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)

Advanced Diploma

COMPUTER PROFRAMMING

Part II- Sem. III & IV

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

SHIVAJI UNIVERSITY, KOLHAPUR

PROPOSED STRUCTUCTURE AND SYLLABUS (SEMESTER PATTERN)

Bachelor of Vocation (B. Voc.) Part II Computer and Programming

1. TITLE: B. Voc .Part II (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 (ThreeYears)
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.

MEDIUM OF INSTRUCTION : English /Marathi

5. 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 II (Diploma computer Programming) Semester – III

SrNo	Paper No	Title	Theory/practical/project	Marks(Total)	Theory	Practical
19	**XIX**	Fundamentals of Financial Accounting – I	Theory/practical	50	40	10
20	**XX**	**C++ Programming**	Theory/practical	50	40	10
21	**XXI**	**Software Engineering**	Theory	50	50	-
22	**XXII**	**PHP**	Theory	50	50	-
23	**XXIII**	**Java Programming**	Theory	50	50	-
24	**XXIV**	Laboratory Work Paper No. XXI	practical	50	-	50
25	**XXV**	Laboratory Work Paper No. XXII	practical	50	-	50
26	**XXVI**	LaboratoryWork Paper No.XXIII	practical	50	-	50
27	**XXVII**	Project	practical	50	-	50

B. Voc. Part II (Diploma) Semester – IV

SrNo	Paper No	Title	Theory/practical/ project	Marks(Total)	Theory	Practical
28	**XXVIII**	Fundamentals of Financial Accounting - II	Theory/practical	50	40	10
29	**XXIX**	Microprocessor and Interfacing	Theory/practical	50	40	10
30	**XXX**	Computer NetWork	Theory	50	50	-
31	**XXXI**	Computer architecture and organization	Theory	50	50	-
32	**XXXII**	**C# .net**	Theory	50	50	-
33	**XXXIII**	Laboratory Work Paper No. XXX	practical	50	-	50
34	**XXXIV**	LaboratoryWork Paper No.XXXI	practical	50	-	50
35	**XXXV**	LaboratoryWork Paper No.XXXII	practical	50	-	50
36	**XXXVI**	IndustrialVisit /Study Tour	practical	50	-	50

SCHEME OF TEACHING :

B. Voc. Part II (Diploma) Semester – III

Sr No.	Paper No.	Title	Distribution of workload		
			Theory	Practical	Total
19	XIX	Fundamentals of Financial Accounting - I	**4**	**2**	**6**
20	XX	C++ Programming	**4**	**2**	**6**
21	XXI	Software Engineering	**4**	**-**	**4**
22	XXII	PHP	**4**	**-**	**4**
23	XXIII	Java Programming	**4**	**-**	**4**
24	XXIV	Laboratory Work Paper No. XXI	**-**	**4**	**4**
25	XXV	Laboratory Work Paper No. XXII	**-**	**4**	**4**
26	XXVI	LaboratoryWork Paper No.XXIII	**-**	**4**	**4**
27	**XXVII**	Project	**-**	**-**	**-**
			20	**16**	**36**

B. Voc. Part II (Diploma) Semester – IV

Sr No.	Paper No.	Title	Distribution of workload		
			Theory	Practical	Total
28	XXVIII	Fundamentals of Financial Accounting - II	4	2	6
29	XXIX	Microprocessor and Interfacing	4	2	6
30	XXX	Computer NetWork	4	-	4
31	XXXI	Computer architecture and organization	4	-	4
32	XXXII	C# .net	4	-	4
33	XXXIII	Laboratory Work Paper No. XXX	-	4	4
34	XXXIV	LaboratoryWork Paper No.XXXI	-	4	4
35	XXXV	LaboratoryWork Paper No.XXXII			
36	XXXVI	IndustrialVisit /Study Tour	-	4	4
			20	16	36

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

- **Elligibility for Faculty:**

Below Qualified Teachers are eligible for Degree in Computer Programming

1) Diploma inComputer Programming
2) Advanced Diploma in Computer Programming.
3) Bachlelor Of Vocation in computer Programming.

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

- **Staffing Pattern**

Teaching:Inthe1styearof B Voc–One Full Time one C. H. B. for Business Communication
Lab. Assistant : For 1stYear ofB Voc– 1 CHB
For2nd (Inclusiveof1stYear)ofB Voc.–2 Full Time

SEMESTER – III

GENERAL EDUCATION:

Paper – XIX: FUNDAMENTALS OF FINANCIAL ACCOUNTING – I

GENERAL EDUCATION PAPER:

Bvoc. Part-II (Diploma)

Total Workload: 06 lectures per week of 50 mins.

Distribution of Workload:

Theory: 04 lectures per week

Practical: 02 lectures per week per batch of 20 students

Units Prescribed for Theory: (50 Marks)

Unit I Computerized Accounting System

Introduction – Concept – Components –Features - Importance and Utilization of Computerized Accounting System.

Unit II Computer Application through Accounting Package Tally

Creation of Company, Group, Ledger Accounts, Feeding of Accounting Data Receipts, Payments, Purchase, Sale, Contra, Journal, Credit Note and Debit Note Inventory Information – Groups, Items and Valuation.

Generation of various Accounting Reports.

Unit III Accounts of Professionals

Preparation of Receipts and Payment Account – Income and Expenditure Account and Balance Sheets of Non Profit Organization.

Unit IV Single Entry System

Conversion of Single Entry System into Double Entry System.

PRACTICAL :

1. Understanding computerized accounting practices applied in different retail malls in and around Kolhapur city
2. Practical problems based on computerized accounting using Tally
3. Practical problems on preparation of Receipts and Payment Account

4. Preparation of Income and Expenditure account and Balance Sheet of Non-profit making organizations
5. Solving the problems on conversion of Single Entry system into Double entry system.
6. Oral / Seminar

REFERENCE BOOKS :

1. Advanced Accountancy, M. C. Shukla and T. S. Garewal.
2. Advanced Accountancy, S.C. Jain and K. L. Narang.
3. Advanced Accountancy, S.N. Maheshwari.
4. Theory and practice of Computer Accounting, RajanChougule and Dhaval Chougule.

WEB SITES :

1)www.nos.org

2)www.wiki.answers.com

3)Chow.com

Scheme of External Practical Examination **10 marks**

1) Submission of Record book 5 marks

2) Viva – Voce 5 marks

B.VOC Part I - Sem. I

Paper No. XX: C++ Programming

Theory : 4 lectures / week

Practical : 2 lectures/week/batch

Total Marks : 50 (Theory 40 + Practical10)

UNIT I- Principles of Object Oriented Programming, Beginning with C++

Basic concepts of procedure-oriented and objectorientedprogramming

Structure of C++ program with simple C++ program

Operators in C++ and Operator precedence

UNIT II- Classes and Objects

Private member functions & Nesting of member functions

Memory allocation for objects

Arrays of objects

UNIT III- Constructers and Destructors, Overloading:

Default constructor, Parameterized constructor &Copy constructor

Destructors

Overloading using friends

UNIT IV – Inheritance

Single, Multilevel, Multiple, Hierarchical and Hybrid inheritance

Constructors in derived classes

Pointers to objects & this pointer..

- **Practicals (Based on the above Units)** :

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

ReferenceBooks:

E. Balagurusamy – Object Oriented Programming with C++, Fifth edition, Tata McGraw Education Hill , 2011. Ashok N. Kamthane, Object oriented Programming with ANSI & Turbo C++, First Edition, Pearson India

Paper No. XXI: Software Engineering.

Theory : 4 lectures / week

Total Marks : 50

Unit I- Introduction

Software devolopment Approaches.

Introduction:Evolving role of software characteristics.
Software applications

Unit II- Software design processes

Introduction: What is meant by software engineering?.Defination of software engineering;
The serial or linear sequetional development Model,Iterative Devolopment Model,
The incremental devolopment Model,
The parallel or concurrent devolopment Model.Hacking,

UnitIII- Software design principles

Introduction, system models,Object aggregation,service usage model,Object model, inhertance model,data flow model,semantic data model,Software design.design process design description,strategies,quality,architectural design,system structuring,the client server model.

Unit IV- Object Oriented design

introduction:objects classes,Inheritance,object identification,an object oriented design example.

Referance 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. XXII: **PHP**

Theory : 4 lectures / week

Total Marks : 50

Unit I -Introduction

Introduction to PHP Evaluation of Php, Basic Syntax, Defining variable and constant, Php Data type, Operator and Expression.

Unit II –HTML

Handling Html Form with Php Capturing Form, Data Dealing with Multi-value filed, and Generating File uploaded form, redirecting a form after submission

Unit III – Decisions and loop Making Decisions

Decisions and loop Making Decisions, Doing Repetitive task with looping, Mixing Decisions and looping with Html

Unit IV – Function

Function What is a function, Define a function, Call by value and Call by reference, Recursive function, String Creating and accessing, String Searching & Replacing String, Formatting String, String Related Library function.

Referance 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. XXIII: - Java Programing

Theory : 4 lectures / week

Total Marks : 50

Unit I- Introduction of Java

Introduction of Java.
What is Java?
Features of Java
Editions of Java
Applications of Java / Uses of Java

Unit II - Java Installation

Download Java (JDK) Software & Install
Set Java Environment Variables
Download Eclipse IDE & Extract/Install
Write first Java Program

.Unit III- Java Program Structure

Sections of Java Program
Java Keywords
Java Identifiers
Importing Java Predefined & User defined Libraries
Java Syntax

Unit IV – Java Data Types

What is Data Type?
Explicit Declaration of Data Types
Categories of Java Data Types

Referance Book

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

Paper No. XXIV: Laboratory Work Paper No. XXI

Total Marks – 50
Practical : 4 lectures / week/perbatch

1. Develop requirements specification for a given problem.

2. Develop DFD model (level-0, level-1 DFD and Data dictionary) of the project.

3. Develop Structured design for the DFD model developed.

4. Develop UML Use case model for a problem.

5. Develop sequence diagram.

6. Develop Class diagrams

7. Mobile app

8.Andriod.

Paper No. XXV: Laboratory Work Paper No. XXII

Total Marks – 50
Practical : 4 lectures / week/perbatch

1) Study Of web Standards & Web Based Architecture

2) Study Of Basic Computer Languages Design Student Sign-UP Form Using HTML, JavaScript, HTML5 & CSS

3) Introduction To PHP programming, XAMPP Tool and Dreamweaver Editor Write a Simple Hello Program in PHP by Installing & Configuring XAMPP with Dreamweaver

4) Study Of Basic Building Blocks In PHP Write a Program in PHP for type Casting Of a Variables

5) Study Of Control Structure & Loops In PHP Write a Program In PHP

6) Study Of Array and Function In PHP Write a program In PHP to Sort an array using function (Bubble Sort)

7) Study Of Form handling In PHP Design a personal Information form , then Submit & Retrieve the Form Data Using $_GET(), $_POST() and $_REQUEST()

8) Display Multiplication Table Using Nested For Loop

Paper No. XXVI: Laboratory Work Paper No. XXIII

Total Marks – 50
Practical : 4 lectures / week/perbatch

1) Write a programm to find the avg and sum of numbers using command line
2) WAP to demostrate type casting.
3) WAP to find the argument to provide at run time.
4) WAP to test the prime number.
5) WAP to GCD of the Number.
6) Decending Order.
7) Asending Order.
8) Sorting.

Paper No-XXVII .Project

Total Marks– 50

i) Submissionofpracticalrecordbook=20marks
ii) Submissionofvisitreport=15 marks
iii)Viva-voce 15=marks

SEMESTER IV

GENERAL EDUCATION PAPER:

B.voc Part-II (Diploma)

Paper –XXVIII :FUNDAMENTALS OF FIANACIAL ACCOUNTING – II

Total Workload: 06 lectures per week of 50 mins.

Distribution of Workload:

Theory: 04 lectures per week

Practical: 02 lectures per week per batch of 20 students

Units Prescribed for Theory: (50 Marks)

Unit I Computerized Accounting System

Introduction – Concept – Components –Features - Importance and Utilization of Computerized Accounting System.

Unit II Computer Application through Accounting Package Tally (10 Lectures)

Creation of Company, Group, Ledger Accounts, Feeding of Accounting Data Receipts, Payments, Purchase, Sale, Contra, Journal, Credit Note and Debit Note Inventory Information – Groups, Items and Valuation.

Generation of various Accounting Reports.

Unit III Accounts of Professionals

Preparation of Receipts and Payment Account – Income and Expenditure Account and Balance Sheets of Non Profit Organization.

Unit IV Single Entry System

Conversion of Single Entry System into Double Entry System.

PRACTICAL :

7. Understanding computerized accounting practices applied in different retail malls in and around Kolhapur city

8. Practical problems based on computerized accounting using Tally
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10. Preparation of Income and Expenditure account and Balance Sheet of Non-profit making organizations
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2. Advanced Accountancy, S.C. Jain and K. L. Narang.

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6. Theory and practice of Computer Accounting, RajanChougule and Dhaval Chougule.

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3)Chow.com

Scheme of External Practical Examination **10 marks**

1) Submission of Record book 5 marks

2) Viva – Voce 5 mark

Paper No. XXIX - Microprocessor and Interfacing

Theory : 4 lectures / week

Practical : 2 lectures/week/batch

Total Marks : 50 (Theory 40 + Practical10)

Unit-1:

Introduction to Microprocessor, Components of a Microprocessor Registers, ALU and control & timing, System bus (data, address and control bus), Microprocessor systems with bus organization

Unit-2:

Microprocessor Architecture and Operations, Memory, I/O devices, Memory and I/O operations

Unit-3:

8085 Microprocessor Architecture, Address, Data And Control Buses, 8085, Pin Functions, Demultiplexing of Buses, Generation Of Control Signals, Instruction Cycle, Machine Cycles, T-States, Memory Interfacing

Unit-4:

Assembly Language Programming Basics, Classification of Instructions, Addressing Modes, 8085 Instruction Set, Instruction And Data Formats, Writing, Assembling & Executing A Program, Debugging The Programs

ReferenceBooks:

Microprocessors and Its Interfacing" by Douglas Hall and S S S P Rao. ..

Microprocessor Architecture, Programming and Applications with 8085" by R S Gaonkar. ...

- **Practicals (Based on the above Units) :**

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

Paper No. XXX: Computer Network

Theory : 4 lectures / week

Total Marks : 50

Unit I-Introduction to Computer Network:

Uses of Computer Networks: Business Applications, Home Applications, Mobile Users, Social Issues, Network Hardware: LANs, MANs, WANs.

Unit II-Network Software

: Protocol Hierarchies, Design Issues for the Layers, Connection-Oriented and Connectionless Services, Service Primitives, The Relationship of Services to Protocols

.**Unit III-Reference Models**:

The OSI Reference Model, The TCP/IP Reference Model. Example Networks: The Internet, Connection-Oriented Networks (X.25, Frame Relay & ATM), Ethernet.

Unit IV-Network Layer:

Network Layer Design Issues: Store-and-Forward Packet Switching, Services Provided to the Transport Layer, Implementation of Connectionless Service, Implementation of Connection-Oriented Service, Comparison of Virtual-Circuit & Datagram Subnets.

Reference Books

1. Andrew S Tanenbaum and David J Wetherall, “Computer Networks” Fifth Edition, Pearson, 2012.
2. William Stallings, “Data and Computer Communications”, Eighth Edition, Pearson Education India, 2007.
3. Behrouz A. Forouzan and Sophia Chung Fegan, “Data Communications and

Paper No. XXXI: Computer architecture and organization

Theory : 4 lectures / week

Total Marks : 50

Unit I-Introduction
1) Overview of computers and basics of Digital Electronics-Flip Flops, Registers, Shift registers
2) Register - Transfer-Language 1.3 Register Transfer 1.4 Bus Transfer and Memory Transfer 1c
Describe various arithmetic micro operations.

Unit II -Computer Architecture

1.5 Arithmetic Micro-Operations Addition, Subtraction, Complements, Negation, Increment and Decrement 1d. List various logic micro operations. 1.6 Logic micro operations 1e. List various shift operations 1.7 Shift Micro operation.

Unit III -Arithmetic Logic Shift Unit Unit – II Basic Computer Organization 2a. Discuss the various fields of instruction code. 2.1 Instruction Codes 2b. Define registers and state the role of each register in a basic computer.

Unit IV -Computer Registers AC or Accumulator, Data Register or DR, the AR or Address Register, program counter (PC), Memory Data Register (MDR), Index register, Memory Buffer Register. 2c. List the types of computer instruction format. 2d. Develop a control timing signals diagram for the given instruction. 2.3 Computer Instructions 2.4 Timing and Control 2e.Explain phases of instruction cycle. 2.5 Instruction Cycle 2.6 Memory Reference Instructions 2f. Describe interrupt

Reference Books

1)Andrew S Tanenbaum and David J Wetherall, “Computerarchitecture and organization” Fifth Edition, Pearson, 2012.

2)William Stallings, “Data and Computerorganization ”, Eighth Edition, Pearson Education India, 2007.

Paper No. XXXII: C#.net

Theory : 4 lectures / week

Total Marks : 50

Unit I-MS.NET Framework Introduction

The .NET Framework - an Overview
Framework Components
Framework Versions
Types of Applications which can be developed using MS.NET MS.NET Base Class Library

Unit II-VS.NET and Entry Point Method –Main

Introduction to Project and Solution in Studio Entry point method - Main.
Compiling and Building Projects Using Command Line Arguments
Importance of Exit code of an application Unit III - Overview of Firewalls-

Unit III-OOPs-Concept

Learning about Class, Object, Component, Encapsulation, Inheritance, Polymorphism & Object Creation and Instantiation

Unit IV-OOPs-Programming Encapsulation

Understanding Encapsulation Concept through an example. OOPs-Inheritance
Introduction to Inheritance Constructor & Inheritance Type Casting of Reference Types Static and Dynamic Binding Abstract Class

Paper No. XXXIII: Laboratory Work Paper No. XXX

Total Marks – 50
Practical : 4 lectures / week/perbatch

1. Study of different types of Network cables and Practically implement the cross-ired cable and straight through cable using clamping tool.
2. Study of Network Devices in Detail.
3. Study of network IP.
4. Connect the computers in Local Area Network.
5. Study of basic network command and Network configuration commands
6. Performing an Initial Switch Configuration
7. Performing an Initial Router Configuration
8. Configuring and Troubleshooting a Switched Network
9. Connecting a Switch
10. Configuring WEP on a Wireless Router
11. Using the Cisco IOS Show Commands

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Paper No. XXXIV: Laboratory Work Paper No. XXXI

Total Marks – 50

Practical : 4 lectures / week/perbatch

1 To design the circuit of half adder.

2 To design the circuit of full adder.

3 To design the circuit of half sub tractor.

4 To design the circuit of full sub tractor

5 To design an 8×1 Multiplexer.

6 To design a 4 bit combinational shifter.

7To design a 4 bit combinational Register

8To design an 8×1 Demultiplexer

Paper No. XXXV: Laboratory Work Paper No. XXXII

Total Marks – 50
Practical : 4 lectures / week/perbatch

1. Classes and objects
2. Inheritance
3. Operator overloading
4. Threading
5. Events and delegates
6. Working with windows forms controls
7. Validating data
8. Creating custom dialog box
9. . Designing an MDI application with menu
10. . Retrieving data from a SQL database
11. Manipulating data in a connected environment
12. Manipulating data in a disconnected environment

PaperNo.XXXVI :Project

TotalMarks– 50

iii) Submissionofpracticalrecordbook=20marks
iv)Submissionofvisitreport=15 marks
iii)Viva-voce 15=marks

SHIVAJI UNIVERSITY,

KOLHAPUR

Faculty of Interdisciplinary Studies Structure,

Scheme and Syllabus

for Bachelor of Vocation (B.Voc)

Degree

COMPUTER PROGRAMMING

Part III- Sem. V & VI

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

B. Voc. Part III (Bachelor Of Vocation In Computer Programming) Semester – V

Sr No.	Paper No.	Title	Theory/Practical/ Project	Marks (Total)	Theory	Practical
37	**XXXVII**	**ASP.net**	Theory /Practical	**50**	**40**	**10**
38	**XXXVIII**	**VB.NET**	Theory /Practical	**50**	**40**	**10**
39	**XXXIX**	**Data science**	**Theory**	**50**	**50**	**-**
40	**XXXX**	**VC++**	**Theory**	**50**	**50**	**-**
41	**XXXXI**	**Artifical Inteligency**	**Theory**	**50**	**50**	**-**
42	**XXXXII**	**Laboratory work Paper XXXIX**	**Practical**	**50**	**-**	**50**
43	**XXXXIII**	**Laboratory work Paper XXXX**	**Practical**	**50**	**-**	**50**
44	**XXXXIV**	**Laboratory work Paper XXXXI**	**Practical**	**50**	**-**	**50**
45	**XXXXV**	Internship	**Practical**	**50**	**-**	**50**

B. Voc. Part III (Bachelor Of Vocation In Computer Programming) Semester – VI

Sr No.	Paper No.	Title	Theory/Practical/ Project	Marks (Total)	Theory	Practical
46	**XXXXVI**	**Computer algorithm**	Theory /Practical	**50**	**40**	**10**
47	**XXXXVII**	**Machine Learning**	Theory /Practical	**50**	**40**	**10**
48	**XXXXVIII**	**Cloud Computing**	**Theory**	**50**	**50**	**-**
49	**XXXXIX**	**Internet Of Thing**	**Theory**	**50**	**50**	**-**
50	**XXXXX**	**Power Builder**	**Theory**	**50**	**50**	**-**
51	**XXXXXI**	**Laboratory work XXXXVIII**	**Practical**	**50**	**-**	**50**
52	**XXXXXII**	**Laboratory work**	**Practical**	**50**	**-**	**50**
		Paper XXXXIX				
53	**XXXXXIII**	**Laboratory work Paper XXXXX**	**Practical**	**50**	**-**	**50**
54	**XXXXXIV**	Project	**Practical**	**50**	**-**	**50**

SCHEME OF TEACHING :

B. Voc. Part III (Bachelor Of Vocation In Computer Programming) Semester – V

Sr No.	Paper No.	Title	Distribution of workload		
			Theory	Practical	Total
37	**XXXVII**	**ASP.net**	**4**	**2**	**6**
38	**XXXVIII**	**VB.NET**	**4**	**2**	**6**
39	**XXXIX**	**Data science**	**4**	**-**	**4**
40	**XXXX**	**VC++**	**4**	**-**	**4**
41	**XXXXI**	**Artifical Inteligency**	**4**	**-**	**4**
42	**XXXXII**	**Laboratory work Paper XXXIX**	**-**	**4**	**4**
43	**XXXXIII**	**Laboratory work Paper XXXX**	**-**	**4**	**4**
44	**XXXXIV**	**Laboratory work Paper XXXXI**	**-**	**4**	**4**
45	**XXXXV**	Internship	**-**	**-**	**-**
		Total	**20**	**16**	**36**

B. Voc. Part III (Bachelor Of Vocation In Computer Programming) Semester – VI

Sr No.	Paper No.	Title	Distribution of workload		
			Theory	Practical	Total
46	**XXXXVI**	**Computer algorithm**	**4**	**2**	**6**
47	**XXXXVII**	**Machine Learning**	**4**	**2**	**6**
48	**XXXXVIII**	**Cloud Computing**	**4**	**-**	**4**
49	**XXXXIX**	**Internet Of Thing**	**4**	**-**	**4**
50	**XXXXX**	**Power Builder**	**4**	**-**	**4**
51	**XXXXXI**	**XXXXVIII**	**-**	**4**	**4**
52	**XXXXXII**	**Laboratory work Paper XXXXIX**	**-**	**4**	**4**
53	**XXXXXIII**	**Laboratory work Paper XXXXX**	**-**	**4**	**4**
54	**XXXXXIV**	Project	**-**	**-**	**-**
		Total	**20**	**16**	**36**

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, 14marks 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 inthe internal examination then he/she will have to clear the internal examination.HoweverATKT rules will be followed in respect of theory and practical papers only. Then thestudent is allowed to keep term in the third fifth semester even if he/she has failed in thethree 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 takingadmission 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= Σ (Course Credits X Grade Points Obtained) of a semester

Σ(course credits) of respective semester

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

CGPA = Σ(Total Credits of A Semester X SGPA f Respective Semester) of all semesters

Σ (Total Course Credits) of all semester