

# Vivekanand College, Kolhapur (Empowered Autonomous)

Department of Computer Science Entire

Academic Year: 2024-2025

## Annual Teaching Plan

Name of the teacher: Pallavi M Dessai

Programme B.Sc computer science entire Semester-I

Subject:- Computer science

Course Title: Programming in C-I

Month :- July			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Programming Concepts	<ul style="list-style-type: none"> <li>• Program and programming, Programming languages, Algorithm: Definition, Examples</li> <li>• Characteristics of an algorithm, Notation of Algorithm, Pseudo code conventions</li> <li>• Flowcharts- Definition, Symbol, features.</li> </ul>
12	8	12		
Month:- August			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Introduction to C	<ul style="list-style-type: none"> <li>• History of 'C', Structure of 'C' program, Program execution phases,</li> <li>• Character set and keywords, Constant and its type, Variable and its Data types in 'C',</li> <li>• Operators- operator precedence Programming examples</li> </ul>
12	8	12		
Month:- September			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Input-Output Statements Control Structures	<ul style="list-style-type: none"> <li>• Character input-output - getch(), getche(), getchar(), putchar()</li> <li>• String input-output - gets(), puts() , Formatted input-output - printf(), scanf()</li> <li>• Conditional Control Statements –if – if-else –nested if-else –else-if ladder</li> </ul>
12	8	12		
Month:-October			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Control Structures	Multiple Branching Control Statement – switch-case Loop Control Statements –while –do-while –for –Nested Loops Jump Control statements –break –continue –goto –exit
12	8	12		

*Pallavi M Dessai*

Name and sign of teacher

*Pallavi M Dessai*

HOD

विभाग प्रमुख

संगणक शास्त्र विभाग (एंटायर),  
विवेकानंद कॉलेज कोल्हापूर.  
(अधिकारप्रदत्त स्वायत्त)



## Vivekanand College, Kolhapur ( Empowered Autonomous)

Department of Computer Science Entire

Academic Year: 2024-2025

### Annual Teaching Plan

Name of the teacher: Pallavi M Dessai

Programme B.Sc computer science entire Semester-II

Subject:- Computer science

Course Title: Programming in C-II

Month:-November			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Arrays and strings	<ul style="list-style-type: none"> <li>Array –One dimensional arrays –</li> <li>Two dimensional arrays –</li> <li>Initializing strings, Reading string , string handling functions</li> </ul>
12		12		
Month : December			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Function Pointer, dynamic memory allocation and Structure	<ul style="list-style-type: none"> <li>What is function? Advantages of using functions, Function Prototype –Defining a function,</li> <li>Calling a function ,Return statement ,Types of functions ,Recursion, Local and global variables</li> <li>Def of Pointer, Declaration of Pointer Variables, Assigning Address to Pointer Variables ,De-referencing Pointer Variables,</li> </ul>
12		12		
Month : January			Module/Unit:	Sub-units planned
12		12	Pointer, dynamic memory allocation and Structure	<ul style="list-style-type: none"> <li>Pointer Arithmetic –Pointer comparisons –De-reference and increment pointer –Null pointer , Parameter Passing Techniques – call by value, call by address, malloc() –calloc() –realloc() . – free()</li> <li>Why is structure used? What is structure? Advantages of structures, Defining a Structure , Declaration of Structure Variables , Initialization of Structure Variables , Accessing Structure Members ,</li> <li>Storage of Structures in Memory ,Size of Structures, Reading and Displaying Structure Variables ,</li> </ul>



				Assignment of Structure Variables , Pointers to structures, Array of structures , Arrays within structures , Nested structures
Month :February		Module/Unit:		Sub-units planned
12		12	<b>File Handling</b>	<ul style="list-style-type: none"> <li>• Concept of File ,Text and binary files, Opening and closing files, File opening mode- read, write, append</li> <li>• character and integer handling ( getc(), putc() , getw() , putw() ), Formatted input- scanf(), sscanf(), fscanf(), fread(),</li> <li>• Formatted output- printf(), sprintf(), fprintf(), fwrite() Functions- fseek(), ftell(), fflush(), fclose(), fopen(), rewind()</li> </ul>

*Pooja*

Name and sign of teacher

*Pooja*

HOD

**विभाग प्रमुख**  
**संगणक शास्त्र विभाग (एंटायर),**  
**विवेकानंद कॉलेज कोल्हापूर.**  
**(अधिकारप्रदत्त स्वायत्त)**





# Vivekanand College, Kolhapur ( Empowered Autonomous)

Department of Computer Science Entire

Academic Year: 2024-2025

## Annual Teaching Plan

Name of the teacher: Mr. Rajesh R Mane

Subject: Introduction to Computer s

Course Title: B.Sc. Computer Science Entire (BCS)

Semester-I

Month- July			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Introduction to Computer	<ul style="list-style-type: none"><li>• Introduction, History.</li><li>• Characteristics &amp; features of Computers.</li><li>• Components of Computers.</li><li>• Organization of Computer.</li><li>• Classification of Computers</li><li>• Computer Languages</li><li>• Types of Programming Languages</li><li>• Machine Languages</li><li>• Assembly Languages</li><li>• High Level Languages</li><li>• Assembler, Linker, Loader, Interpreter &amp; Compiler.</li></ul>
24	20	44		
Month -August			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Input, Output Devices and Concept of Memory	<ul style="list-style-type: none"><li>• Input Devices:</li><li>• Touch screen, OMR, OCR, Light pen, Scanners</li><li>• Output Devices:</li><li>• Digitizers, Plotters, LCD, Plasma Display, Printers and its types</li><li>• Types of Memory (Primary And Secondary)</li><li>• RAM, ROM, PROM, EPROM</li><li>• Secondary Storage Devices ( FD, CD, HD, Pen drive, DVD, Tape Drive,USB</li></ul>
24	20	44	Practical's as per list given in syllabus	



Month -September			Module/Unit:	Sub-units planned
24	20	44	<b>Operating System concepts</b>  <b>Practical's as per list given in syllabus</b>	<ul style="list-style-type: none"> <li>• Why Operating System</li> <li>• History of operating system</li> <li>• Functions of Operating System</li> <li>• Types of Operating System</li> <li>• Introduction to Computer Virus, how does it spread? Symptoms of it, Types of Virus, Antivirus, Prevention from Virus.</li> </ul>
Month -October			Module/Unit:	Sub-units planned
24	20	44	<b>MS Word</b> <b>MS PowerPoint</b>  <b>Practical's as per list given in syllabus</b>	<ul style="list-style-type: none"> <li>• MS Word -Word Processing, features of word processing, menus and commands, toolbars and buttons, word formatting toolbar, creating document, saving a document, printing a document, Paragraph setting, mail merge, graphs, pictures, image, working with tables.</li> <li>• MS Power point - Introduction to PowerPoint, Creating a Presentation, PowerPoint views, Slide show, Formatting slides, Slide transition &amp; adding special effects, Inserting pictures, sound, chart.</li> </ul>

RRMa →

Name and Signature of Teacher

Mr.Rajesh Ramchandra Mane

Pallavi M Dessai

Name and Signature of HOD

Pallavi M Dessai

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# Vivekanand College, Kolhapur (Empowered Autonomous)

Department of Computer Science Entire

Academic Year: 2024-2025

## Annual Teaching Plan

Name of the teacher: Mr.Rajesh R Mane

Subject: Introduction to Computer –II Course Title: B.Sc. Computer Science Entire(BCS)  
Semester-II

Month -January			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Introduction to Database  Practical's as per list given in syllabus	<ul style="list-style-type: none"> <li>• Introduction to DB, database Terminologies, RDBMS basic.</li> <li>• DBMS Vs RDBMS with examples</li> <li>• Relational Algebra, Keys –Primary key &amp; Foreign key, Normalization concept.</li> </ul>
24	20	44		
Month -February			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	MS –Access  Practical's as per list given in syllabus	<ul style="list-style-type: none"> <li>• Working With Ms-Access - Tables, Queries, Forms, Reports, and Macros. Introduction to MsAccess, Designing Database, Crating Database using Wizard,</li> <li>• Working with Table. Field types – Auto number, Date/Time, Number, Text, Yes/No, Hyperlink. Creating Tables using Design View and Using wizard, Editing Table, Editing Records.</li> </ul>
24	20	44		





				Query and Form Designing
Month -March			Module/Unit:	Sub-units planned
24	20	44	<b>Introduction to HTML</b>  Practical's as per list given in syllabus	<ul style="list-style-type: none"> <li>• HTML Documents</li> <li>• Basic structure of an HTML document</li> <li>• Creating an HTML document</li> <li>• Mark up Tags</li> <li>• Heading-Paragraphs</li> <li>• Line Breaks</li> <li>• HTML Tags.</li> </ul>
Month -April			Module/Unit:	Sub-units planned
24	20	44	<b>Images, Tables Frames, Image Maps, Forms in HTML</b>  Practical's as per list given in syllabus	<ul style="list-style-type: none"> <li>• Introduction to elements of HTML</li> <li>• Working with Text</li> <li>• Working with Lists, Tables and Frames</li> <li>• Working with Hyperlinks, Images and Multimedia</li> <li>• Working with Forms and controls.</li> </ul>

*RR Mane*

Name and Signature of Teacher

Mr.Rajesh Ramchandra Mane

*Pallavi*

Name and Signature of HOD

Pallavi M Dessai

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**Vivekanand College, Kolhapur (Empowered Autonomous)**

**B.Sc. Computer Science (Entire)**

**Academic Year: 2024-2025**

**Annual Teaching Plan**

Name of Teacher: Miss Snehal Sarjerao Patil

Program: B.Sc. Computer Science (Entire)-I

Semester: I

Subject: Mathematics

Course Title: Foundational Math's

Month: July			Module/Unit I	Subunits Planed
Lectures	Practical	Total	1: Set and Relations , Practical's and IKS	1 Basic definition and types of set 2 Functions and types of function 3 Relations and types of relation 4 Equivalence class, Partition of a set
24	21	45		
Month: August			Module/Unit II	Subunits Planed
Lectures	Practical	Total	2: Matrices and linear equations Practical's and IKS	1 Matrix and types of matrix 2 Matrix Transformations 3 Linear system 4 Solution of linear system: Gaussian Elimination method and Gauss-Jordan method
24	20	44		
Month: September			Module/Unit III	Subunits Planed
Lectures	Practical	Total	3. Logic , Practical's and IKS	1 Statement and types of statements 2 Logical connectives and truth value and construction of truth table . 3 Statement pattern : Tautology , contingency and Contradiction. 4 Logical equivalence 5 laws of logic with examples.
24	21	45		
Month: October			Module/Unit IV	Subunits Planed
Lectures	Practical	Total	4. Number theory Practical's and IKS	1 Introduction 2 Divisibility : Division algorithm (Statement only) 3 Greatest Common Divisor (g.c.d.) and Least Common Multiple (l.c.m) 4 Euclidean algorithm (Statement only) with examples . 5 Fermat's theorem (Statement only), examples
24	20	44		

*Snehal Patil*

Miss Snehal Sarjerao Patil  
Name and Signature of Teacher

*P.M. Dessai*

Prof.P.M.Dessai

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**Vivekanand College, Kolhapur (Empowered Autonomous)**

**B.Sc. Computer Science (Entire)**

**Academic Year: 2024-2025**

**Annual Teaching Plan**

Name of Teacher: Snehal Sarjerao Patil

Program: B.Sc Computer Science (Entire)-I

Subject: Mathematics

Semester: II

Course Title: Operations Research

Month: December			Module/Unit: I,II	Sub-units planned
Lectures	Practical's	Total	1. Introduction to Operations Research Practical's and IKS	1 Basics of operations research 1 Different definitions of operations research 2 Characteristics, scope, limitations of operations research
24	21	45	2 Linear Programming Problem Practical's and IKS	1 Basics definitions 2 Solution of L.P.P by Simplex method and examples
Month: January			Module/Unit: II,III	Sub-units planned
Lectures	Practical's	Total	2 Linear Programming Problem Practical's and IKS	4. Definition of Dual Problem
24	20	44	3. Transportation and Assignment problem Practical's and IKS	1 Basics of Transportation problem 2 Basic Definitions 3 Initial Solution 3.1 North – West corner method and examples 3.2 Matrix minima method and examples 3.3 Vogel's approximation method and examples
Month : February			Module/Unit III	Sub-units planned
Lectures	Practical's	Total	3 Transportation and Assignment problem Practical's and IKS	4 MODI method and examples 5 Maximization in transportation problem and examples 6 Unbalanced transportation problem and examples 7 Introduction to Assignment problem 8 Hungarian method and examples 9 Maximization in Assignment problems and examples
24	21	45		
Month : March			Module/Unit: IV	Sub-units planned
Lectures	Practical's	Total	4 Theory of Games Practical's and IKS	1 Basics definitions 2 Saddle point and examples 3 Algebraic method for $2 \times 2$ size game and examples 4 Arithmetic method for $2 \times 2$ size game and examples
24	20	45		

*Snehal Patil*

Ms. Miss Snehal Sarjerao Patil  
Name and Signature of Teacher

*P. M. Dessai*

(Prof. P.M. Dessai)

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**Vivekanand College, Kolhapur (Empowered Autonomous)**

**B.Sc. Computer Science (Entire)**

**Academic Year: 2024-2025**

**Annual Teaching Plan**

Name of Teacher: Tamgave Namrata Suhas Program: B.Sc Computer Science (Entire)-I Semester: II

Subject: Mathematics

Course Title: Operations Research

Month: December			Module/Unit: I,II	Sub-units planned
Lectures	Practical's	Total	1. Introduction to Operations Research Practical's and IKS	1 Basics of operations research 1 Different definitions of operations research 2 Characteristics, scope, limitations of operations research
24	20	44		
			2 Linear Programming Problem Practical's and IKS	1 Basics definitions 2 Solution of L.P.P by Simplex method and examples
Month: January			Module/Unit: II,III	Sub-units planned
Lectures	Practical's	Total	2 Linear Programming Problem Practical's and IKS	4. Definition of Dual Problem
24	21	45		
			3. Transportation and Assignment problem Practical's and IKS	1 Basics of Transportation problem 2 Basic Definitions 3 Initial Solution 3.1 North – West corner method and examples 3.2 Matrix minima method and examples 3.3 Vogel's approximation method and examples
Month : February			Module/Unit III	Sub-units planned
Lectures	Practical's	Total	3 Transportation and Assignment problem Practical's and IKS	4 MODI method and examples 5 Maximization in transportation problem and examples 6 Unbalanced transportation problem and examples 7 Introduction to Assignment problem 8 Hungarian method and examples 9 Maximization in Assignment problems and examples
24	20	44		
Month : March			Module/Unit: IV	Sub-units planned
Lectures	Practical's	Total	4 Theory of Games Practical's and IKS	1 Basics definitions 2 Saddle point and examples 3 Algebraic method for $2 \times 2$ size game and examples 4 Arithmetic method for $2 \times 2$ size game and examples
24	21	45		

*Tamgave*

Ms. Tamgave Namrata Suhas  
Name and Signature of Teacher

*Dessai*

(Prof. P.M. Dessai)

HOD  
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DEPARTMENT OF B.SC. COMPUTER SCIENCE  
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**Vivekanand College, Kolhapur (Empowered Autonomous)**

**B.Sc. Computer Science (Entire)**

**Academic Year: 2024-2025**

**Annual Teaching Plan**

Name of Teacher: Tamgave Namrata Suhas Program: B.Sc Computer Science (Entire)-I Semester: II  
Subject: Mathematics Course Title: Operations Research

Month: July			Module/Unit I	Subunits Planed
Lectures	Practical	Total	1: Set and Relations , Practical's and IKS	1 Basic definition and types of set 2 Functions and types of function 3 Relations and types of relation 4 Equivalence class, Partition of a set
24	20	44		
Month: August			Module/Unit II	Subunits Planed
Lectures	Practical	Total	2: Matrices and linear equations Practical's and IKS	1 Matrix and types of matrix 2 Matrix Transformations 3 Linear system 4 Solution of linear system: Gaussian Elimination method and Gauss-Jordan method
24	21	45		
Month: September			Module/Unit III	Subunits Planed
Lectures	Practical	Total	3. Logic , Practical's and IKS	1 Statement and types of statements 2 Logical connectives and truth value and construction of truth table . 3 Statement pattern : Tautology , contingency and Contradiction. 4 Logical equivalence 5 laws of logic with examples.
24	20	44		
Month: October			Module/Unit IV	Subunits Planed
Lectures	Practical	Total	4. Number theory Practical's and IKS	1 Introduction 2 Divisibility : Division algorithm (Statement only) 3 Greatest Common Divisor (g.c.d.) and Least Common Multiple (l.c.m) 4 Euclidean algorithm (Statement only) with examples . 5 Fermat's theorem (Statement only), examples
24	21	45		

*Namgave*

Ms. Tamgave Namrata Suhas  
Name and Signature of Teacher

*P. M. Dessai*

(Prof. P. M. Dessai)

HOD

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# Vivekanand College, Kolhapur (Empowered Autonomous)

Department of Computer Science Entire

Academic Year: 2024-2025

## Annual Teaching Plan

Name of the teacher: samrin z. mullani

Programme B.Sc computer science entire Semester-I Div -C

Subject:- Computer science

Course Title: Programming in C-I

Month :- July			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Programming Concepts	<ul style="list-style-type: none"><li>• Program and programming, Programming languages, Algorithm: Definition, Examples</li><li>• Characteristics of an algorithm, Notation of Algorithm, Pseudo code conventions</li><li>• Flowcharts- Definition, Symbol, features.</li></ul>
8	16	24		
Month:- August			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Introduction to C	<ul style="list-style-type: none"><li>• History of 'C', Structure of 'C' program, Program execution phases,</li><li>• Character set and keywords, Constant and its type, Variable and its Data types in 'C',</li><li>• Operators- operator precedence Programming examples</li></ul>
8	16	24		
Month:- September			Module/Unit:	Sub-units planned
8	16	24	Input-Output Statements Control Structures	<ul style="list-style-type: none"><li>• Character input-output - getch(), getche(),getchar(),putchar()</li><li>• String input-output - gets(), puts() , Formatted input-output - printf(), scanf()</li><li>• Conditional Control Statements –if – if-else –nested if-else –else-if ladder</li></ul>
Month:-October			Module/Unit:	Sub-units planned
8	16	24	Control Structures	Multiple Branching Control Statement – switch-case Loop Control Statements –while –do-while –for –Nested Loops Jump Control statements –break –continue –goto –exit

Name and Signature of Teacher

Name and Signature of HOD

Ms. Samrin Z. Mullani

Miss. P.M.Dessai



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				structures , Arrays within structures , Nested structures
Month :February			Module/Unit:	Sub-units planned
8	16	24	<b>File Handling</b>	<ul style="list-style-type: none"> <li>• Concept of File ,Text and binary files, Opening and closing files, File opening mode- read, write, append</li> <li>• character and integer handling ( getc(), putc() , getw() , putw() ), Formatted input- scanf(), sscanf(), fscanf(), fread(),</li> <li>• Formatted output- printf(), sprintf(), fprintf(), fwrite() Functions- fseek(), ftell(), fflush(), fclose(), fopen(), rewind()</li> </ul>

Name and Signature of Teacher

Ms. Samrin Z. Mullani



Name and Signature of HOD

Miss. P.M.Dessai



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# Vivekanand College, Kolhapur (Empowered Autonomous)

Department of Computer Science Entire

Academic Year: 2024-25

## Annual Teaching Plan

Name of the teacher:

**A. K. Londhe**

Programme:

**B.Sc. Computer science Entire Part- I Semester- I**

Subject: Electronics Course Title: **Analog Electronics ( MIN06ELE11)**

Month : July 2024			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	1) Basic Circuit Elements <b>Practical's: Group- A</b> 1. To familiarize with basic electronic components (R, C, L, diodes, transistors), Digital Multimeter.	Study of basic circuit elements and passive components: Resistor, Capacitor, Inductor, Transformer, Relays, Switches (working principle, circuit symbols, types, specifications and applications).
24	20	44		
Month: August 2024			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	2) Semiconductor Diodes <b>Practical's:</b> 1. Study of P-N junction diode characteristics.	Formation of PN junction, Formation of Depletion Layer, Barrier potential, Forward and Reverse bias, Diode Equation and I-V characteristics, Zener diode, Zener and Avalanche breakdown, Zener diode specifications. Photo diode. Light Emitting Diode (LED): construction and working, 7-segment display and it's applications.
24	20	44		
Month: September 2024			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	3) Bipolar Junction Transistor (BJT) <b>Practical's:</b> 1. Study of Transistors as switch. 2. Study of Transistor characteristics (CE) configuration.	Structure and working of bipolar junction transistor: CC, CB, CE configuration, CE mode characteristics, relation between and ,DC load line and Q point, potential divider biasing, concept of transistor as an amplifier and transistor as a switch.
24	20	44		
Month : October 2024			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	4) Amplifier	Need of transistor biasing transistor biasing and stabilization circuits-Fixed bias and voltage divider bias. Class A,B,AB and C amplifier(comparative study on the basis of Q point).Single stage CE amplifier: Current gain, Voltage gain, Power gain, Cascade amplifier: two stage RC, TC and DC coupled amplifier and their frequency responses.
24	20	44		

*A. K. Londhe*

Miss A. K. Londhe



*P. Head*

Miss **HEAD** Dessai

**DEPARTMENT OF B.SC. COMPUTER SCIENCE  
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# Vivekanand College, Kolhapur (Empowered Autonomous)

Department of Computer Science Entire

Academic Year: 2024-25

## Annual Teaching Plan

Name of the teacher:

A. K. Londhe

Programme:

B.Sc. Computer science Entire Part- I Semester- II

Subject: Electronics Course Title: Analog Electronics ( MIN06ELE21)

Month : December 2024			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	1) Transducers Practical's: Group- B 1. Study of LVDT. 2. Study of porch light control using LDR 3. Study of Instrumentation amplifier. 4. Study of ON OFF controller using LM 35 temp sensor.	Definition of transducer, Classification of transducers: Active and passive transducers. Specifications of transducers: (Accuracy, range, linearity, sensitivity, resolution, reproducibility). Temperature transducers: Resistance temperature detector (RTD), Thermistor, Thermocouple pressure transducers: Piezoelectric transducer, capacitive transducer, displacement transducers(LVDT), Optical transducers: (LDR)
24	16	40		
Month: January 2024			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	2) Signal Conditioning Practical's: 1. Study of op-amp as inverting and non-inverting amplifier. 2. Study of op-amp as adder and subtractor	Introduction to signal conditioning Block diagram of op-amp, ideal characteristics of op-amp. Applications of op-amp: Inverting amplifier Non inverting, Voltage follower, Adder, Subtractor, Comparator, three op-amp instrumentation amplifier, introduction to op-amp attenuator, I-V converter, Sample and hold circuit.
24	16	40		



Month : February 2025			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	3) Data Converters Practical's: 1. Study of 3 bit parallel/flash ADC	4) Digital to analog Converter(DAC): weighted resistor,R-2R ladder, parameters: linearity, resolution, accuracy. Analog to digital converter(ADC): Types of ADC: Parallel/Flash, Successive approximation, parameters of ADC (linearity, resolution, conversion time, accuracy).
24	16	40		
Month : March 2025			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	3) Data Acquisition System and Digital Instruments	4) Introduction to Generalized data acquisition system (Single channel), Digital instruments: Digital MultiMater, Digital Tachometer, Digital pH Meter, Digital Phase Meter.
24	16	40		



Miss A. K. Londhe



Miss P. M. Dessai

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# Vivekanand College, Kolhapur ( Empowered Autonomous)

## B.Sc. Computer science Entire

Department of Electronics

Academic Year: 2024-25

### Annual Teaching Plan

Name of the teacher: Mrs. Sujata S. Bobhate.

Programme: B.Sc Computer Science Entire Sem: I

Subject: Electronics Course Title: MIN06ELE12 Digital Electronics-I

Month : July 2024			Module/Unit:	Sub-units planned
Lectures	Practical	Total	Lecture: Unit 1: Number System, Binary Codes and Binary Arithmetic  Practical's: Group A 1. Study of Basic gate	Decimal, Binary, Octal and Hexadecimal number systems and their inter conversions .BCD code. Concept of Parity ASCII code, Binary Arithmetic: Addition, Subtraction by 1's complement and 2's complement method, signed and unsigned numbers
24	16	40		
Month: August 2024			Module/Unit:	Sub-units planned
Lectures	Practical	Total	Unit 2: Logic Gate Practical's: 1. Study of Basic gate 2. Universal building block using NAND and NOR gate, Boolean algebra.  3. Verification of DeMorgan's Theorems	Study of logic Gates: OR, AND, NOT, NOR, NAND, XOR, Universal Gates, Boolean algebra Rule and Law's, De-Morgan's Theorems.
24	16	40		
Month: September 2024			Module/Unit:	Sub-units planned
Lectures	Practical	Total	Lectures : Unit 3 2: Combinational Circuits  Practical's: 3. 1. Study of Half & full adder.  2. Study of Half & full subtractor.  3. Study of BCD to Seven segment Decoder	Concept of Combinational Circuits, Half adder, Full adder, Full Subtractor, 4-bit adder/subtractor, Multiplexer ,De-multiplexer, Encoder (Decimal to BCD), Decoder: BCD to 7 segment decoder..
24	16	40		





Month : October 2024			Module/Unit:	Sub-units planned
Lectures	Practical	Total		
24	16	40	Unit 4: Sequential Circuits Practical 3: 1 Study of Flip-flops 2. Study of Multiplexer and De-Multiplexer. 3. Study of 3 bit asynchronous counter. 4 Study of Decimal to BCD Encoder	. Concept of sequential circuits, Flip-flop, RS, Clocked RS, D, JK, Master Slave JK, T-Flip-flop, Counter Asynchronous (3-bit ripple) Synchronous (3-bit) Ring Counter, Johnson counter (Truth table and timing diagram)  Multiplexers: - 2 to 1, 4 to 1 and 8 to 1. Demultiplexer: - 1 to 2, 1 to 4, 1 to 8. Encoder: concept of encoder, Decimal to BCD Encoder. Basic Binary decoders: 2 to 4 line, 3 to 8 line and 4 to 16 line, BCD to decimal decoder, Study of BCD to seven-segment decoder driver IC 7447.

*Sujata S. Bobhate*

Mrs. Sujata S. Bobhate

*P. M. Dessai*

Miss P. M. Dessai

**HEAD**  
**DEPARTMENT OF B.SC. COMPUTER SCIENCE**  
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**(EMPOWERED AUTONOMOUS)**



# Vivekanand College, Kolhapur (Autonomous)

Department of Electronics

Academic Year: 2024-25

## Annual Teaching Plan

Name of the teacher: Mrs. Sujata S. Bobhate

Programme: B.Sc. Computer science Entire Part-I Semester II

Subject: Electronics Course Title: MIN06ELE22 Digital Electronics-II

Month: December 2024			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit 1: Memory Devices and Memory Organization Practical: 1. Study of Diode Matrix ROM	Types of Memory –RAM (SRAM & DRAM), ROM, EPROM, and EEPROM, Concept of Diode Matrix ROM, Memory organization- building the required memory size by using available memory chips, memory address map.
24	20	44		
Month : January 2025			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit 2: Introduction to Microprocessor Practical:	Introduction to Microprocessor (8, 16, 32Bits). Pin Diagram & Architecture of 8085. Pin diagram & Architecture of 8086.
24	20	44		
Month: February 2025			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit 3: 1. Instruction set of 8085 Microprocessor-I 2. Instruction set of 8085 Microprocessor-II	Introduction, Classification of instruction, instruction format, Addressing Modes, Data transfer instruction, Arithmetic instructions, Logic instructions, Branch and control instructions.
24	20	44		



Month: March 2025			Module/Unit:	Sub-units planned
Lectures	Practical	Total	Unit 4: Instruction with 8085 Microprocessor Practical:	Format of Assembly Language Program (ALP) Assembly Language Program for Addition,, Subtraction, Multiplication, Division, Data transfer, Block Transfer.
24	20	44	1. Block transfer using up8085. 2. Block Exchange using up8085	

*Bobhate*

Mrs. Sujata S, Bobhate

*P. M. Dessai*

Miss P. M. Dessai

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# Vivekanand College, Kolhapur (Empowered Autonomous)

Department of Computer Science Entire

Academic Year: 2024-2025

## Annual Teaching Plan

Name of the teacher: Miss Radhika M.Patil

Programme: B.Sc. Computer Science Entire (BCS) Semester-III

Subject: Computer Science Course Title: Object Oriented Programming Using C++

Month July 2024			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Introduction to C++ and Basics of Object Oriented programming Concepts	<ul style="list-style-type: none"><li>• Introduction to C++: Structure of C++ program, Input and output Streams,</li><li>• Functions: inline function, default argument, function overloading.OOP</li><li>• Concepts: Data abstraction, Data Encapsulation, Inheritance, Polymorphism, Message Passing</li></ul>
24	20	44		
Month August 2024			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Class, Object, Constructor, Destructor.	<ul style="list-style-type: none"><li>• Class declaration, Access modifiers: public, private, protected, defining member functions (inside the class and outside the class)</li><li>• Constructor and Destructor: Definition and features of constructor, Types of constructor,</li><li>• Definition, syntax and use of Destructor</li></ul>
24	20	44		
Month September 2024			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Static members, friend function and class, Operator Overloading	<ul style="list-style-type: none"><li>• Operator overloading :Concept, Rules for operator overloading, Unary and Binary Operator overloading</li></ul>
24	20	44		
Month October 2024			Module/Unit:	Sub-units planned



24	20	44	Inheritance and Polymorphism	<ul style="list-style-type: none"> <li>• Inheritance: Concept, Definitions of base class and derived class, Types of inheritance (Single, Multiple, Multilevel, Hierarchical and Hybrid inheritance)</li> <li>• Polymorphism: Definition of polymorphism, Types of polymorphism, virtual function, pure virtual function, Abstract class..</li> </ul>
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*Radhika*

Name and Signature of Teacher

Miss Radhika M. Patil

*Pallavi*

Name and Signature of HoD

Miss Pallavi M. Dessai

(HOD)  
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Note: In the above format, for each month for each teacher.



# Vivekanand College, Kolhapur (Empowered Autonomous)

Department of Computer Science Entire

Academic Year: 2024-2025

## Annual Teaching Plan

Name of the teacher: Miss Radhika M.Patil

Programme: B.Sc. Computer Science Entire (BCS) Semester-IV

Subject: Computer Science

Course Title: Introduction to Data Structure Using C++

Month Dec, Jan 25			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	<b>Introduction to Data structure and Linear Data Structures (Array, Stack, Queue)</b>	<ul style="list-style-type: none"> <li>• Introduction to Data Structure Definitions: Data types, Data Object, Data structure, Abstract Data Type (concept), Data Structure classification</li> <li>• Algorithm Efficiency: Complexity, Big O notation,</li> <li>• Array: Definition, Types of array (one dimensional and multidimensional), Sparse matrices.</li> </ul>
24	20	44		
Month Feb 25			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	<b>Searching and Sorting</b>	<ul style="list-style-type: none"> <li>• Searching: Linear search and binary search</li> <li>• Sorting: Bubble Sort, Selection Sort, Insertion sort, Merge Sort.</li> </ul>
24	20	44		
Month March 25			Module/Unit:	Sub-units planned
24	20	44	<b>Stack and Queue</b>	<ul style="list-style-type: none"> <li>• Stack: Definition of Stack, Operations on Stack, Static Implementation of stack</li> <li>• Applications of stack: Recursion, inter conversions between</li> </ul>





				infix, prefix and postfix expressions. <ul style="list-style-type: none"> <li>• Queue: Definition of Queue, Operations on Queue, Static Implementation of</li> <li>• Queue. Types of Queue: Linear, Circular and Priority queue</li> <li>• Applications of Queue.</li> </ul>
Month April 25			Module/Unit:	Sub-units planned
24	20	44	<b>Linked List, Trees.</b>	<ul style="list-style-type: none"> <li>• Linked List: Concept of Linked List, Operations on Linked List, Implementation of Linear Linked List, Types of Linked List,</li> <li>• Implementation of stack and queue using linked list</li> <li>• Trees: Definition of tree, Tree terminologies, Types of Tree, Tree Traversal(inorder, preorder, postorder).</li> </ul>

*(Mypati)*

Name and Signature of Teacher

Miss Radhika M. Patil

Name and Signature of HoD

*(P. Dessai)*

Miss Pallavi M. Dessai

(HOD)  
**HEAD**

**DEPARTMENT OF B.SC. COMPUTER SCIENCE  
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Note: In the above format, for each month for each teacher.



# Vivekanand College, Kolhapur (Empowered Autonomous)

Department of Computer Science Entire

Academic Year: 2024-2025

## Annual Teaching Plan

Name of the teacher: Miss Shruti S. Patil

Programme : B.Sc. Computer Science Entire(BCS )

Semester-IV

Subject: computer science

Course Title: Introduction to RDBMS using MySQL Part-II

Month –Dec, Jan 2025			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Data Constraints and MySQL Operator	<ul style="list-style-type: none"> <li>•Data Constraints-Primary key, Foreign key, Unique, NOT NULL, Check, Default</li> <li>• SQL operators: Logical, Relational/Comparison, Special –In, Between, Like</li> </ul>
24	20	44		
Month –February 2025			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	MySQL Functions	<ul style="list-style-type: none"> <li>• Arithmetic functions (abs, ceil, floor, mod, pow, sqrt, round, truncate)</li> <li>• Date and time functions</li> <li>• Aggregate Functions (count, min, max, avg, sum).</li> </ul>
24	20	44		
Month –march 2025			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	MySQL Sub-queries and Join	<ul style="list-style-type: none"> <li>• Introduction to Sub Queries: Sub queries, Nested Sub query.</li> <li>• Introduction to Joins: Simple/Inner Two table Join, Left, Right, Outer join, Self join.</li> <li>• Views, Indexes, Sequence.</li> </ul>
24	20	44		
Month –April 2025			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Cursor and Trigger	<ul style="list-style-type: none"> <li>• Introduction to Cursors and Trigger.</li> <li>• Example of Trigger</li> </ul>
24	20	44		

*Patil*

Name and Signature of Teacher

Miss Shruti S. Patil

Note: In the above format, for each month for each teacher.

*Dessai*

Name and Signature of HoD

Miss Pallavi M. Dessai

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# Vivekanand College, Kolhapur (Empowered Autonomous)

Department of Computer Science Entire

Academic Year: 2024-2025

## Annual Teaching Plan

Name of the teacher: Miss Shruti S.Patil

Programme BSc Computer Science Entire (BCS)

Semester-III

Subject: computer science

Course Title: Introduction to RDBMS using MySQL Part-I

Month –July 2024			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Introduction to RDBMS	<ul style="list-style-type: none"> <li>•What is data and database</li> <li>•Concept of Database Management System</li> <li>• Concept of RDBMS, RDBMS Terminology</li> <li>• Who is DBA and responsibilities of DBA</li> <li>• Relational Model: Structure of Relational Databases, Relational algebra</li> </ul>
24	20	44		
Month –August 2024			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Introduction to Data Models	<ul style="list-style-type: none"> <li>• Data Flow Diagram: Concept of DFD, Symbols, Levels of DFD's, example</li> <li>•Entity Relationship Diagram: Concept of Entity, Attributes, Symbols, Type of relations, examples .</li> </ul>
24	20	44		
Month –September 2024			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Normalization	<ul style="list-style-type: none"> <li>• Normalization: Forms of Normalization- 1NF,2NF,3NF,BCNF,4NF.</li> </ul>
24	20	44		
Month –October 2024			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Introduction to MySQL	<ul style="list-style-type: none"> <li>•What is MySQL, features of MySQL</li> <li>•Basic Data Type in MySQL</li> <li>•Classification of Commands- DDL,DML,DCL,TCL</li> <li>• Select statement with- where, group by, order by- clause</li> </ul>
24	20	44		

*Patil*

Name and Signature of Teacher  
Miss Shruti S.Patil

*Pallavi*

Name and Signature of HoD  
Miss Pallavi M.Dessai

Note: In the above format, for each month for each teacher.



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# Vivekanand College, Kolhapur (Empowered Autonomous)

## B. Sc. Computer science Entire

Department of Electronics

Academic Year: 2024-25

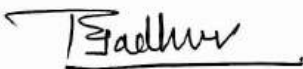
### Annual Teaching Plan

Name of the teacher: **Dr. P. S. Jadhav**  
Programme: **B. Sc. Computer science Entire Part-II, Semester-III**  
Subject: Electronics Course Title: **Internet of Things (IoT) (MIN06ELE32)**  
MIN ELECTRONICS LAB-III **MIN- PR-III : MIN06ELE39**

Month : July 2024			Module/Unit:	Sub-units planned
Lectures	Practical	Total	Lecture: Unit 1: IoT Introduction & Concepts	IoT Architecture, Physical & Logical IoT design, Basics IoT Enabling Technologies. IoT Stack, IoT Applications.
24	20	44	Practical's: 1. Arithmetic and logical operations using 8051 microcontroller (Use 8051 Simulator) 2. Time delay generation using timers of 8051 microcontroller 3. Study the interfacing of Relay and LED using microcontroller 4. Study the interfacing Stepper motor with 8051	
Month: August 2024			Module/Unit:	Sub-units planned
Lectures	Practical	Total	Unit 2: Sensors & Actuators	Sensor working, Sensor Characteristics, Types of sensors and working principle, Sensors used in IoT (Temperature, humidity, Proximity, Accelerometer, Infrared), Actuator
24	20	44	Practicals: 1. Study waveform generator (square, triangular and saw tooth using DAC) with microcontroller. 2. Study of interfacing of 16 x 2 LCD with 8051 microcontroller 3. Study the interfacing of ADC IC0804 with 8051 microcontroller 4. Study the interfacing of DC motor with 8051 microcontroller 5. Study the fundamental of IOT architecture, Arduino board and necessary software and create the thing speak account	



Month : September 2024			Module/Unit:	Sub-units planned
Lectures	Practical	Total		
24	20	44	Lecture: Unit 3: Wireless Technologies for IoT Practicals: 1. Interface Bluetooth with Arduino and send data to smartphone through Bluetooth. 2. Interface Bluetooth with Arduino and receive data to smartphone through Bluetooth to turn LED ON/OFF 3. Interface Wi-Fi module with Arduino to upload sensor data to thing speak cloud 4. Interface Wi-Fi module with Arduino to retrieve sensor data to thing speak cloud	Overview of Wireless Sensor Networks, IEEE standards for IoT, Overview of Wireless Modems (RF, GSM/GPRS, Bluetooth, Wi-Fi etc.), IoT Protocol : Overview, MQTT, COAP, http/https , 6LowPAN
Month : October 2024			Module/Unit:	Sub-units planned
Lectures	Practical	Total		
24	20	44	Unit 4: Cloud platforms for IoT Practicals 1. Interface GSM module with Arduino to upload sensor data to thing speak cloud 2. Read the sensor data and upload the data to thing speak cloud using Node MCU 3. Study and implement MQTT protocol using Arduino. 4. IOT Application Case study: Home Automation.	IoT dashboards, Introduction to various cloud platforms, Device and data management from Cloud Platforms, Applications: Home Automation, Smart Cities etc

  
 Dr. P. S. Jadhav

  
 Miss P. M. Dessai

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# Vivekanand College, Kolhapur (Empowered Autonomous)

Department of Electronics

Academic Year: 2024-25

## Annual Teaching Plan

Name of the teacher:

**Dr. P. S. Jadhav**

Programme:

**B. Sc. Computer science Entire Part-II, Semester-IV**

Subject: Electronics: Course Title:

**Raspberry Pi (MIN06ELE41)**

MIN ELECTRONICS LAB-IV

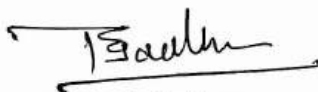
**MIN- PR-IV : MIN06ELE49**


Month: January 2025			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Lecture: Unit-1: Introduction to Single board computer	Basics of Single board computer, Introduction to ARM Cortex Processor, Raspberry Pi Series and Model, Comparison of various models of Raspberry Pi, Detailed specifications of Raspberry Pi 3B+: CPU, Storage devices, GPIO, Ethernet, Wi-Fi, Bluetooth, Power supply, Ports: USB, Display, Camera etc.
24	20	44	Practical: <ol style="list-style-type: none"><li>1. Interfacing light emitting diodes (LEDs) with Raspberry Pi</li><li>2. Interfacing Switch with Raspberry Pi to read its ON OFF status</li><li>3. Interfacing relay with Raspberry Pi</li><li>4. Interfacing Temperature sensor with Raspberry Pi</li><li>5. Interfacing Humidity sensor with Raspberry Pi</li></ol>	
Month : February 2025			Module/Unit:	Sub-units planned
Lectures	Practical	Total	Unit-2: Operating System (OS) of Raspberry Pi Practical:	Benefits of Operating system, different types of OS, Overview of Raspbian OS, OS Installation, Configuration of Raspberry Pi, Installation of libraries
24	20	44	<ol style="list-style-type: none"><li>1. Interfacing Photocell/LDR with Raspberry Pi</li><li>2. Programming Raspberry Pi for Motion detection</li><li>3. Interfacing camera with Raspberry Pi to capture the image</li><li>4. Study of different types of Network cables and practically implement the cross-wired cable and straight through cable using clamping tool.</li><li>5. Establish Peer to Peer network connection using two systems using Switch and Router in a LAN</li></ol>	





Month: March 2025			Module/Unit:	Sub-units planned
Lectures	Practical	Total		
24	20	44	Lecture: Unit-3: Programming of Raspberry Pi using Python Practical: <ol style="list-style-type: none"> <li>1. Study of Network Devices in Detail (Switch, Hub, Router etc.)</li> <li>2. Study of Network IP</li> <li>3. Connect the computers in Local Area Network.</li> <li>4. Connect the computers in wide Area Network</li> </ol>	Basic Python Programming (Script programming), Functions: I/O function (GPIO, Digital), Time functions (Delays), Library functions Basic Arithmetic Programs.
Month: April 2025			Module/Unit:	Sub-units planned
Lectures	Practical	Total		
24	20	44	Lecture: Unit-4: Interfacing using Python Programming Practicals <ol style="list-style-type: none"> <li>1. Configure Host IP, Subnet Mask and Default Gateway in a System in LAN (TCP/IP Configuration).</li> <li>2. Configure Internet connection and use IPCONFIG, PING / Tracer and Net stat utilities to debug the network issues.</li> <li>3. Transfer files between systems in LAN using FTP Configuration, install Print server in a LAN and share the printer in a network.</li> </ol>	Basic: LED and Switch, LCD, Relay and Buzzer.  Advanced: Bluetooth, -Fi, Ethernet, I2C and SPI.  External: Camera interfacing, Serial Communication, Temperature, humidity sensor interfacing

  
 Dr. P. S. Jadhav

  
 Miss. P. M. Dessai

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**Vivekanand College, Kolhapur (Empowered Autonomous)**

**B. Sc. Computer Science Entire**

Department of Electronics

Academic Year: 2024-025

**Annual Teaching Plan**

Name of the teacher:

**Mr. R. A. Deshmukh**

Program:

**B.Sc. Computer Science Entire Part-II, Semester-III**

Subject: Electronics Course Title:

**8051 Microcontroller**

MIN ELECTRONICS LAB-III

**MIN- PR-III: MIN06ELE39**

Month: July 2024			Module / Unit	Sub-Units Planned
Lectures	Practical's	Total	Unit-1: Introduction to Microcontroller 8051	Comparison of Microcontroller & Microprocessor, Architecture of 8051, Internal RAM structure, SFRS, Pin diagram of 8051, I/O ports structure, Reset and Clock, Registers, Introduction to different types of 8-bit microcontrollers like Pic, AVR, Comparison between 8051, AVR, PIC, Applications of Microcontroller
24	20	44	Practical's: 1. Arithmetic and logical operations using 8051 Microcontroller (Use 8051 Simulator) 2. Time delay generation using timers of 8051 Microcontroller 3. Study the interfacing of Relay and LED using Microcontroller 4. Study the interfacing of DC motor with 8051 Microcontroller	
Month: Aug 2024			Module / Unit	Sub-Units Planned
Lectures	Practical's	Total	Unit-2: 8051 Instruction Set	Study of 8051 Instruction Set and Addressing Modes, Data Transfer, Arithmetic, Logical, Branching & Bit Manipulation Instructions, Assembly Language programming: Arithmetic and Logical
24	20	44	Practical's: 1. Study waveform generator (square, triangular and saw tooth using DAC) with microcontroller. 2. Study of interfacing of 16 x 2 LCD with 8051 microcontroller. 3. Study the interfacing of ADC IC0804 with 8051 microcontroller 4. Study the interfacing of DC motor with 8051 microcontroller 5. Study the fundamental of IOT architecture, Arduino board and necessary software and create the thing speak account	





Month: SEP 2024			Module / Unit	Sub-Units Planned
Lectures	Practical's	Total	Unit-3: Facilities in 8051	
24	20	44	Practical's: 1. Interface Bluetooth with Arduino and send data to smartphone through Bluetooth. 2. Interface Bluetooth with Arduino and receive data to smartphone through Bluetooth to turn LED ON/OFF. 3. Interface Wi-Fi module with Arduino to upload sensor data to thing speak cloud 4. Interface Wi-Fi module with Arduino to retrieve sensor data to thing speak cloud	Timer & Counter, Timer Modes, Programming of the timer in different modes using Assembly /C for timer delay generation. Serial Port: Serial Port of 8051, RS-232 standard and IC Max-232, Baud rate generation in 8051, Programming for Transmitting and Receiving characters through serial port using Assembly /C. Introduction to Interrupt: Interrupt types and their vector addresses, Interrupt Enable register, and Interrupt Priority register (IE & IP)
Month: OCT 2024			Module / Unit	Sub-Units Planned
Lectures	Practical's	Total	Unit-4: Real World Interfacing	
24	20	44	Practical's: 1. Interface GSM module with Arduino to upload sensor data to thing speak cloud 2. Read the sensor data and upload the data to thing speak cloud using Node MCU 3. Study and implement MQTT protocol using Arduino. 4. IOT Application Case study: Home Automation.	Programming through embedded C: Interfacing with LED, Liquid Crystal Display (LCD), Analog to Digital Converter (ADC), Digital to Analog Converter (DAC), Stepper Motor and DC Motor.

*Ramp*

Mr. R. A. Deshmukh

*Pessai*

Miss. P. M. Dessai

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**(EMPOWERED AUTONOMOUS)**





**Vivekanand College, Kolhapur (Empowered Autonomous)**

**B. Sc. Computer Science Entire**

Department of Electronics

Academic Year: 2024-025

**Annual Teaching Plan**

Name of the teacher:

**Mr. R. A. Deshmukh**

Program:

**B.Sc. Computer Science Entire Part-II, Semester-IV**

Subject: Electronics Course Title:

**Computer Network**

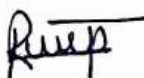
MIN ELECTRONICS LAB-IV


**MIN- PR-IV: MIN06ELE49**

Month: Jan 2025			Module / Unit	Sub-Units Planned
Lectures	Practical's	Total	Unit-1: Introduction	The use of computer network, Network Hardware, Network software, The OSI reference model, The TCP/IP reference model, Comparison of OSI & TCP/IP reference model.
24	20	44	Practical's: 1. Study of different types of Network cables and practically implement the cross-wired cable and straight through cable using clamping tool. 2. Establish Peer to Peer network connection using two systems using Switch and Router in a LAN. 3. Study of Network Devices in Detail (Switch, Hub, Router etc.) 4. Study of Network IP.	
Month: Feb 2025			Module / Unit	Sub-Units Planned
Lectures	Practical's	Total	Unit-2: Physical layer & Transmission	Introduction, Guided Transmission media: co-axial cable, Fiber optics, wireless transmission media, Public Switched telephone networks: Structure of Telephone systems, Local loop Modems, ADSL and fiber. Circuit switching, Packet Switching Hybrid Switching. Mobile Telephone systems: From 1G, 2G and 3G
24	20	44	Practical's: 1. Connect the computers in Local Area Network. 2. Connect the computers in wide Area Network 3. Configure Host IP, Subnet Mask and Default Gateway in a System in LAN (TCP/IP Configuration). 4. Configure Internet connection and use IPCONFIG, PING / Tracer and Net stat utilities to debug the network issues.	



Month: Mar 2025			Module / Unit	Sub-Units Planned
Lectures	Practical's	Total	Unit-3: Data Link Layer	
24	20	44	Practical's: 1. Transfer files between systems in LAN using FTP Configuration, install Print server in a LAN and share the printer in a network. 2. Interfacing light emitting diodes (LEDs) with Raspberry Pi 3. Interfacing Switch with Raspberry Pi to read its ON OFF status 4. Interfacing relay with Raspberry Pi	Data Link Layer design issues, Error detection and correction, Elementary data link protocols, sliding window protocols performance. The Medium Access Sub-layer: The local and metropolitan area networks, the ALOHA protocols, IEEE standard 802 for LAN. Ethernet, Bluetooth and RFID
Month: April 2025			Module / Unit	Sub-Units Planned
Lectures	Practical's	Total	Unit-4: Network Layer, Transport layer & Application layer	
24	20	44	Practical's: 1. Interfacing Temperature sensor with Raspberry Pi 2. Interfacing Humidity sensor with Raspberry Pi 3. Interfacing Photocell/LDR with Raspberry Pi 4. Programming Raspberry Pi for Motion detection 5. Interfacing camera with Raspberry Pi to capture the image	Design issues, Routing algorithms – optimality principle, shortest path algorithm, flooding, distance vector routing. Congestion control algorithms, Network layer in the Internet. The Transport Layer: Transport service, transport protocols, Internet transport protocol (TCP & UDP). Application layer- DNS (Domain name System), application layer protocols.

  
 Mr. R. A. Deshmukh

  
 Miss. P. M. Dessai

DEPARTMENT OF B.SC. COMPUTER SCIENCE  
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**Vivekanand College, Kolhapur (Empowered Autonomous)**  
 Department of Computer Science Entire  
 Academic Year: 2024-2025

**Annual Teaching Plan**

Name of the teacher: Mrs. Vaishali C. Dalvi

Programme BSc Entire (BCS)

Semester- V

Subject: computer science

Course Title: C#.Net programming

Month –July			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Introduction	<ul style="list-style-type: none"> <li>• Event driven &amp; sequence driven programming</li> <li>• Introduction to c#, .net framework architecture</li> <li>• Assembly Namespace, Garbage collector JIT compilers</li> </ul>
32	12	44		
Month –August			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Data Types & Control Structure	<ul style="list-style-type: none"> <li>• Variables, expressions, constants, Data Types , Operators, implicit &amp; explicit conversions</li> <li>• Conditional statements</li> <li>• Loop statements</li> <li>• Unconditional statement</li> </ul>
32	12	44		
Month – September			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Working with Classes	<ul style="list-style-type: none"> <li>• Class &amp; objects</li> <li>• Constructors</li> <li>• Inheritance</li> <li>• Polymorphism</li> </ul>
32	12	44		
Month –October			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Developing GUI applications with Win Form	<ul style="list-style-type: none"> <li>• Different controls in win form – Forms, textbox, labels, buttons, radio buttons, check box, combo box, list box, Date time picker</li> <li>• Important properties of controls, Important events of each control</li> <li>• Menus, built in dialog box – input box, message box, Mouse events – click, double click, enter, hover, leave, move, Keyboard events – key press, key down, key-up</li> </ul>
32	12	44		

Name and Signature of Teacher

*Vaishali Dalvi*  
 Vaishali Dalvi

Name and Signature of HoD

*Pallavi Dèssai*  
 Pallavi Dèssai



**HEAD**  
**DEPARTMENT OF B.SC. COMPUTER SCIENCE**  
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**VIVEKANAND COLLEGE, KOLHAPUR**  
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# Vivekanand College, Kolhapur (Empowered Autonomous)

Department of Computer Science Entire

Academic Year: 2024-2025

## Annual Teaching Plan

Name of the teacher: Mrs Vaishali C. dalvi

Programme : B.Sc. Computer Science Entire(BCS ) Semester-VI

Subject: computer science

Course Title: ASP.Net Programming

Month –November/ December			Module/Unit:	Sub-units Completed
Lectures	Practical's	Total	Exception Handling/ Database Handling	Errors-types of errors <ul style="list-style-type: none"> <li>• Structured Exception – Try__Catch__End Try, finally, throw,</li> <li>• Unstructured Exception – On error GoTo, resume ,resume next.</li> <li>• Tracing Errors – Break Point, watch window, quick watch window, autos</li> <li>• Database: Connections, command, Data adapters, and datasets</li> </ul> Connection to database using MS-Access, SQL Server
54	21	75		
Month – January			Module/Unit:	Sub-units Completed
Lectures	Practical's	Total	Database Connectivity in C#	<ul style="list-style-type: none"> <li>• Data binding with controls like Text Boxes, List Boxes, Data grid etc. Data form wizard,</li> <li>• Data validation</li> </ul>
32	12	44		
Month – February			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Using Crystal Report	Connection to Database, Table, Queries, Create and Modify Report, <ul style="list-style-type: none"> <li>• Formatting Fields and inserting Header, Footer, Group</li> </ul>
32	12	44		
Month – March			Module/Unit:	Sub-units Completed
Lectures	Practical's	Total	Introduction to ASP.Net with c#	<ul style="list-style-type: none"> <li>• Working with web forms: Buttons, Text Boxes, Labels, Check Boxes, Radio Buttons, Tables, Panels, Images, Image Buttons, List Boxes, Drop-Down Lists, Hyperlinks and Link Buttons</li> </ul>
32	12	44		

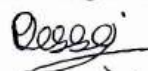
Name and Signature of Teacher



Vaishali Dalvi

Note: In the above format, for each month for each teacher.

Name and Signature of HoD



Pallavi Dessai

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**Vivekanand College, Kolhapur (Empowered Autonomous)**

Department of Computer Science Entire

Academic Year: 2024\_25

**Annual Teaching Plan**

Name of the Teacher: Miss Nita N . Bargale

Programme BSc Entire (BCS)

Semester- V

Subject: computer science

Course Title: core java

Month -July			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Introduction to java	<ul style="list-style-type: none"> <li>•A Short History of Java,</li> <li>• Features of Java,</li> <li>• Java tools-JDK, JRE.</li> <li>• structure of java program –compilation and execution of program</li> <li>• JVM, Types of Comments, Data Types, Final Variable</li> <li>• Type Conversions -implicit and explicit conversion</li> <li>• Accepting input from console (Using scanner class and command line arguments).</li> </ul>
32	12	44		
Month -August			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	control statements, Classes and objects	<ul style="list-style-type: none"> <li>•Control statements, for-each loop, Varargs, Declaring 1D, 2D array</li> <li>• Defining Classes, objects and method - method overloading</li> <li>• Array of Objects, Constructor, Overloading Constructors and use of 'this' Keyword</li> <li>• static keyword,</li> <li>• methods (equals (), toString (), Wrapper Classes, finalize () Method</li> </ul>
32	12	44		
Month -September			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Package, Inheritance and Interface	<ul style="list-style-type: none"> <li>•Package- Introduction to all predefined packages, User Defined Packages, Access Specifiers</li> <li>•Inheritance -Types of Inheritance-</li> <li>• Method Overriding</li> <li>• Super Keyword, final keyword</li> <li>• abstract class and abstract methods</li> <li>• Defining and Implementing Interfaces</li> </ul>
32	12	44		
Month -October			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Exception Handling and Multithreading	<ul style="list-style-type: none"> <li>Exception Handling- Concept, types, try and catch block, multiple catch, Try-catch –finally block, throw and throws clause, finally clause.</li> <li>• Multithreading- What are threads?, difference between process and thread, Life cycle of thread, methods of thread class, runnable interface, isAlive() and join() methods, Thread priorities , Running multiple threads ,Synchronization and interthread communication- wait() , notify(),notifyAll() methods.</li> </ul>
32	12	44		



Name and Signature of Teacher

Miss. Nita N.Bargale



Name and Signature of HOD

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**Vivekanand College, Kolhapur ( Empowered Autonomous)**

Department of Computer Science Entire

Academic Year: 2024-2025

**Annual Teaching Plan**

Name of the teacher: Miss Nita N Bargale.

Programme : B.Sc. Computer Science Entire (BCS)

Semester-VI

Subject: computer science

Course Title: Advance java

Month – Nov-Dec			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	User Interface Components with Swing	fundamentals of Swing-what is JFC, Hierarchy of Java Swing classes,The MVCArchitecture ,Components – JFrame, JButton, JLabel, JText, JTextArea, JCheckBox and JRadioButton, JList, JComboBox, JMenu ,JtabbedPane , JScrollBar , Dialogs (Message,confirmation, input)Layout Managers (Flow Layout, Border Layout, Grid Layout, Card Layout) Events- Action Event Class, Window Event class, ItemEvent class,Event Listener Interface: Action Listener, Window Listener, ItemListener
32	12	44		
Month – January-25			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	JDBC	What is JDBC? Steps for connectivity between Java program and database.Type of drivers, Simple program-database operations like creating tables, CRUD (Create,Read, Update, Delete) operations using SQL
32	12	44		
Month –February			Module/Unit:	Sub-units planned
32	12	44	Servlet	Introduction of servlet: How servlet work, model diagram Uses of servlet, Life cycle of servlet, Servlet API: packages- javax. servlet and javax.servlet.http Session Tracking Mechanisms, HttpSession, Cookies, URL-Rewriting, Hidden-Form Fields
Month –March			Module/Unit:	Sub-units planned
32	12	44	JSP	Introduction, Jsp LifeCycle, Jsp Implicit Objects & Scopes, Jsp Directives,Jsp Scripting Elements , Simple application using JSP. Difference between JSP and Servlet



Name and Signature of Teacher

Miss. Nita N.Bargale



Name and Signature of HOD

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**Vivekanand College, Kolhapur (Empowered Autonomous)**  
 Department of B Sc Computer Science Entire  
 Academic Year: 2024-2025  
 Annual Teaching Plan


Name of the teacher: Miss. Nadiya Dara Patel  
 Programme: B.Sc. Computer Science Entire(B.C.S)

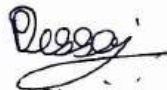
Semester-V

Subject: Computer Science

Course Title: Software Engineering with UML

Month- July 2024			Module/Unit:	Sub-units planned
Lectures	Practical's	Total		
32	12	44	1.Introduction to software engineering and process models Practical: 1) Operating System practical's	1) Definition of software, definition of software engineering, characteristics of software, System Development Life Cycle (SDLC), phases of SDLC, Software process models: Traditional models- Waterfall model, Prototyping model, Spiral Model, Introduction to Agile software development-concept, advantages, types- scrums, extreme programming(XP).  2) Operating System DOS commands implementation
Month – Aug 2024			Module/Unit:	Sub-units planned
Lectures	Practical's	Total		
32	12	44	2.Introduction to Requirements Analysis and specification and UML Practical: 2) Operating System practical's	1) Requirement anticipation and investigation Fact finding methods- Interviews, Questionnaires, observation, record review. Software requirements specification (SRS)- need of SRS, characteristic of SRS, structure of SRS, Types of requirements - functional and non- functional Introduction to UML- concept of UML, advantages of UML, applications of UML. 2) OS DOS commands implementation
Month- Sept 2024			Module/Unit:	Sub-units planned
Lectures	Practical's	Total		
32	12	44	3.UML Diagrams- I Practical: 3) Operating System practical's	1) Classification of UML diagrams, Use case diagrams-overview, identifying actors and use cases, communication and relationships, example. Class diagrams: classes and objects, association and links, multiplicity, inheritance, example. State machine diagram- overview  2) Operating System DOS commands implementation
Month- Oct 2024			Module/Unit:	Sub-units planned
Lectures	Practical's	Total		
32	12	44	4.UML Diagrams- II and introduction to Software Testing  Practical: 4) Operating System practical's	1) Interaction diagrams - overview, Sequence Diagram-concept, activation, example. Activity diagram-concept, activities, actions, decisions, control nodes, fork and join node, example. Software Testing overview - concept, Types of testing -Unit testing, Acceptance testing ( $\alpha / \beta$ ), Integration testing, Black box testing, White box testing.  2) Operating System DOS commands implementation

  
 Name and Signature of Teacher  
 Miss. Nadiya Dara Patel

  
 Name and Signature of HOD  
 Miss. Pallavi M. Dessai

Note: In the above format, for each month for each teacher.



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**Vivekanand College, Kolhapur (Empowered Autonomous)**  
 Department of Computer Science Entire  
 Academic Year: 2024-2025  
 Annual Teaching Plan

Name of the teacher: Miss. Nadiya Dara Patel

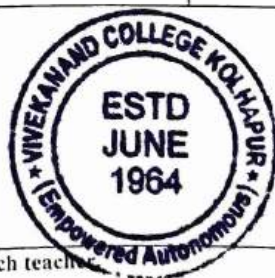
Programme: B.Sc. Computer Science Entire (B.C.S)

Semester-VI

Subject: Computer Science Course Title: Introduction to Artificial Intelligence and Expert Systems

Month- Nov-Dec 2024			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	1.Introduction to Artificial Intelligence  Practical: 1) Linux operating system practical's	1) Definition of Artificial Intelligence, History of Artificial Intelligence, Goals of A.I.Contributors of A. I., Branches of A.I., Applications of A.I. Why Artificial Intelligence, Advantages of A.I., Disadvantages of A.I., Types of Artificial Intelligence: Type1, Type2.  2) Linux commands implementation
32	12	44		
Month- January 2025			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	2.Introduction to Intelligent System  Practical: 2) Linux operating system practicals	1) What is intelligence, Types of Intelligence,Components of Intelligence- Reasoning, Learning, Problem Solving, Perception, Linguistic Intelligence. A.I. Agents and environment – concept, definition of agent, definition of environment, Structure of A.I. intelligent agent, Rules for A.I. agent, Rational Agent- PEAS representation (Case study of Self Driving Car) examples. Turing test.  2) Linux commands implementation
32	12	44		
Month- February 2025			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	3.Problem Solving in A.I.  Practical: 3) Linux operating system practical's	Concept, Search algorithm terminologies: i) Search-Search Space, Start State, Goal State. ii) Search Tree, iii) Actions, iv) Transition Model, v) Path Cost vi) Solution vii) Optimal Solution, viii) Problem and Problem Space. Types of Search Algorithms: Uninformed- Breadth First Search, Depth First Search. Informed: Heuristic Search – i) Generate and test method , ii) Hill Climbing Natural Language Processing: concept, definition, natural language processing and understanding, NLP analysis stages 2) Linux commands implementation
32	12	44		
Month- March 2025			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	4.Introduction to Expert System  Practical: 4) Linux operating system practical's	What are expert systems, Features of expert Systems, Components of Expert System- i) Knowledge base-definition, components of Knowledge base, Knowledge representation , Knowledge Acquisition. ii)Inference Engine – Definition, forward chaining, backward chaining, iii) User Interface Development of E.S., Limitations of E.S., Applications of E.S. 2) Linux commands implementation
32	12	44		

*Nadiya*  
 Name and Signature of Teacher  
 Miss. Nadiya Dara Patel



*Pallavi*  
 Name and Signature of HOD  
 Miss. Pallavi M. Dessai

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Note: In the above format, for each month for each teacher



**Vivekanand College, Kolhapur (Empowered Autonomous)**  
 Department of Computer Science Entire  
 Academic Year: 2024-2025

**Annual Teaching Plan**

Name of the teacher: Mr .Rohit R Waskar.

Programme B.Sc. computer science entire Semester-V

Subject: computer science

Course Title: Operating system

Month July			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	<b>Operating System overview</b>	Introduction and definition of operating system , Objectives and function Operating system services , Protection: input output, memory and CPU protection System calls: types of system calls and system call implementation
32	12	44		
Month August			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	<b>Process Management</b>	Process concept, Process states, Process control block (PCB) Context switching , Process scheduling: scheduling objectives, types of schedulers, scheduling criteria, scheduling algorithms- Preemptive and non-preemptive. FCFS, SJF, priority, round robin, multiple queue, multilevel feedback queue
32	12	44		
Month September			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	<b>Memory Management</b>	Logical and physical address map , Swapping Memory allocation- contiguous memory allocation- fixed and variable partition, internal and external fragmentation and compaction. Paging and virtual memory, demand paging, locality of reference, page fault, dirty page/ dirty bit, page replacement policies FIFO, optimal, LRU, MFU
32	12	44		





				Disk structure, Disk scheduling-FCFS, SSTF, SCAN, LOOK, CSCAN, CLOOK
Month October			Module/Unit:	Sub-units planned
16		16	<b>File management and Deadlocks</b>	File concept, access methods- sequential and direct, file types and operations Allocation method- contiguous, linked and indexed Definition of deadlock, characteristics Deadlock prevention, detection and recovery

Rohit R Waskar *Rdy.*  
Name and Signature of Teacher

Mr. Rohit R Waskar

*Pooja*

Name and Signature of HOD

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**DEPARTMENT OF B.SC. COMPUTER SCIENCE**  
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**Vivekanand College, Kolhapur (Empowered Autonomous)**

Department of Computer Science Entire  
Academic Year: 2024-2025

**Annual Teaching Plan**

Name of the teacher: Mr. Rohit R Waskar

Programme B.Sc computer science entire Semester-VI

Subject: computer science

Course Title: Linux operating system

Month : Nov-Dec			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	<b>Linux Basics</b>	<ul style="list-style-type: none"> <li>•What is an OS? What is Linux,</li> <li>The shell, kernel, Linux file system, login, logout</li> <li>Different general purpose utility commands (GPU)- cal, date, bc, who</li> <li>Concept of directory, home directory, directory handling commands- PWD, cd, mkdir, rmdir, ls, relative and absolute path</li> <li>Basic file attributes metacharacters.</li> <li>Access permission chmod command</li> <li>File handling commands- cat, cp, mv, rm, lp, man, pipe</li> </ul>
32	12	44		
Month : January-25			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	<b>Basic filters</b>	<ul style="list-style-type: none"> <li>What is a filter, head, tail, sort, grep</li> <li>regular expressions and its types ,environment variables-PATH, USER, HOME, UID, TERM, SHELL</li> <li>concept of process, PID, PS, KILL, FREE</li> </ul>
32	12	44		
Month : February			Module/Unit:	Sub-units planned



32	12	44	VI editor	What is the VI editor- command mode, insert mode, last line mode VI editing commands, moving within a file, saving and closing the file Command mode movement, command mode- making changes, repeating VI actions
Month : March			Module/Unit:	Sub-units planned
32	12	44	Essential shell programming	Linux shells, shell scripting, running a shell script Statements- read, echo, exit, expr Conditional statements- test, if, case Looping statements- while, until, for Positional parameters- set, shift

*R.R.*

Name and Signature of Teacher

Mr. Rohit R Waskar

*P. P. P.*

Name and Signature of HOD

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# Vivekanand College, Kolhapur (Empowered Autonomous)

Department of Computer Science Entire

Academic Year: 2024-2025

## Annual Teaching Plan

**Name of the teacher:** Miss.Pragati Pandurang Patil

**Programme:** B.Sc. Computer Science Entire(B.C.S)

**Semester-V**

**Subject:** Data Communication

**Course Title:** B.Sc. Computer Science Entire (BCS)

Month July			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Basic of Data Communication	Concept of data communication, Components-sender, receiver, message Data Representation, Data flow-simplex, half-duplex and full-duplex , Networks: Definition, Advantage and disadvantage, Network Architecture: client/server and peer to peer
32	12	44		
Month August			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Transmission Media and Modes	Transmission Media: Guided Media-Twisted-Pair cable, coaxial cable and Fibrotic cable. Unguided Media-Radio waves, Microwaves, Infrared waves. Transmission Modes-Parallel, Serial, Asynchronous,synchronous,Isochronous
32	12	44		
Month September			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Multiplexing, Switching Techniques and Protocol and Standards	Multiplexing: Frequency-Division Multiplexing, Wavelength-Division Multiplexing, Time-Division Multiplexing Switching: circuit switching data gram and virtual circuit switching, Packet Switching and Message Switching Protocol: concept, syntax, semantics, timing, standards
32	12	44		
Month October			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Physical Layer and Data Link Layer	Physical layer: Digital to analog conversion: Concept ,amplitude shift keying, frequency Shift keying, phase shift keying, Analog-to-Digital conversion: pulse code Modulation (PCM), Delta Modulation Data Link layer: Design issues, framing, Error Detection and Correction
32	12	44		

*Patil*

Name and Signature of Teacher

Miss.Pragati Pandurang Patil



*P. D. Desai*

Name and Signature of HOD

Miss. P. M. Desai

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**DEPARTMENT OF B.SC. COMPUTER SCIENCE (ENTIRE)**

**VIVEKANAND COLLEGE, KOLHAPUR (EMPOWERED AUTONOMOUS)**

**Vivekanand College, Kolhapur (Empowered Autonomous)**

**Department of Computer Science Entire**  
**Academic Year: 2024-2025**

**Annual Teaching Plan**

**Name of the teacher:** Miss.Pragati Pandurang Patil

**Programme:** B.Sc. Computer Science Entire(B.C.S)

**Semester-VI**

**Subject:** Computer Network

**Course Title:** B.Sc. Computer Science Entire (BCS)

Month November- December			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Data Link Layer Protocols, Network Layer	Protocols-Sliding Windows Protocol: one bite Sliding Windows Protocol, Protocol Using Go back N, Protocol Using Sensitive repeat, Network Layer: Design Issues, concept of routing
32	12	44		
Month January			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Network Layer and Transport Layer	Routing Algorithm(shortest path ,flooding, Distance vector routing) Congestion control Algorithm: Leaky Bucket, Token Bucket Transport Layer Service: Connection oriented and connection less service Transport layer Primitives: Listen, connect, send, receive, disconnect Protocol: TCP, UDP.
32	12	44		
Month February			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Session and Presentation layer	Session layer services: dialog management, Synchronization, Activity management , exception handling Remote producer cell(RPC) Presentation layer services: Translation, compression, encryption Cryptography: Concept symmetric key Cryptography (e.g. AES and DES Explain one of them)and Asymmetric key Cryptography(RSA Diffie-Hellman Algorithm Explain one of them)
32	12	44		
Month March			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Application Layer	Application Layer :Function Protocol: Domain Name System (DNS), Hypertext transfer protocol(HTP),Simple mail transfer protocol (SMTP),Telnet, File Transfer Protocol
32	12	44		

*Patil*  
 Name and Signature of Teacher  
 Miss.Pragati Pandurang Patil



*P. V. Desai*  
 Name and Signature of HOD

Miss. P. V. Desai  
**HEAD**  
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# Vivekanand College, Kolhapur (Empowered Autonomous)

**Department of Computer Science Entire**

**Academic Year: 2024-2025**

## Annual Teaching Plan

**Name of the teacher:** Miss.Priyanka Sanjay Maske

**Programme:** B.Sc. Computer Science Entire(B.C.S)

**Semester-V**

**Subject:** E-Commerce

**Course Title:** B.Sc. Computer Science Entire (BCS)

Month July			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	1.Introduction	History, Overview, Definition of E-commerce. Scope & Goals of E- Commerce. Advantages and Disadvantages of E-commerce. Applications of E- commerce. Challenges of E-commerce. Roadmap of e-commerce in India. Traditional commerce Vs E-commerce.
32	12	44		
Month August			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	2.Electronic Data Interchange (EDI)	Meaning of EDI. History of EDI. EDI Working Concept. EDI Model. EDI Standards. Implementation difficulties of EDI. Advantages and Disadvantages of EDI. E Commerce Business Models (B2B, B2C, C2C, C2B, B2G, G2G, G2C) · E-commerce marketing and business strategies, Social networks and online communities. History and Development, Use of Internet. Domain Names. Internet Service provider. World Wide Web. Uniform Resource Locator. Web Browsers. Email, Voicemail, Web Search Engines.
32	12	44		
Month September			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	3.E-Payment Systems	Electronic Payment concept. Steps for Electronic Payment. Types of E-Payment Systems- Prepaid, Post-paid. Electronic fund Transfer. Net Banking. Case Study: · 1. List out the Web sites dealing with E- Commerce. 2. Survey of ATM Centre. 3. Create a Website with minimum details. 4. Log on to trade Website and make a trial order for purchase of an item
32	12	44		
Month October			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	4.E-Security Issues and Threats	Secure Transaction concept – Authentication & Authorization. Privacy on Internet. Computer Crime Types and laws. Viruses -Types of Attacks. Vulnerability of Internet Sites. Denial-of-Service attacks. Cryptography-Encryption, Decryption. SSL –SET. Firewall. Digital Certificates. Digital signatures.
32	12	44		

*Priyanka Maske*

Name and Signature of Teacher

Miss.Priyanka Sanjay Maske

Name and Signature of HOD

Miss. P.M.Dessai

*P.M.Dessai*

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**DEPARTMENT OF B.SC. COMPUTER SCIENCE**

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**Vivekanand College, Kolhapur (Empowered Autonomous)**  
**Department of Computer Science Entire**  
**Academic Year: 2024-2025**

**Annual Teaching Plan**

**Name of the teacher:** Miss.Priyanka Sanjay Maske

**Programme:** B.Sc. Computer Science Entire(B.C.S)

**Semester-VI**

**Subject:** Data warehouse and mining

**Course Title:** B.Sc. Computer Science Entire (BCS)

Month November- December			Module/Unit:	Sub-units planned
Lecture s	Practical' s	Total	1.Introduction to data warehousing	What is Data Warehousing? How Data warehouse works?- Why a Data Warehouse is Separated from Operational Databases- Data Warehouse Applications- Types of Data Warehouse- Difference between Data Warehouse (OLAP) and Operational Database(OLTP)-
32	12	44		
Month January			Module/Unit:	Sub-units planned
Lecture s	Practical' s	Total	2.Introduction to data mining	What is data mining? Process of knowledge discovery in databases (KDD)- Getting to Know Your Data- Data Objects and Attribute Types, What Is an Attribute, Nominal Attributes , Binary- Attributes, Ordinal Attributes, Numeric Attributes , Discrete versus Continuous Attributes
32	12	44		
Month February			Module/Unit:	Sub-units planned
32	12	44	3.Data pre-processing and association rule mining	Data Pre-processing: An Overview Data Quality: Why Pre-process the Data?- Major Tasks in Data Pre-processing, Data Cleaning (Missing Values, Noisy Data) , Data- integration, Data Transformation , Data reduction, Data Discretization, Association Rule Mining, Market basket analysis, Apriori algorithm-
Month March			Module/Unit:	Sub-units planned
32	12	44	4.Classification, prediction and clustering	Classification, Classification Requirements, Classification vs. Prediction, Issues related to Classification and Prediction Decision tree- Prediction- Regression analysis- Clustering: What Is Cluster Analysis? Different Types of Clustering, K-means: The Basic- K-Means Algorithm

  
 Name and Signature of Teacher

Miss.Priyanka Sanjay Maske

  
 Name and Signature of HOD

Miss. P.M. Dessai

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**DEPARTMENT OF B.SC. COMPUTER SCIENCE  
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 (EMPOWERED AUTONOMOUS)**



**Annual Teaching Plan Academic year 2024-2025**

**Semester I Department -Department of Computer Science Entire**

**Subject - Open Elective**

**Title -DESCRIPTIVE STATISTICS -I**

**Name of teacher – Mr.Pawar A.A.**

Month: June-July			Module/Unit	Sub-units planned
Lectures 24	Practicals 52	Total 76	Unit-1 Introduction	1.1 Definition and concept Statistics, Population and Sample: Concept of statistical population with illustrations, concept of sample with illustrations. 1.2 Methods of sampling: Simple Random Sampling and Stratified Random Sampling (description only). 1.3 Data Condensation: Raw data, Attributes and variables, discrete and continuous variables, classification and construction frequency distribution.
Month-August				
Lectures 24	Practicals 50	Total 74	Unit-1 Introduction	1.4 Graphical Representation: Histogram, Frequency polygon, Frequency curve, Ogive curves and their uses. 1.5 Examples and Problems.
			Unit-2 Measure of Central Tendency	2.1 Concept of central tendency, Criteria for good measures of central tendency. 2.2 Arithmetic mean: Definition, computation for ungrouped and grouped data, combined mean, weighted mean, merits and demerits. 2.3 Median: Definition, computation for ungrouped and grouped data, graphical method, merits and demerits. 2.4 Mode: Definition, computation for ungrouped and grouped data, graphical method, merits and demerits. 2.5 Quartiles: Definition, computation for ungrouped and grouped data graphical method, Box Plot. 2.6 Numerical problems
Month-September				



Lectures 24	Practicals 52	Total 76	Unit-3 Measures of dispersion Unit-3	<p>3.1 Concept of dispersion and measures of dispersion, absolute and relative measures of dispersion.</p> <p>3.2 Range and Quartile Deviation: definition for ungrouped and grouped data, and their coefficients, merits and demerits.</p> <p>3.3 Mean Deviation: Definition for ungrouped and grouped data, minimal property (statement only).</p> <p>3.4 Standard deviation and Variance: definition for ungrouped and grouped data, coefficient of variation, combined variance and s. d. for two groups, merits and demerits.</p> <p>3.5 Numerical problems.</p>
Month: October-November				
Lectures 24	Practicals 48	Total 72	Unit-4 Moments, Skewness & Kurtosis	<p>4.1 Raw and central moments: definition for ungrouped and grouped data (only first four moments), relation between central and raw moments (statements only).</p> <p>4.2 Measures of skewness: Types of skewness. Pearson's and Bowley's coefficients of skewness. Measures of skewness based on moments.</p> <p>4.3 Measures of kurtosis: Types of kurtosis. Measures of kurtosis based on moments.</p> <p>4.4 Numerical problems.</p>

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*Pawar A.A.*

Name and Signature of teacher

Mr.PawarA.A.





**Annual Teaching Plan Academic year 2024-2025**

**Semester I Department -Department of Computer Science Entire**

**Subject - Open Elective**

**Title -Probability and Discrete Probability Distributions-I**

**Name of teacher – Mr.Pawar A.A.**

Month: June-July			Module/Unit	Sub-units planned
Lectures 24	Practicals 52	Total 76	Unit-1 Probability:	1.1 Idea of permutation and combination, concept of experiments and random experiments. 1.2 Definitions: sample space (finite and countably infinite), events, types of events, power set (sample space consisting at most 3 sample points). 1.3 Illustrative examples. 1.4 Classical (apriori) definition of probability of an event, equiprobable sample space, simple examples of probability of an events based on permutations and combinations, axiomatic definition of probability with reference to finite and countably infinite sample space.
Month-August				
Lectures 24	Practicals 52	Total 76	Unit-1 Probability:	1.5 Theorems on probability : i) $P(\Phi) = 0$ ii) $P(A') = 1 - P(A)$ iii) $P(A \cup B) = P(A) + P(B) - P(A \cap B)$ iv) If $A \subseteq B$ , $P(A) \leq P(B)$ v) $0 \leq P(A \cap B) \leq P(A) \leq P(A \cup B) \leq P(A) + P(B)$ 1.6 Illustrative examples.
			Unit-2 Conditional probability and independence of events:	2.1 Definition of conditional probability of an event, examples. 2.2 Partition of sample space, Baye's theorem (only statement) and examples. 2.3 Concept of independence of two events, examples. 2.4 Proof of the result that if A and B are independent events then i) A and B', ii) A' and B, iii) A' and B' are also independent. 2.5 Pairwise and complete independence of three events, examples. 2.6 Elementary examples.
Month-September				



Lectures 24	Practicals 50	Total 74	Unit-3 Univariate probability distributions	<p>3.1 Definitions: discrete random variable, probability mass function (p.m.f.), cumulative distribution function (c.d.f.), properties of c.d.f., median, mode and examples.</p> <p>3.2 Definition of expectation of a random variable, expectation of a function of random variable.</p> <p>3.3 Results on expectation :i) <math>E(c) = c</math>, where <math>c</math> is constant. ii) <math>E(aX + b) = a E(X) + b</math>, where <math>a</math> and <math>b</math> are the constants.</p> <p>3.4 Definition of mean and variance of univariate distributions.</p> <p>3.5 Examples</p>
Month: October-November				
Lectures 24	Practicals 50	Total 74	Unit-4 Some standard discrete probability distributions:	<p>4.1 Discrete uniform distribution: p.m.f., mean and variance, examples.</p> <p>4.2 Binomial distribution: p.m.f., mean and variance, additive property of binomial variates, recurrence relation for probabilities, examples.</p> <p>4.3 Geometric distribution: p.m.f., mean and variance, additive property, recurrence relation for probabilities, examples.</p> <p>4.4 Poisson distribution: p.m.f., mean and variance, additive property, recurrence relation for probabilities, Poisson distribution as a limiting case of binomial distribution (without proof), examples.</p>

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Name and Signature of teacher

Mr.PawarA.A.

