

Vivekanand College, Kolhapur (Autonomous)
B. Sc. Part – I (Computer science Entire) CBCS ,

Semester: I Computer science -Paper- I CC-CS-1303

A Introduction to computers and programming using C-I

Academic Year: 2019-20

Faculty Name: Miss Pallavi M Dessai & Mr.Rajesh R Mane

Teaching Plan

Section –I

MONTHS	UNIT NAME	POINTS TO BE COVERED
JULY	I-Introduction to Computer and Basic Organization	Definition of computer, characteristics, limitations, concepts of h/w and s/w, applications of computers in various fields, computer languages –high level, low level, assembly level, compiler, interpreter. Block diagram - Input Unit, Memory Unit, Output unit, Central processing unit
AUGUST	II-Input, Output Devices and Concept of Memory	Input devices: - Keyboard, Mouse, Light pen, Joystick, Touch screen, Digitizer, Scanner, MICR, OMR, Barcode reader. Output devices: - VDU, Printers – Dot-matrix, Inkjet, Laser, Line, Plotters Memory – Semiconductor and Magnetic memory. Secondary Storage devices: - Magnetic disk, Magnetic tape, Optical disk -CD ROM
SEPTEMBER	III-Operating System concepts	Definition and Functions of Operating System. Types of OS –Single user, Multi-user. Process Management- Multiprogramming, Multitasking, Multiprocessing, Time sharing. Disk Operating System (DOS), Booting Processes, DOS internal and external commands, concept of directory and file. Windows Operating system: Features of Windows O.S., GUI Modules of Windows – Windows Explorer, Control panel, Printer Manager. Windows accessories – Paintbrush, Notepad
OCTOBER	IV-Office automation and Database basic concepts	Study of Word Processors and Spreadsheet: Definition of Word Processor, Detail study of features of MS- WORD Definition of Spreadsheet, Detail study of features



		of MS-Excel Definition of Field, Record, Database. Data Base Management System Concept, (Primary and Foreign key) MS-Access Data types, Creating tables, Handling database-using queries.
--	--	---

Section -II

MONTHS	UNIT NAME	POINTS TO BE COVERED
JULY	I-Programming Concepts II-Introduction to C	Definition, Pseudo code conventions, Examples, Characteristics of an algorithm, Time complexity, Iterative, Recursion (e.g. Fibonacci Sequence & Array Recursive Sum)), Characteristics of algorithm, Notation of Algorithm, Flowcharts- Definition, Symbol, features.
AUGUST	II- Input-Output Statements	History of 'C', Structure of 'C' programming , Running and debugging the program, Character set and keywords, Constant and its type, Variable and its Data types in 'C', Operators Arithmetic, logical, relational, bitwise, increment, decrement ,conditional, operator precedence
SEPTEMBER	III-Input-Output Statements	Character input-output - getch(), getche(), getchar(), putchar(), String input-output - gets(), puts() Formatted input-output - printf(), scanf()
OCTOBER	IV-Control Structures V- Array & Strings	Conditional control statements- if, if else, nested if, switch, Looping – for statements, nested for, while, do-while statements, Unconditional breaking control statements- break, continue, goto Array definition and declaration, Single and multidimensional array, String functions (strcpy(), strcmp(), strcat(), strlen(), strrev())

Mr. Rajesh R Mane

Name and Signature of Teacher

Mr. Rajesh R Mane



Pallavi M Dessai

Name and Signature of HOD
HEAD
DEPARTMENT OF B.SC. COMPUTER SCIENCE
Pallavi M Dessai (ENTIRE)
VIVEKANAND COLLEGE, KOLHAPUR
(AUTONOMOUS)

B. Sc. Part – I (Computer science Entire) CBCS ,

Semester: II Computer science -Paper- I CC-CS-1303

A Introduction to computers and programming using C-II

Academic Year: 2019-20

Faculty Name: Miss Pallavi M Dessai & Mr.Rajesh R Mane

Teaching Plan

Section -I

MONTHS	UNIT NAME	POINTS TO BE COVERED
NOVEMBER	I- Computer Network Basic Concepts	Basic elements of a communication system – sender, receiver and medium Data Transmission modes – Simplex, Half Duplex, Full Duplex Data Transmission Media – wire pairs, Co-axial cable, Microwave System, Communication Satellite, Optical fiber Definition of networking, Types of networking – LAN, MAN, WAN Network Topologies - BUS, Ring, Star, Mesh and Hybrid
DECEMBER	II- IT Management	Definition of Information Technology IT Assets and its managements- Data –Access rules, confidentiality of data, Backup procedure. IT Act in brief , Define different terms as mentioned in IT Act – Access , Address , Data , Digital signature , Electronic form , Electronic Gazette , License , Electronic record , License , Private key, Public key etc.
JANUARY	III- Introduction to RDBMS	Data, Database, Database Management System, Concept of Data Models (Network, Hierarchical ,Relational), Concept of RDBMS, RDBMS Terminologies : relation, attribute, domain, tuple, entities, DBA & Responsibilities of DBA, Relational Model: Structure of Relational Databases, Relational Algebra
FEBRUARY	IV- Structured Query Language (SQL)	Oracle Data types, Classification of SQL commands. 3. Create Table Command 4. Insert Command, Select Command using Where Clause, Delete Command and Update Command 5. Data Constraints : Primary Key and Foreign key

Section -II

MONTHS	UNIT NAME	POINTS TO BE COVERED
NOVEMBER	I- Pointers	Definition and declaration, Operations



		on pointer, Pointer initialization, Pointer And Array, Pointer of pointer, Dynamic memory allocation
DECEMBER	II- Functions	Definition, declaration, prototype of function, Local and global variable, User defined functions Storage classes, Recursion, Pointer and function, Call by value and Call by reference, Preprocessor
JANUARY	III- Structures and Union	Definition and declaration, Array of structures, Passing structure to function, Pointer to structure Nested structure, self referential structure, Sizeof and typedef, Definition of Union and declaration, Difference between structure and Union
FEBUARY	IV- File Handling	Concept of File ,Text and binary files, Opening and closing files, File opening mode- read, write, append, character and integer handling (getc(), putc() , getw() , putw()), Formatted inputscanf(), sscanf(), fscanf(), fread(), Formatted output-printf(), sprintf(), fprintf(), fwrite() Functions- fseek(), ftell(), fflush(), fclose(), fopen(), rewind()

Ram

Name and Signature of Teacher

Mr.Rajesh R Mane



Pallavi

Name and Signature of HOD

Pallavi M Dossa

DEPARTMENT OF B.SC. COMPUTER SCIENCE
(ENTIRE)
VIVEKANAND COLLEGE, KOLHAPUR
(AUTONOMOUS)

Vivekanand College, Kolhapur (Autonomous)
B. Sc. Part – III (Computer science Entire) CBCS ,
Semester: V Paper XV Academic Year: 2019-20

Faculty Name: E-Commerce

Teaching Plan

MONTHS	UNIT NAME	POINTS TO BE COVERED
JULY	I- Introduction to E-commerce	1.1 E-Commerce-Introduction And Definition 1.2 Goals of E-Commerce 1.3 Components of E-Commerce 1.4 Advantages and disadvantages of E-Commerce 1.5 Applications of e-commerce 1.6 E-Commerce models-(B2B, B2C, C2B, C2C, B2G)
AUGUST	II- Internet & Security	2.1 Internet –concept, use, applications 2.2 Domain Names and Internet Organization (.edu, .com, .mil, .gov, .net etc.) 2.3 Internet Service Provider 2.4 World Wide Web 2.5 Secure Transaction- concept, Authentication and authorization 2.6 Privacy on Internet 2.7 Computer Crime (Laws , Types of Crimes) 2.8 Threats-Concept, Types 2.9 Hacking and Virus 2.10 Cryptography- Concept, Encryption and Decryption 2.11 Digital Signature
SEPTEMBER	III- Electronic Data Interchange EDI	3.1 EDI concept 3.2 Advantages and disadvantages of EDI 3.3 Applications of EDI 3.4 EDI model
OCTOBER	IV- Electronic Payment System	4.1 Electronic payment- concept 4.2 Types of Electronic Payment System- Pre-paid, instant-paid, post-paid 4.3 Electronic Fund Transfer 4.4 Value Exchange System

Rajesh R Mane

Name and Signature of Teacher

Mr.Rajesh R Mane

Pallavi M Dessaj

Name and Signature of HOD

Pallavi M Dessaj

HEAD
DEPARTMENT OF B.SC. COMPUTER SCIENCE
(ENTIRE)
VIVEKANAND COLLEGE, KOLHAPUR
(AUTONOMOUS)



Vivekanand College, Kolhapur (Autonomous)
B. Sc. Part – III (Computer science Entire) CBCS ,

Semester: VI Academic Year: 2019-20

Paper XXII Web Technology

Faculty Name: Mr.Rajesh R Mane

Teaching Plan

MONTHS	UNIT NAME	POINTS TO BE COVERED
NOVEMBER	I- Introduction	1.1 Introduction – Concept, Advantages and disadvantages of HTML, Basic structure of HTML program 1.2 1.2 Basic Tags of HTML –< HTML>, <HEAD>,<TITLE>,<BODY> 1.3 Text Formatting tags- ,<I>,<U>,<SUB>,<SUP>,<P>,<HR>, ,, 1.4 LISTS TAGS,,<DL>
DECEMBER	II- Advanced HTML	2.1 Links - Anchor tag , working with images- tag 2.2 Tables -< TABLE> tag and its attributes 2.3 Frames: and Tag with their attributes 2.4 Forms : INPUT Tag - TextBox - Radio Button – Checkbox – SELECT Tag and Pull Down Lists : Hidden - Submit and Reset
JANUARY	III- Cascading Style Sheet CSS	3.1 Introduction – Features – Style Sheet basics 3.2 Working with CSS files – Syntax – 3.3 Types of Style Sheets- Inline Styles, Embedded Styles, External or Linked Styles 3.4 Formatting Text and Fonts: Font Families, Font Size Kerning, Leading, and Indenting 3.5 Formatting Colors and Backgrounds: The Color Attribute, The Background Attribute Background Colors and Images.
FEBUARY	IV- Introduction to Web Application	4.1 History of the web, what is web? 4.2 Architecture of World Wide Web 4.3 Steps in web development 4.4 Tips for designing web page.

RR

Name and Signature of Teacher

Mr.Rajesh R Mane



Pallavi M. Desai

Name and Signature of HOD

HEAD
 Pallavi M. Desai
DEPARTMENT OF B.SC. COMPUTER SCIENCE
(ENTIRE)
VIVEKANAND COLLEGE, KOLHAPUR
(AUTONOMOUS)

Vivekanand College, Kolhapur (Autonomous)

Department of Computer Science Entire

Academic Year: 2019-2020

Annual Teaching Plan

Name of the teacher: Mrs. Vaishali C. Dalvi

Programme BSc Entire (BCS)

Semester- V

Subject: computer science

Course Title: VB.Net programming

Month –Jun			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Introduction	<ul style="list-style-type: none">• Event driven & sequence driven programming• Introduction to c#, .net framework architecture• Assembly Namespace, Garbage collector JIT compilers
16	16	32		
Month –July			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Data Types & Control Structure	<ul style="list-style-type: none">• Variables, expressions, constants, Data Types , Operators, implicit & explicit conversions• Conditional statements• Loop statements• Unconditional statement
16	16	32		
Month –August			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Exception Handling	<ul style="list-style-type: none">• Errors-types of errors• Structured Exception – Try__ Catch__End Try, finally, throw,• Unstructured Exception – On error GoTo, resume ,resume next.• Tracing Errors – Break Point, watch window, quick watch window, autos
16	16	32		
Month –September			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Developing GUI applications with Win Form	<ul style="list-style-type: none">• Different controls in win form – Forms, textbox, labels, buttons, radio buttons, check box, combo box, list box, Date time picker• Important properties of controls, Important events of each control
16	16	32		
Month - October				Sub-units planned
Lectures	Practical's	Total		<ul style="list-style-type: none">• 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
16	16	32		

Name and Signature of Teacher


Vaishali C. Dalvi



Name and Signature of HoD

Pallavi M. Dessai



HEAD
DEPARTMENT OF B.S.C. COMPUTER SCIENCE
(ENTIRE)
VIVEKANAND COLLEGE, KOLHAPUR
(AUTONOMOUS)

Vivekanand College, Kolhapur (Autonomous)

Department of Computer Science Entire

Academic Year: 2019-2020

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			Module/Unit:	Sub-units Completed
Lectures	Practical's	Total	Working with Classes	<ul style="list-style-type: none"> • Class & objects • Constructors • Inheritance • Polymorphism
16	16	32		
Month -December			Module/Unit:	Sub-units Completed
Lectures	Practical's	Total	Database Connectivity in C#	Database: Connections, command, Data adapters, and datasets <ul style="list-style-type: none"> • Connection to database using MS-Access, SQL Server • Data binding with controls like Text Boxes, List Boxes, Data grid etc. Data form wizard, • Data validation
16	16	32		
Month -January			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"> • Formatting Fields and inserting Header, Footer, Group
16	16	32		
Month -February			Model/Unit:	Sub-units completed
				<ul style="list-style-type: none"> • Details Working with formula fields, Parameter fields • Working with Multiple Tables Introduction to ASP. NET
Month -March			Module/Unit:	Sub-units Completed
Lectures	Practical's	Total	Introduction to ASP.Net with c#	<ul style="list-style-type: none"> • 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
16	16	32		

Name and Signature of Teacher

Vaishali C. Dalvi

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

Name and Signature of HoD

Pallavi M Dessai




HEAD
DEPARTMENT OF B.SC. COMPUTER SCIENCE
(ENTIRE)
VIVEKANAND COLLEGE, KOLHAPUR
(AUTONOMOUS)

Vivekanand College, Kolhapur (Autonomous)

Department of Computer Science Entire

Academic Year: 2019-2020

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"> •A Short History of Java, • Features of Java, • Java tools-JDK, JRE. • structure of java program –compilation and execution of program • JVM, Types of Comments, Data Types, Final Variable • Type Conversions - implicit and explicit conversion • Accepting input from console (Using scanner class and command line arguments).
16	16	32		
Month -August			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	control statements, Classes and objects	<ul style="list-style-type: none"> •Control statements, for-each loop, Varargs, Declaring 1D, 2D array • Defining Classes, objects and method -method overloading • Array of Objects, Constructor, Overloading Constructors and use of 'this' Keyword • static keyword-static block, static Fields and Methods • methods (equals (), toString (), Wrapper Classes, finalize () Method
16	16	32		
Month -September			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Package, Inheritance and Interface	<ul style="list-style-type: none"> •Package- Introduction to all predefined packages, User Defined Packages, Access Specifiers •Inheritance -Types of Inheritance-single, multilevel, hierarchical inheritance • Method Overriding • Super Keyword, final
16	16	32		



				keyword <ul style="list-style-type: none"> • abstract class and abstract methods • Defining and Implementing Interfaces
Month –October			Module/Unit:	Sub-units planned
16	16	32	. Exception Handling and Multithreading	Exception Handling- Concept, types- Checked and unchecked, try and catch block, multiple catch, Try-catch –finally block, throw and throws clause, finally clause. <ul style="list-style-type: none"> • 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.

NS

Name and Signature of Teacher
Miss. Nita N.Bargale



Pallavi

Name and Signature of HOD
Miss Pallavi M.Dessai

HEAD
DEPARTMENT OF B.SC. COMPUTER SCIENCE
(ENTIRE)
VIVEKANAND COLLEGE, KOLHAPUR
(AUTONOMOUS)

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

Vivekanand College, Kolhapur (Autonomous)

Department of Computer Science Entire

Academic Year: 2019-2020

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: core java


Month –December			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	User Interface Components with AWT and Swing	
16	16	32		Awt-What is AWT ? classes hierarchy, windows fundamentals Frame Windows Event Classes <input checked="" type="checkbox"/> Mouse Event Class, Action Event Class, Window Event Class, Event Listener Interface: Mouse Listener, Action Listener, Window Listener and Key Listener <input checked="" type="checkbox"/> AWT Controls: Labels, Text Field, Push buttons . <input checked="" type="checkbox"/> Layout Managers (Flow Layout, Border Layout, Grid Layout, Card Layout) <input checked="" type="checkbox"/> Swing- What is Swing? Difference between AWT and Swing., The MVC Architecture and Components – JFrame, JButton, JLabel, JText, JTextArea, JCheckBox and JRadioButton, JList, JComboBox, JMenu ,JtabbedPane , JScrollBar , Dialogs (Message, confirmation, input)
Month –January			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	JDBC	
16	16	32		What is JDBC ? Steps for connectivity between Java program and database. <input checked="" type="checkbox"/> Type of drivers, <input checked="" type="checkbox"/> Simple program-database operations like creating tables, CRUD(Create, Read, Update, Delete) operations using SQL
Month -February			Module/Unit:	Sub-units planned



16	16	32	Servlet	Introduction of servlet: How servlet work, model diagram <input checked="" type="checkbox"/> Uses of servlet, Life cycle of servlet, Servlet API: packages- javax. servlet and javax. servlet.http <input checked="" type="checkbox"/> Session Tracking Mechanisms, HttpSession, Cookies, URL-Rewriting, Hidden-Form Fields
Month -march			Module/Unit:	Sub-units planned
16	16	32	JSP	Introduction, Jsp LifeCycle, Jsp Implicit Objects & Scopes, Jsp Directives- 1.page 2.include 3.taglib <input checked="" type="checkbox"/> Jsp Scripting Elements - 1.declaratives 2.scriptlets 3.expressions <input checked="" type="checkbox"/> Simple application using JSP. <input checked="" type="checkbox"/> Difference between JSP and Servlet


 Name and Signature of Teacher
 Miss. Nita N. Bargale




 Name and Signature of HOD
 Miss Pallavi M. Dessai

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

HEAD
DEPARTMENT OF B.SC. COMPUTER SCIENCE
(ENTIRE)
VIVEKANAND COLLEGE, KOLHAPUR
(AUTONOMOUS)

Vivekanand College, Kolhapur (Autonomous)

Department of Computer Science Entire

Academic Year: 2019-2020

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 19			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"> • Introduction to C++: Structure of C++ program, Input and output Streams, • Memory • management operators: new and delete, this pointer, Reference variables, Control Structures (looping and branching statements) • Functions: inline function, default argument, function overloading, OOP • Concepts: Data abstraction, Data Encapsulation, Inheritance, Polymorphism, Message Passing
16	12	28		
Month August 19			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Class and Object	<ul style="list-style-type: none"> • Class declaration, Access modifiers: public, private, protected, defining member functions (inside the class and outside the class) • Static data members and member function, Array of object, friend function and friend class.
16	12	28		
Month Sept 19			Module/Unit:	Sub-units planned
16	12	28	Constructor, Destructor, Operator Overloading	<ul style="list-style-type: none"> • Constructor and Destructor: Definition and features of constructor, Types of constructor, • Definition, syntax and use of Destructor • Operator overloading :Concept,



				Rules for operator overloading, Unary and Binary Operator overloading
Month Oct/Nov 19			Module/Unit:	Sub-units planned
16	12	28	Inheritance and Polymorphism	<ul style="list-style-type: none"> Inheritance: Concept, Definitions of base class and derived class, Types of inheritance (Single, Multiple, Multilevel, Hierarchical and Hybrid inheritance) Polymorphism: Definition of polymorphism, Types of polymorphism, virtual function, pure virtual function, Abstract class..

Radhika

Miss Radhika M. Patil

Pallavi

Name and Signature of HoD

(Miss Pallavi M.Dessai)

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



HEAD
DEPARTMENT OF B.SC. COMPUTER SCIENCE
(ENTIRE)
VIVEKANAND COLLEGE, KOLHAPUR
(AUTONOMOUS)

Vivekanand College, Kolhapur (Autonomous)

Department of Computer Science Entire

Academic Year: 2019-2020

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 19			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Introduction to Data structure and Linear Data Structures (Array, Stack, Queue)	<ul style="list-style-type: none"> • Introduction to Data Structure Definitions: Data types, Data Object, Data structure, Abstract Data Type (concept), Data Structure classification • Algorithm Efficiency: Complexity, Big O notation, • Array: Definition, Types of array (one dimensional and multidimensional), Sparse matrices.
16	12	28		
Month Jan 20			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Stack and Queue	<ul style="list-style-type: none"> • Stack: Definition of Stack, Operations on Stack, Static Implementation of stack • Applications of stack: Recursion, inter conversions between infix, prefix and postfix expressions. • Queue: Definition of Queue, Operations on Queue, Static Implementation of • Queue.Types of Queue: Linear, Circular and Priority queue • Applications of Queue.
16	12	28		



Month Feb 20			Module/Unit:	Sub-units planned
16	12	28	Linked List, Trees, Searching and Sorting algorithms	<ul style="list-style-type: none"> • Linked List: Concept of Linked List, Operations on Linked List, Implementation of Linear Linked List, Types of Linked List, • Implementation of stack and queue using linked list • Trees: Definition of tree, Tree terminologies, Types of Tree, Tree Traversal(inorder, preorder, postorder).
Month March 20			Module/Unit:	Sub-units planned
16	12	28	Searching and Sorting	<ul style="list-style-type: none"> • Searching: Linear search and binary search • Sorting: Bubble Sort, Selection Sort, Insertion sort, Merge Sort

Radhika

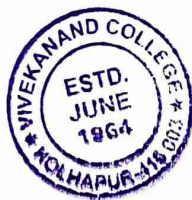
Miss Radhika M. Patil

Pallavi

Name and Signature of HoD

(Miss Pallavi M. Dessai)

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



HEAD
DEPARTMENT OF B.SC. COMPUTER SCIENCE
(ENTIRE)
VIVEKANAND COLLEGE, KOLHAPUR
(AUTONOMOUS)

Vivekanand College, Kolhapur (Autonomous)

Department of Computer Science Entire

Academic Year: 2019-2020

Annual Teaching Plan

Name of the teacher: Miss Radhika M.Patil

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

Subject: Computer Science **Course Title:** Data Communication

Month July 19			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Basics of Data communication	<ul style="list-style-type: none"> • Concept of data communication, Components: sender, receiver, message, Transmission media, Data Representation, • Data Flow- Simplex, Half-duplex, and Full-duplex. • Networks: Definition, Advantages and disadvantages. • Network Architecture: Client/Server and Peer to Peer
16		16		
Month August 19			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Transmission media and modes	<ul style="list-style-type: none"> • Guided Media: Twisted-Pair Cable, Coaxial Cable and Fiber Optic Cable. • Unguided Media: Radio Waves, Microwaves, Infrared Waves. • Transmission Modes: Parallel, Serial-Asynchronous, Synchronous, Isochronous
16		16		
Month Sept 19			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Network models, Protocols and Standards	<ul style="list-style-type: none"> • OSI model • TCP/IP Model • Protocols: concept, syntax, semantics, Timing • Standards
16		16		
Month Oct/Nov 19			Module/Unit:	Sub-units planned



16		16	Multiplexing and Switching	<ul style="list-style-type: none"> • Multiplexing: Frequency-Division Multiplexing, Wavelength-Division Multiplexing, Time Division Multiplexing. • Switching: Circuit switching- data gram and virtual circuit Switching, Packet Switching and Message Switching.
----	--	----	-----------------------------------	--

Radhika

Miss Radhika M. Patil

Pallavi

Name and Signature of HoD

(Miss Pallavi M.Dessai)

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

**HEAD
DEPARTMENT OF B.SC. COMPUTER SCIENCE
(ENTIRE)
VIVEKANAND COLLEGE, KOLHAPUR
(AUTONOMOUS)**



Vivekanand College, Kolhapur (Autonomous)

Department of Computer Science Entire

Academic Year: 2019-2020

Annual Teaching Plan

Name of the teacher: Miss Radhika M. Patil

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

Subject: Computer Science Course Title: Computer Network

Month Dec 19			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Physical Layer and Data Link Layer Protocols	<ul style="list-style-type: none"> • 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 (DM).Data link layer: Design issues, Framing, Error Detection and Correction. • Protocols- Sliding window protocol: one bit sliding window protocol, protocol using • Go Back N, protocol using selective repeat.
16		16		
Month Jan 20			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Network Layer and Transport Layer	<ul style="list-style-type: none"> • Network Layer: Design issues, Concept of Routing. • Routing Algorithms (Shortest Path, Flooding, Distance Vector Routing). • Congestion Control Algorithms: Leaky Bucket, Token Bucket . • Transport Layer: Services: connection oriented and connection less services. • Transport Layer Primitives: listen, connect,
16		16		



				send, receive, disconnect. Protocols: TCP, UDP.
Month Feb 20			Module/Unit:	Sub-units planned
16		16	Session and Presentation layer	<ul style="list-style-type: none"> • Session layer: Services: dialog management, synchronization, activity • Management, exception handling Remote procedure calls (RPC). • Presentation Layer: Services- Translation, compression, encryption • Cryptography- Concept, Symmetric key Cryptography (e.g. AES-128, AES-192, AES-256 and DES .Explain any one of them) and Asymmetric key Cryptography (RSA, Diffie-Hellman Algorithm, The Elliptical Wave theory Algorithm. Explain any one of them).
Month March 20			Module/Unit:	Sub-units planned
16		16	Application layer	<ul style="list-style-type: none"> • Application layer: Function. Protocols- Domain name system (DNS), Hypertext • Transfer Protocol (HTTP), Simple Mail Transfer Protocol (SMTP), Telnet, File • Transfer Protocol (FTP).



Patil

Miss Radhika M. Patil

Pallavi

Name and Signature of HoD

(Miss Pallavi M. Dessai)

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



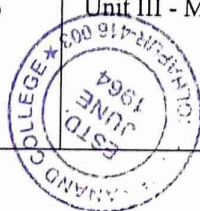
HEAD
DEPARTMENT OF B.SC. COMPUTER SCIENCE
(ENTIRE)
VIVEKANAND COLLEGE, KOLHAPUR
(AUTONOMOUS)

"Education for knowledge , science and culture"
 - Shikshanmaharshi Dr. Bapuji Salunkhe
 Shri Swami Vivekanand Shikshan Sanstha"
VIVEKANAND COLLEGE (AUTONOMOUS), KOLHAPUR
B. Sc. Part – II (Computer science Entire) CBCS Syllabus 2019-20
Semester: III Computer Science-II CC-CS-1304C
Introduction to RDBMS using MySQL

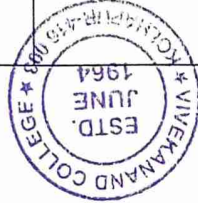
Faculty Name: Miss. Nadiya D. Patel
Teaching Plan
Section – I

Paper - Introduction to RDBMS using MySQL

Month- July			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Unit I - Introduction to RDBMS using MySQL	Data Flow Diagram : concept of DFD, Symbols, Levels of DFDs, example. Entity Relationship Diagram : Concept of Entity, Attributes, Symbols, Types of relations, examples. Normalization: Forms of Normalization – 1NF, 2NF, 3NF, BCNF.
04	00	16		
Month – August			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Unit II - Introduction to MySQL Unit III - MySQL Sub-queries and Joins	what is MySQL, features of MySQL, Basic Data types in MySQL, Classification of Commands : DDL- Create, Alter, Drop, Truncate, Comment, Rename, DML- Insert, Update, Delete, Select. DCL- Grant, Revoke, TCL- Commit, Rollback, Savepoint Data Constraints : Primary Key, Foreign Key, Unique, NOT Null, Check, Default. Select statement with where, group by, order by clause. SQL Operators : Logical, Relational/Comparison, Special - In, Between, Like. SQL functions : Arithmetic, Conversion , Date and time, Aggregate Functions. Introduction to Sub Queries: Sub queries, Nested Sub query. Introduction to Joins: Simple/Inner Two tables Join, Left, Right, Outer join, Self join.
04	00	16		
Month- September			Module/Unit:	Sub-units planned
04	00	16	Unit III - MySQL Sub-queries and Joins.	Views, Indexes, Sequence. Stored Procedures definition and concept. Structure and Syntax of Stored



			<p>Unit IV - Introduction to MySQL Stored Procedures</p>	<p>Procedures block. Stored Procedures variables, parameters, modes: IN, OUT, INOUT. Flow Control structures : if, case statements, Loops- Simple loop, while, repeat until Stored Procedures: Creating, Calling, Modifying, Deleting/Dropping procedures Introduction to Cursors, Trigger and its types.</p>
--	--	--	--	---



Nadiya

Name and Signature of Teacher
Miss. Nadiya Dara Patel

Pallavi

Name and Signature of HOD
Miss. Pallavi M. Dessai

HEAD
DEPARTMENT OF B.SC COMPUTER SCIENCE
(EN: 26)
VIVEKANAND COLLEGE, KOLHAPUR
(AUTONOMOUS)

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

B. Sc. Part – II (Computer science Entire) CBCS Syllabus with effect from June, 2019
Semester: IV Computer science -Paper- IV CC-CS-1304D
Cyber Security Essentials 20-21
Semester IV

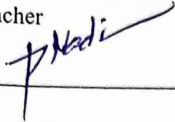
Section – I

Month- November			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Unit I: Introduction to Computer Network	Computer Network: Definition, Types of Network, Topologies, Network devices, Internet, Search Engines, Web Browsers, OSI Model, TCP IP Model, IP address scheme, switching techniques.
04	00	16		
Month- December			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Unit II: Introduction to Cyber security	Introduction to Cyber Security: Definition, Importance, Computer ethics, Hacker, Hacking phases, Hacker classes, Mobile Device Security, File Security, Password Security, Browser Security, Email Security, Encryption, Decryption, Digital Signature, Firewall, types of Firewall, spoofing.
04	00	16		
Month- January			Module/Unit:	Sub-units planned
04	00	16	Unit III: Introduction to information security and threats	Security Threats: Definition, Types of Threats - Virus, Worms, Trojan Horse, Malware, Ransom ware, Identity theft etc, , Web application threats. Torrent and infected websites, Firewall, types of firewall Antivirus-Definition, Types, features, advantages, limitations, difference between Firewall and Antivirus. Definition of attack, Types of Attacks, DoS attack, phishing,
Month- February			Module/Unit:	Sub-units planned
04	00	16	Unit IV: Access Control and cyber security laws	Computer Forensics, Steganography, elements of information security and Introduction to Kali linux Access Controls: Overview of Authentication and Authorization, Overview of Intrusion Detection Systems and Intrusion Prevention Systems. Wireless Network Security- Components of wireless networks, Security issues in wireless, Wi-Fi Security, Risk of Using Unsecured Wi-Fi, Bluetooth and its security Cyber Security Laws: Security Laws, Intellectual Property Rights, Security Audit. What is cyber crime and types of crime.



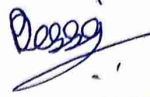
Name and Signature of Teacher

Miss. Nadiya Dara Patel



Name and Signature of HOD

Miss. Pallavi M. Dessai



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



HEAD
DEPARTMENT OF B.SC COMPUTER SCIENCE
(EN. .RE)
VIVEKANAND COLLEGE, KOLHAPUR
(AUTONOMOUS)

“Education for knowledge , science and culture”
- Shikshanmaharshi Dr. Bapuji Salunkhe
Shri Swami Vivekanand Shikshan Sanstha”s
VIVEKANAND COLLEGE (AUTONOMOUS), KOLHAPUR
B. Sc. Part – III (Computer science Entire) 2019-20

Semester: V

Paper- XII Title :Software Engineering

Faculty Name: Miss. Nadiya D. Patel

Teaching Plan

Month- July			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Unit-I Introduction To Software Engineering & Process Models Practicals : Operating System III	1.1 Introduction to Software Engineering 1.1.1 Definition, need for SE, 1.1.2 Software Engineering Problem 1.1.3 Software Engineering approach 1.1.4 Causes of and solutions for software crisis 1.1.5 Program vs. software product 1.1.6 Software Development Life Cycle 1.2 Process Models 1.2.1 Water fall model- Classical, Iterative 1.2.2 Prototyping Model 1.2.3 Spiral Model 1.2.4 Rapid Application Development (RAD) 1.2.5 Time boxing Model 1.3 Role and Skills of system Analyst.
16	20	36		
Month – August			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Unit-III Planning a software project Practicals : Operating System III	3.1 Process planning 3.2 Project estimation-Bottom-Up Estimation Approach, COCOMO Model 3.3 Project scheduling and staffing 3.4 Software configuration management plan 3.5 Quality plan 3.6 Risk management
16	20	36		
Month- October			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Unit-IV Design and testing Practicals : Operating System III	4.1 Function-oriented design 4.1.1 Design principles 4.1.2 Module level concepts- Coupling and cohesion 4.1.3 Design notation and specification-structure charts, specification 4.1.4 structured design methodology 4.1.5 verification 4.2 Detail design 4.2.1 PDL 4.2.2 Logic/Algorithm design 4.2.3 Metrics-Cyclomatic Complexity, Data Binding, cohesion metric 4.3 Coding 4.3.1 Programming principles and guide lines 4.3.2 Coding process 4.4 Testing 4.4.1 Testing fundamentals and types of Testing- Black Box, White Box 4.4.2 Testing process
16	20	36		



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.



HEAD
DEPARTMENT OF B.SC COMPUTER SCIENCE
(ENTIRE)
VIVEKANAND COLLEGE, KOLHAPUR
(AUTONOMOUS)

Semester: VI

Paper- XIV Title- Unified Modeling Language

Name of the teacher: Miss. Nadiya Dara Patel

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

Semester-II

Month- December			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Unit-I Introduction to UML	1.1 UML History 1.2 Introduction to UML 1.3 Advantages of UML 1.4 Architecture of UML 1.5 UML View 1.6 Static View: Classifiers, Relationships Associations, Generalization, Realization, Dependencies, Constraint, Instances.
16	20	36	Practicals : Operating System III	
Month- January			Module/Unit:	Sub-units planned
Lectures	Practical's	Total	Unit II Modeling Concepts	2.1 Systems, Models, and Views 2.2 Data Types, Abstract Data Types, and Instances 2.3 Classes, Abstract Classes, and Objects 2.4 Event Classes, Events, and Messages 2.5 Object-Oriented Modeling
16	20	36	Practicals : Operating System III	
			Unit III UML Diagram-I	3.1 Use Case Diagrams: Overview, Actor, Communication and relationships, Use case examples 3.2 Class Diagrams: classes and object, association and links, multiplicity, inheritance, example
Month- February			Module/Unit:	Sub-units planned
16	20	36	Unit III UML Diagram-I	3.3 State Machine Diagrams: State, Event, Composite State, transition, activity, example 4.1 Interaction Diagrams: 4.1.1 Overview 4.1.2 Sequence Diagrams: Activation, examples 4.1.3 Collaboration Diagrams: Pattern, example 4.2 Activity Diagrams: Activities, actions, decisions, control nodes, fork and join node 4.3 Component diagram: 4.3.1 Concept of component 4.3.2 Basic components in UML 4.3.3 Required interfaces of component 4.3.4 Examples
			Practicals : Operating System III	
			Unit IV: UML Diagram-II	

Nadi

Name and Signature of Teacher
Miss. Nadiya Dara Patel



Pallavi

Name and Signature of HOD
Miss. Pallavi M. Dessai

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

HEAD
DEPARTMENT OF B.SC. COMPUTER SCIENCE
(ENGINEERING)
VIVEKANAND COLLEGE, KOLHAPUR
(AUTONOMOUS)

Vivekanand College, Kolhapur (Autonomous)

Department of B.Sc. Computer Science Entire

Academic Year: 2019-20

Teaching Plan

Name of the Teacher: Mr. N. P. Mote

Programme: B.Sc. Computer Science Entire Part-I

Semester- I

Subject: Electronics

Course Title: GEC-1301 A Electronics Circuits and Digital Electronics-I

Month - October			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Linear components in computer	Definition of active and passive elements Resistors: Classification, color code, specifications of resistors Types of resistors. Capacitors: Definition, Capacitance, capacitive reactance (XC), Charging and discharging of capacitor, Types of capacitors Inductors and Transformers
24	48	72		
Month - November			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Linear components in computer DC circuit analysis	Switches, Relays. Basic laws: Ohm's law, Kirchoff's current and voltage law Network Theorems - Thevenin's Theorem, Norton's Theorem, superposition Theorem, Maximum power transfer Theorem.
24	48	72		
Month - December			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Semiconductor Diode	Formation of P-N junction, depletion layer, internal potential barrier, working and I-V characteristics of PN junction diode. Diode applications, zener diode, Photodiode and LED
24	48	72		
Month - January			Module Unit:	Sub-units planned
Lectures	Practicals	Total	Bipolar Junction Transistor	Structure and working of bipolar junction transistor: CB, CC, CE configurations, CE mode characteristics, Relation between α and β , DC load line and Q point, potential divider Biasing, Concept of transistor as an amplifier and transistor as a switch.
06	24	30		



Mr. N. P. Mote




Miss P. M. Dessai

HEAD
DEPARTMENT OF B.SC. COMPUTER SCIENCE
(ENTIRE)
VIVEKANAND COLLEGE, KOLHAPUR
(AUTONOMOUS)

Vivekanand College, Kolhapur (Autonomous)

Department of B.Sc. Computer Science Entire

Academic Year: 2019-20

Teaching Plan

Name of the Teacher: Mr. N. P. Mote

Programme: B.Sc. Computer Science Entire Part-I

Semester- II


Subject: Electronics

Course Title: GEC-1301 A Electronics Circuits and Digital Electronics-II

Month - October			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Field Effect Transistor	Comparison between BJT and FET, classification of FETs, Structure and working of JFET, I-V characteristics and parameters (transconductance, drain resistance, amplification factor) concept of MOSFET
24	48	72		
Month - November			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Amplifiers and Oscillators	Formation of P-N junction, depletion layer, internal potential barrier, working and I-V characteristics of PN junction diode. Diode applications, zener diode, Photodiode and LED. Structure and working of bipolar junction transistor: CB, CC
24	48	72		
Month - December			Module/Unit:	Sub-units planned
24	48	72	Operational Amplifier	Concept of operational amplifier; ideal characteristics of Opamp; Different parameters of Op Amp, Virtual ground concept, Applications of Op-amp: Inverting amplifier, Noninverting amplifier, Unity gain amplifier, Buffer, Adder, Subtractor, Integrator and Differentiator, Comparator, Schmitt Trigger.
Month - January			Module/Unit:	Sub-units planned
			Power Supply	Working of rectifier (Half, Full, Bridge); different parameters of rectifiers; filter circuits; concept of Regulator; concept of load and line regulation; Zener diode As a regulator; concept of Three pin IC regulator (Block Diagram) positive and negative voltage regulator ICs; SMPS block diagram; UPS: online and offline (block diagram)

Mr. N. P. Mote




HEAD
 DEPARTMENT OF B.Sc. COMPUTER SCIENCE
 (ENTIRE)
 VIVEKANAND COLLEGE, KOLHAPUR
 (AUTONOMOUS)

Vivekanand College, Kolhapur (Autonomous)

Department of B.Sc. Computer Science Entire

Academic Year: 2019-20

Teaching Plan

Name of the Teacher: Mr. N. P. Mote

Programme: B.Sc. Computer Science Entire Part-II Semester- III

Subject: Electronics Course Title: Computer Instrumentation and Organization, Processor Programming

Month : November 2021			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	UNIT 1: Transducers and Sensors	Definition of sensors and transducers. Classification of sensors: Active and passive sensors. Specifications of sensor: (Accuracy, range, linearity, sensitivity, resolution, reproducibility). Temperature transducers: Resistance temperature detector (RTD), etc
16	48	64		
			Practicals: GROUP A : 1. Study of temperature sensor LM 35/AD 590 2. Instrumentation Amplifier using OP-AMP 3. 3 bit Flash ADC 4. R-2R ladder DAC	
Month: December 2021			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	UNIT 2: Signal Conditioning UNIT 3: Data Converters	Introduction to signal conditioning, Signal conditioning of passive sensors using bridge circuit: Digital to Analog Converter (DAC): Resistive divider, R-2R ladder. Parameters: (Linearity, resolution, accuracy)
16	48	64		
			Practicals: 5. Filters 6. Differential amplifier. 7. Measurement displacement of LVDT 8. Study of Preamplifier using Op-amp.	
Month : January 2022			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	UNIT 4: Digital Instruments and Data Acquisition	Photodiode and LED, Current limiting resistor Analog to Digital Converter: Types of ADC: Flash, Successive approximation. Parameters of ADC (Linearity, resolution, conversion time, accuracy) Introduction, Digital Multimeters, Digital Frequency Meter, Digital Tachometer, Digital pH Meter, Digital Phase Meter, Generalized Data Acquisition System, Data Logger.
16	48	64		



Mr. N. P. Mote





Miss. HEAD Dessai
 DEPARTMENT OF B.Sc. COMPUTER SCIENCE
 (ENTIRE)
 VIVEKANAND COLLEGE, KOLHAPUR
 (AUTONOMOUS)

Vivekanand College, Kolhapur (Autonomous)

Department of B.Sc. Computer Science Entire

Academic Year: 2019-20

Teaching Plan

Name of the Teacher: Mr. N. P. Mote

Programme: B.Sc. Computer Science Entire Part-II

Semester- IV

Subject: Electronics

Course Title: Communications Principles and 8051 interfacing & Programming

Month : March2022			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	UNIT 1:Introduction to Electronic Communication	Importance of Communication, Elements of Communication system, Electromagnetic spectrum, types of communication, (serial and parallel). Concepts of communication system: Signal bandwidth, channel bandwidth, data rate, baud rate, Nyquist theorem, Signal to noise ratio, and channel capacity, error handling code- Hamming code, Shannon theorem
16	48	64		
			Practicals: GROUP B :	
			1. Study of Amplitude Modulation and Demodulation	
			2. Study of Frequency Modulation	
			3. Study of Amplitude Shift keying (ASK)	
			4. Study of Frequency Shift keying (FSK)	
Month:April 2021			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	UNIT 2: Modulation and Demodulation	Basics of modulation and Demodulation Introduction to Modulation techniques: Analog Modulation (Amplitude, Frequency and Phase), Digital modulation, PAM,PCM, delta modulation, MODEM - concept of ASK, FSK,BPSK, QPSK and block diagram of MODEM using FSK.
16	48	64		
			UNIT 3: Multiplexing and Multiple Access Techniques	
			Practicals: GROUP A :	Study of multiplexing and multiple access techniques: Space division multiplexing ,Time division multiplexing , Frequency Division Multiplexing
			5. Study of Pulse Amplitude Modulation (PAM)	
			6. Arithmetic operations using 8051microcontroller (Use 8051 Simulator)	



			7. Logical operations using 8051 microcontroller(Use 8051 Simulator) 8. Time delay generation using timers of 8051 microcontroller	
Month : May 2022			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	UNIT 4: Mobile communication Practicals: GROUP B: 9. To study the interfacing of Relay/LED/Optocoupler using microcontroller 11. To study the interfacing Stepper motor with 8051 12. To study waveform generator (square, triangular and saw tooth using DAC) with microcontroller. 13. Study of interfacing of 16 x 2 LCD. 14. To study the interfacing of ADC IC0804	Code division multiplexing, spread spectrum techniques: DSSS, FHSS, Introduction to multiple access and corresponding access types: FDMA , TDMA , CDMA Introduction to mobile communication, Cellular concept, Working of GSM, Hand over, Introduction to GPRS. Introduction to RFID, Zigbee, Bluetooth and Wi-Fi (Comparison based on range, data rate, frequency, Power).
16	48	64		



Mr. N. P. Mote




Miss P. M. Dessai

HEAD

DEPARTMENT OF B.S.C. COMPUTER SCIENCE

(AUTONOMOUS)

VIVEKANAND COLLEGE, KOLHAPUR,
(AUTONOMOUS)

Annual Teaching Plan Academic year 2019-2020
 Semester I Department - Department -Department of Computer Science Entire
 Subject - Statistics Title - Probability and Discrete Probability Distributions-I
Section I- Probability and Discrete Probability Distributions-I

Name of teacher – Mr.Pawar A.A.

Month: June-July			Module/Unit	Sub-units planned
Lectures 12	Practicals 16	Total 28	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 12	Practicals 20	Total 32	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 10	Practicals 12	Total 22	Unit-3 Univariate probability distributions	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. 3.2 Definition of expectation of a random variable, expectation of a function of random



				<p>variable.</p> <p>3.3 Results on expectation : i) $E(c) = c$, where c is constant. ii) $E(aX + b) = a E(X) + b$, where a and b 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 10	Practicals 12	Total 22	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>

Pawar A.A.
Name and Signature of teacher

Mr.PawarA.A.

Pawar A.A.
HEAD
DEPARTMENT OF B.SC. COMPUTER SCIENCE
(ENTIRE)
VIVEKANAND COLLEGE, KOLHAPUR
(AUTONOMOUS)



Annual Teaching Plan Academic year 2019-2020

Semester I Department - Department -Department of Computer Science Entire

Subject - Statistics Title -DESCRIPTIVE STATISTICS -I

Section I- Descriptive Statistics I

Name of teacher – Mr.Pawar A.A.

Month: June-July			Module/Unit	Sub-units planned
Lectures 12	Practicals 16	Total 28	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 12	Practicals 20	Total 32	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				



				<p>variable.</p> <p>3.3 Results on expectation : i) $E(c) = c$, where c is constant. ii) $E(aX + b) = a E(X) + b$, where a and b 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 10	Practicals 12	Total 22	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>

Pawar A.A.
Name and Signature of teacher

Mr.PawarA.A.

Pawar A.A.
HEAD
DEPARTMENT OF B.SC. COMPUTER SCIENCE
(ENTIRE)
VIVEKANAND COLLEGE, KOLHAPUR
(AUTONOMOUS)



Annual Teaching Plan Academic year 2019-2020
 Semester I Department - Department of Computer Science Entire
 Subject - Statistics Title - Continuous probability distributions and Testing of Hypothesis

Section II - continuous prob distn & Testing of Hypothesis

Name of teacher – Mr.Pawar A.A.

Month: Month: December			Module/Unit	Sub-units planned
Lectures 12	Practicals 16	Total 28	Unit-1 Continuous Univariate Distributions	1.1 Definitions: infinite sample space with illustrations, continuous random variable, probability density function (p.d.f.), cumulative distribution function (c.d.f.), properties of c.d.f. 1.2 Expectation of random variable, expectation of function of a random variable, mean, variance and examples. 1.3 Uniform distribution: p.d.f., c.d.f., mean, variance and examples. 1.4 Exponential distribution: p.d.f., c.d.f., mean, variance, lack of memory property and examples. 1.5 Normal distribution: p.d.f., standard normal distribution, properties of normal curve, distribution of $aX+bY$, where X and Y are independent normal variates, normal distribution as a limiting case of Binomial and Poisson distributions (without proof), examples.
Month- January				
Lectures 12	Practicals 20	Total 32	Unit-2 Exact sampling distributions:	2.1 Chi-square distribution: definition, chi-square variate as the sum of square of i.i.d. S.N.V., statement of p.d.f., mean, variance, additive property, approximation to normal distribution and examples. 2.2 Student's t-distribution: definition, nature of probability curve, State mean and variance, approximation to normal, examples. 2.3 Snedecor's F-distribution: definition, State mean and variance, inter-relationships between chi-square, t and F distributions, examples.
Month-February-March				



Lectures 12	Practicals 16	Total 28	Unit-3 Testing of hypothesis	(10) 3.1 Definitions: random samples, parameter, statistic, standard error of a statistic. 3.2 Concept of null and alternative hypothesis, types of error, critical region, level of significance, one sided and two sided tests, general procedure of testing of hypothesis. 3.3 Large sample tests for: i) population mean, ii) Population proportion. 3.4 Small sample tests: i) Test for population variance, Chi-square test for goodness of fit and test for independence of attributes using 2×2 contingency table, ii) t-test for testing population mean. iii) F test for equality of two population variances. 3.5 Examples.
Month: April-May				
Lectures 8	Practicals 12	Total 19	Unit-4 Simulation:	4.1 Introduction to simulation, merits and demerits. 4.2 Pasedo-random number generator, model sampling from uniform and exponential distribution. 4.3 Model sampling from normal distribution using Box-Muller transformation. 4.4 Examples.

[Signature]

HEAD

DEPARTMENT OF B.SC. COMPUTER SCIENCE
(ENTIRE)
VIVEKANAND COLLEGE, KOLHAPUR
(AUTONOMOUS)

Pawar A.A.

Name and Signature of teacher

Mr.PawarA.A.

