Creating Presentation; Preparation and Presentation of Slides; Slide Show; Taking printouts of presentation /handouts.

### **Unit IV -Financial Literacy for Banking Scheme**

Banking products-ATM card, Banking Instruments-Cheque, Demand Draft (DD), Banking Services Delivery Channels, Know Your Customer (KYC), Opening of bank account and documents required, Types of bank accounts, Bank's services including remittances, loan, mobile banking, Overdraft, Pension etc.

#### **Reference Books:**

1 Operating system: Author: **Dr Rajesh Kadu**, Publisher: Tech Knowledge.

**2.operatingsystem:** Author: **Manoj Kavedia** Publisher: Tech-Neopublication

#### **➤ Practicals (Based on the above Units) :**

1. Visit to Industry/ Retail Mall

2. Oral / Seminar

## **Paper No. XII: Data Structure with-C**

Theory : 4 lectures / week

Total Marks : 50

### **Unit I - Introduction**

Introduction: Data Structures types, Importance of Data Structure, Abstract data Type.  
Algorithms: Complexity, Time space Trade-offs, Arrays: Operation Performed on array  
Dynamic Memory Allocation

### **Unit II – Searching Techniques**

Searching Techniques: List Searches using Linear Search, Binary Search, Sorting  
Techniques: Basic concepts, Sorting by: Bubble, Insertion and selection. Hash Function:  
Address calculation techniques,  
Common hashing Functions, Collision resolution, Linear probing, quadratic probing

### **Unit III - Stack**

Stack: LIFO structure,

PUSH and POP operations,

Polish Notation, Queue: FIFO structure,

### **Unit IV - Link List**

Introduction, single linked list, Operations on a Single linked list, Advantages and  
disadvantages of single link list, circular linked list, Double linked list

### **Reference Book**

C++ Programming: Program Design Including Data Structures, 6 th Ed. D.S. Malik, Course  
Technology, 2011 (ISBN 978-113352632

## **Paper No. XII: Database Management System**

Theory : 4 lectures / week

Total Marks : 50

### **Unit I – Database Concepts:**

A Relational approach: Database – Relationships – DBMS – Relational DataModel – IntegrityRules –Theoretical Relational Languages

### **Unit II - Oracle9**

Overview: Personal Databases – Client/Server Databases – Oracle9i an introduction– SQL\*Plus Environment –SQL–Logging into SQL\*Plus-SQL \*Plus Commands – Errors & Help – Alternate Text Editors - SQL \*Plus Worksheet - iSQL \*Plus. Oracle Tables: DDL: Naming Rules and conventions –Data Types – Constraints – Creating Oracle Table – Displaying Table Information – Altering an Existing Table – Dropping, Renaming, Truncating Table – Table Types

### **Unit III - Data Types –**

Constraints – Creating Oracle Table – Displaying Table Information – Altering an Existing Table – Dropping, Renaming, Truncating Table – Table Types

### **Unit IV - PL/SQL**

AProgrammingLanguage:History–Fundamentals–BlockStructure–Comments–DataTypes– OtherDataTypes–Declaration–Assignmentoperation – Bind variables – Substitution Variables– Printing – Arithmetic Operators. Control Structures and Embedded SQL: Control Structures – Nested Blocks–SQL in PL/SQL–Data Manipulation–

### **Referance Book**

C++ Programming: Program Design Including Data Structures, 6 th Ed. D.S. Malik, Course Technology, 2011 (ISBN 978-113352632



## **Paper No. XIII: Cyber security**

Theory : 4 lectures / week

Total Marks : 50

### **Unit I – Foundations of. Cyber Security**

Essential Terminologies: CIA, Risks, Breaches, Threats, Attacks, Exploits. Information Gathering (Social Engineering, Foot Printing & Scanning). OpenSource/Free/Trial Tools: nmap, zenmap, PortScanners, Network scanners

### **Unit II - Cypher Text**

Introduction to Cryptography, Symmetric key Cryptography, Asymmetric key Cryptography, Message Authentication, Digital Signatures, Applications of Cryptography.

### **Unit III - Overview of Firewalls-**

Types of Firewalls, User Management, VPN Security, Security Protocols: - security at the Application Layer PGP and S/MIME, Security at Transport Layer- SSL and TLS, Security at Network Layer- IPSec

, Host based Intrusion prevention Systems, Security Information Management, Network Session Analysis, System Integrity Validation

### **Unit IV - OS Security**

Introduction to System Security, Server Security, OS Security, Physical Security, Introduction to Networks, Network packet Sniffing, Network Design Simulation. DOS/ DDOS attacks. Asset Management and Audits, Vulnerabilities and Attacks. Intrusion detection and Prevention Techniques

**Paper No. XV: Laboratory Work Paper No. XII**

Total Marks – 50

Practical : 4 lectures / week/perbatch

1. Write a program to demonstrate insertion, deletion, search and displaying of an element in an array.
2. Write a program to demonstrate sorting algorithm.(using any one of the set Techniques: bubble, insertion, selection)
3. Write a program to demonstrate operation performed on stack.
4. Program to convert infix expression to postfix and infix to postfix.
5. Write a program to demonstrate operations on queue.
6. Perform the following operation for demonstrating the insertion , updation and deletion.
7. Using the referential integrity constraints
8. Write the query for creating the users and their role.

## **Paper No. XV: Laboratory Work Paper No. XII**

Total Marks – 50

Practical : 4 lectures / week/perbatch

1. Design a Data base and create required tables. For e.g.Bank,CollegeDatabase
2. .Apply the constraints like Primary Key, Foreign key,NOTNULLtothetables.
3. Write a SQL statement for implementing ALTER ,UPDATEand DELETE.
4. Write the queries to implement the joins.
5. Write the query for implementing the following functions: MAX (), MIN (), AVG () and COUNT()
6. Write the query to implement the concept of Integrity constrains.
7. Write the query to create the views.
8. Perform the queries fortriggers.
9. Perform the following operation for demonstrating the insertion , updation and deletion. Using the referential integrity constraints
10. Write the query for creating the user sand their role.

**Paper No. XV: Laboratory Work Paper No. XII**

Total Marks – 50

Practical : 4 lectures / week/perbatch

- 1 Study of different wireless network components and features of any one of the Mobile Security Apps.
- 2 Study of the features of firewall in providing network security and to set Firewall Security in windows.
- 3 Steps to ensure Security of any one web browser (Mozilla Firefox/Google Chrome)
- 4 Study of different types of vulnerabilities for hacking a website
- 5 Analysis the Security Vulnerabilities of Mobile Security Apps.
- 6 Analysis the security vulnerabilities of E-Mail Application
- 7 E-commerce services
8. Web Applications

**PaperNo. XVIII      Project**

Total Marks– 50

iii) Submission of practical record book=20marks

iv)Submission of visit report=15 marks

iii)Viva-voce 15=marks

## **Annexure I**

### **Standard of passing:**

- A. For B.Voc. programme total credits shall be 180 with 30 credits for each semester. There shall be 12 credits for theory and 18 credits for practical per semester.
- B. Subject wise credits are mentioned in the concerned syllabus of every B. Voc. Program.
- C. The standard of passing shall be 35 % where the student will have to score 18 marks out of 50, 14 marks out of 40 and 4 marks out of 10.
- D. Rules for ATKT are mentioned below:
  - I. Internal examination will be compulsory for all students. If the student is absent/fail in the internal examination then he/she will have to clear the internal examination. However ATKT rules will be followed in respect of theory and practical papers only. Then the student is allowed to keep term in the third fifth semester even if he/she has failed in the three less than three beads (ie. theory and practical) of passing each semester. However he/she shall have to clear all the papers of semester I & II before taking admission to the fifth semester.
  - II. In the B.Voc. Part II, every student has to complete internship of concerned industry

### **Award of degree:**

- B.Voc. is a six semester integrated course spread over the period of 3 years. The course of B.Voc. will be 3 years integrated course commencing from the years as mentioned below:
  - a. B.Voc. Part-I: Semester I & II- Diploma
  - b. B.Voc. Part-II: Semester III & IV- Advanced diploma
  - c. B.Voc. Part-III: Semester V & VI- B.Voc. Degree
- The candidate may take exit after one year of successful completion of the course. After successful completion of one year (Semester I & II) the candidate will get Diploma. After successful completion of two years (Semester III & IV), the candidate will get Advanced Diploma. The students those who have completed the entire three years (Semester V & VI) integrated course shall be awarded B.Voc. Degree programme, inclusive of Diploma and Advanced Diploma.
- The candidate admitted for direct second year or third year will get Class (First/Second/Passclass) as per their performance for B.Voc.

▪ **Scheme of mark:**

**Grading chart:**

**A. Grading chart of 50 points:**

Sr.No.	Marks Obtained	Numerical grade (grade point)	CGPA	Letter grade
1	Absent	0 (Zero)	-	-
2	0-17	0 (Zero)	0.0-4.99	F (Fail)
3	18-22	5	4.50-5.49	C (Satisfactory)
4	23-27	6	5.50-6.49	B (Average)
5	28-32	7	6.50-7.49	B+ (Good)
6	33-37	8	7.50-8.49	A (Very Good)
7	38-42	9	8.50-9.49	A+ (Excellent)
8	43-50	10	9.50-10.00	O (Outstanding)

**Note:**

- i. Marks obtained 0.5 shall be rounded off to next higher digit.
- ii. The SGPA & CGPA shall be rounded off to 2 decimal points.
- iii. Marks obtained in 50 marks or 200 marks paper shall be converted to 100 marks.

**Calculation of SGPA & CGPA**

**1. Semester Grade Point Average (SGPA)**

**SGPA** =  $\frac{\sum (\text{Course Credits} \times \text{Grade Points Obtained}) \text{ of a semester}}{\sum (\text{course credits}) \text{ of respective semester}}$

**2. Cumulative Grade Point Average (CGPA)**

**CGPA** =  $\frac{\sum (\text{Total Credits of A Semester} \times \text{SGPA of Respective Semester}) \text{ of all semesters}}{\sum (\text{Total Course Credits}) \text{ of all semester}}$