



**Dnyanopasak Shikshan Mandal's**

**College of Arts, Commerce and Science, Parbhani**

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*Pro-forma for program and course outcomes (2.6.1)*  
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**Name of Teacher:** Surnar S.B.

**Department:** Computer Application

**Program:** BCAFY

**Subject:** Computer Application

**Course Code:** BCA-101

**Paper Title:** Fundamentals of Computer Science and Information Technology

<b>Unit Number</b>	<b>Unit Name</b>	<b>Topics</b>	<b>Unit-wise Outcome</b>
<b>1</b>	Introduction to Computer and History	1.1 Definition of Computer 1.2 Basic Computer Organization 1.3 Characteristics of Computer 1.4 Generations of Computer 1.5 Types of Computer:- Microcomputer, Minicomputer, Mainframe Computer, Workstations, Client and Server	All information for computer and types of computer
<b>2</b>	Computer Peripherals & Memory	2.1 Input Devices :- Keyboard, Mouse, Trackball, Joystick, Light pen 2.2 Output Devices :- Monitor, Printer, Projector, Biometric Devices 2.3 Computer Memory :- RAM, ROM, Cache Memor	Input and output device all information and computer memory study
<b>3</b>	Storage Devices and Operating System	3.1 Compact Disk, Digital Versatile Disk 3.2 Hard Disk Drive 3.3 USB Flash Drive 3.4 Memory Card 3.5 Definition of operating System 3.6 Types of Operating System	All storage devices information and types of operating system study

		3.7 Disk Operating System 3.8 Windows Operating System 3.9 Linux Operating System	
4	Introduction to Computer Network & Internet	4.1 Definition of Network 4.2 Types of Network :- LAN,MAN,WAN 4.3 Data Transmission Modes 4.4 OSI Model 4.5 E-Mail 4.6 File Transfer Protocol 4.7 Web Browser 4.8 Types of Web Browser	Network ,Types of network,webbrowser,OSI Model , data transmission study

**Specify Course Outcome:**Through this paper Student should learn basic principles of computer. The paper is designed to aim at imparting basic level of Computer.

**Specify Program Outcome:**To learn Basic Function of Devices like I/O, HDD etc. To Understand the Fundamental of Software and Hardware. Understand the Concept of Operating System and Network.

**Signature of Teacher**

Surnar S.B



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*Pro-forma for program and course outcomes (2.6.1)*

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**Name of Teacher:** Taur M.A.

**Department:** Computer Science

**Program:** BSc (CS) FY / BCA FY

**Subject:** Computer Science

**Course Code:** BCA-102

**Paper Title:** Office Automation

Unit Number	Unit Name	Topics	Unit-wise Outcome
Unit 1	Introduction to MS-Word.	Word 2010 Basics: - Opening screen of MS-word, Home menu- font tab, Paragraph tab, Styles tab, Editing options in MS-Word ,Insert menu- table tool ,Header and Footer tool , Mail-merge, Custom dictionary , Printing in MS-Word ,Creating Index in MS-Word.	<b>student will be able to understand the computer software, hardware, made available to simplify and automate a variety of office operations such as data processing, data manipulating and data presentation with various application those are presents in Microsoft office tools packages</b>
Unit 2	Working with MS-Excel.	Introduction to MS-Excel Formatting cells, Formatting columns, Row height , Merging ,Splitting columns and connecting the worksheets, Working with Formulas and Functions ,Creating charts ,Goal seek, Data validation,Conditional Formatting.	<b>student will be able to understand the computer software, hardware, made available to simplify and automate a variety of office operations such as data processing, data manipulating and data presentation with various application those are presents in Microsoft office tools packages</b>

Unit 3	Working with Microsoft power point.	Opening Screen of MS PowerPoint  Creating a new presentation based on template , Design template and blank presentation, Slide Transition,Custom Animation effects,Slide show ,Adding audio and video on slides.	<b>student will be able to understand the computer software, hardware, made available to simplify and automate a variety of office operations such as data processing, data manipulating and data presentation with various application those are presents in Microsoft office tools packages</b>
Unit 4	Introduction to MS-Access.	Opening screen of MS-Access ,Advantages and disadvantages of MS-Access , Performing Queries ,Generating the report ,Creating the database in Access ,Creating forms and adding new records in MS-Access.	<b>student will be able to understand the computer software, hardware, made available to simplify and automate a variety of office operations such as data processing, data manipulating and data presentation with various application those are presents in Microsoft office tools packages</b>

**Specify Course Outcome: After completion of this course student will be able to understand the computer software, hardware, made available to simplify and automate a variety of office operations such as data processing, data manipulating and data presentation with various application those are presents in Microsoft office tools packages.**

**Specify Program Outcome:**

**Signature of Teacher**

**Taur M.A**



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*Pro-forma for program and course outcomes (2.6.1)*

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**Name of Teacher:** Taur M.A.

**Department:** Computer Science

**Program:** BCA FY

**Subject:** Computer Science

**Course Code:** BCA-107

**Paper Title: Lab-Course : Office Automation**

Sr. Number	Title of program	Program-wise Outcome
1	Study of Word Opening screen	
2	Study of EXCEL Opening screen	
3	Study of PowerPoint Opening screen	
4	Study of Access Opening screen	
5	Study of Find and Replace Dialog Box in Microsoft Word	
6	Study of Page Setup Dialog Box	
7	Study of Table Formatting	
8	Study of Custom Dictionary & Go to Dialog Box	
9	Study of mail merge	
10	Study of creating charts.	

11	Study of border and shading dialog box	
12	Study of paragraph dialog box	
13	Working of Formulas in Excel	
14	Creating Presentation in Power Point	
15	Creating database file in Access	

**Specify Course Outcome:**

**Specify Program Outcome:**

**Signature of Teacher**

**Taur M.A**



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*Pro-forma for program and course outcomes (2.6.1)*

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**Department: Computer Science**

**Program:** BCA FY

**Subject:** Computer Application

**Course Code:** BCA-106

**Paper Title:** Lab-Course : C Programming

Unit Number	Topics	Outcome
1	Demonstrate C programming Structure	Learn structure of C program, different keyword for making program. Develop programs using operators and control statement. Use of an array, structure, union, string and functions. To be proficient to develop application software.
2	Use of data types	
3	Use of control statements	
4	Use of looping statements	
5	Demonstrate input output statements	
6	Use of user define function	
7	Demonstrate recursion function	
8	Use of array	
9	Demonstrate string library function	
10	Demonstrate structure	

**Specify Course Outcome:**

- Recognize various control statements and use suitable statements for performing given task.
- Enhance the programming skill .

**Specify Program Outcome:**

- Describe structure of C program and different keywords for developing application .
- Illustrate an array, structure, union, string and functions.
- Improve proficiency in building programs by using various constructs

**Signature of Teacher**

Deshmukh G.V.





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*Pro-forma for program and course outcomes (2.6.1)*

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**Department: Computer Science**

**Program:** BCAFY(I-Sem)

**Subject:** Computer Application

**Course Code:** BCA-104 A

**Paper Title:** Eective-A(Element of Statistics)

Unit Number	Unit Name	Topics	Unit-wise Outcome
1	<b>Introduction &amp; Collection of Data</b>	Definition of Statistics	Use of data collection and statistics. Study frequency distribution
		Importance of Statistics	
		Limitation of Statistics	
		Scope of Statistics (Computer Science, Industry, Economics)	
		Collection of data	
2	<b>Measures of Central Tendencies &amp; Variations</b>	Concept	Study of measure of central tendency and variations.
		Mean, formula, ungrouped & grouped data, numerical example, merits & demerits.	
		Mode, formula, ungrouped & grouped data numerical example, merits & demerits.	
		Median, formula, ungrouped & grouped data numerical example merits & demerits.	
		Standard deviation, formula, examples	
		Variance, formula, example.	
3	<b>Correlation &amp; Regression</b>	Correlation, types, scatters diagram.	Recognize and present the relationship between two variables
		Karl person's coefficient of correlation.	
		Ungrouped data examples.	
		Regression ,regression lines	

		Example.	
<b>4</b>	<b>Probability</b>	Permutation & combination	Use of various measures in statistics in real world problems.
		Sample space, event.	
		Definition of probability	
		Theorems of probability a. $P(A)=1-P(A')$ b. $0 \leq P(A) \leq 1$ c. $P(A \cup B) = P(A) + P(B) - P(A \cap B)$	
		Numerical example.	

**Specify Course Outcome:**

- Explain the use of data collection & statistics.
- Recognize, examine & interact the basic principles of describing and presenting data.

**Specify Program Outcome:**

- Describe statistics, different types of data collection.
- Recognize basic principles of statistics for describing and presenting data.
- Use appropriate formulas for solving real world problems.
- Select suitable graphical representation for presenting results.

**Signature of Teacher**

Deshmukh G.V.



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*Pro-forma for program and course outcomes (2.6.1)*

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**Name of Teacher: Agarmore J.R.**

**Department: Comp. Sci**

**Program: BCA FY SEM I**

**Subject: COMPUTER APPLICATION**

**Course Code: BCA.105.B**

**Paper Title: Business Communication**

Unit Number	Unit Name	Topics	Unit-wise Outcome
1	Basic English grammar	Noun,verb,adjective,adverb	Proper use of part of speech for communication
2	Transformation of sentences	Simple to compound,compound to complex	Understand working of sentences in general communication
3	Writing skills	Essay writing,e-mail writing,resume	Understands the things for professional purpose.
4	Group discussion	Group discussion, seminar conference, meeting, interview	Useful for personality development.

**Specify Course Outcome:** Students will be able to understand and apply knowledge of human communication and language processes as they occur across various contexts. Use technology to communicate effectively in various settings and contexts.

**Specify Program Outcome:** Learning the basic grammar for proper communication. To enhance effective communication and interpersonal skills.

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*Pro-forma for program and course outcomes (2.6.1)*

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**Name of Teacher:** Mr. Kuptekar Sawankumar Vijay      **Department:** Computer Science

**Program:** BCA FY      **Subject:** Computer Application      **Course Code:** BCA-201

**Paper Title:** Business Accounting with Tally

Unit Number	Unit Name	Topics	Unit-wise Outcome
<b>I</b>	Introduction to financial accounting	1.1 Introduction: Financial Accounting-definition and Scope, objectives of Financial Accounting, Accounting v/s Book Keeping Terms used in accounting, Users of accounting information and limitations of Financial Accounting.  1.2 Accounting Concepts, Types of Accounts, Accounting Principles or concepts ,Mode of Accounting, Rules of accounting, Double entry system of book keeping	Know basic about financial accounting
<b>II</b>	Conceptual frame work	2.1 Accounting Standards in India-concept, objectives, benefits Accounting Policies  2.2 Accounting as a measurement discipline, valuation Principles, accounting estimates	Understand accounting standards
<b>III</b>	Recording of transactions	3.1 Company Creation, Alter, Backup & Restore,  3.2 Creating book of account, Group, subsidiary Group, Ledgers  3.3 Voucher system; Accounting Process, Journals, Subsidiary Books, Ledger, Cash	Understand details about accounting system.

		<p>Book, Bank Reconciliation Statement, Trial Balance.</p> <p>3.4 Depreciation: Meaning, need &amp; importance of depreciation, methods of charging depreciation.(WDV &amp; SLM)</p> <p>3.5 Stock Groups : Multiple Stock Groups , Stock Categories , Multiple Stock Categories , Units of Measure , Godowns ,Stock Items</p>	
<b>IV</b>	Preparation of final accounts	<p>4.1 Preparation of Trading and Profit &amp; Loss Account and Balance Sheet of sole proprietary business</p> <p>4.2 Introduction to Company Final Accounts: Important provisions of Companies Act, 1956 in respect of preparation of Final Accounts.</p> <p>4.3 Understanding of final accounts of a Company.</p>	Understand concept of types of accounts in accounting.

**Specify Course Outcome:** Students will able to do Accounting Using Tally

**Specify Program Outcome:**

**Signature of Teacher**

**Kuptekar S.V**



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*Pro-forma for program and course outcomes (2.6.1)*

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**Department: Computer Science**

**Program:** BCA FY (II-Sem)

**Subject:** Computer Application

**Course Code:** BCA-203

**Paper Title:** Web Technology

Unit Number	Unit Name	Topics	Unit-wise Outcome
1	Introduction of HTML Documents	Historical Roots of HTML	Learn history, structure of HTML document, creation of static web page using various tags
		Web page, Website	
		Structure of HTML documents and Basic Tags: HTML, HEAD, TITLE, BODY	
		Formatting Tags: Paragraph Tags, List tags, HR Tag.	
		Headings Tags, PRE tag, DIV tag, SPAN tag.	
		FONT Tag, ADDRESS tag, MARQUEE tag.	
		Text-Level Elements & other different formatting tags.	
2	Technologies for Web Application	WWW, Web browser	Learn basic concepts of web. Use of hyperlinks, images, and tables in web application.
		U.R.L. concept.	
		Web server, Web protocols: HTTP, FTP, Telnet.	
		Hyperlink (Anchor) Tag & it's all attributes	
		Creating Email Hyperlinks (using mail to anchor)	
		The Role of Images on the Web, tag & it's all attributes, Using Images as links.	

		Tables in HTML:- TABLE, TR, TH, TD tag with example, table with all Attributes	
3	Basic Interactivity and DHTML	Frames in HTML: FRAMESET & FRAME tags & its attributes	Learn various tags for creating dynamic web pages.
		Simple Frame Example. Forms in HTML: Introduction to forms.	
		FORM element & it's attributes (Action, Method (GET, POST), Name)	
		Form controls: Text Controls, Password Field, Multiline Text Input, 1. Pull-Down Menus, Check Box, Radio Buttons, Scrolled List, 2. Reset Button and Submit button.	
		Introduction of DHTML, Ramifications of DHTML	
		Rollover Buttons.	
4	CSS and Java Script	Introduction to Cascading Style Sheets	Learn Cascading Style Sheets and gain knowledge of JAVA script.
		Embedded Styles, Inline Styles, Imported/External Styles.	
		Introduction of JAVA Script	
		Adding script to documents with example. Variables.	
		Input and Output statements of JAVA Script	

### Specify Course Outcome:

- Capable to develop the static web page and dynamic web page.
- Improve the ability to Insert a graphic, table within a web page.
- Able to Create, validate and publish a web page by using HTML programming.

### Specify Program Outcome:

- Describe structure of HTML and various tags for developing web pages.
- Competent static and dynamic web pages are created.
- Improve HTML programming , web pages can be published.

### Signature of Teacher

Deshmukh G.V.



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*Pro-forma for program and course outcomes (2.6.1)*

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**Department: Computer Science**

**Program:** BCA FY (II-Sem)

**Subject:** Computer application

**Course Code:** BCA-207

**Paper Title:** Lab-Course : Web Technology

Unit Number	Topics	Outcome
1	structure of HTML	Gain proficiency in developing static as well as dynamic web pages using HTML programming. Also able to use cascading style sheet. Use of java script in developing web pages.
2	text level elements	
3	for p, font, address, marquee tags.	
4	anchor tag with all attributes.	
5	img tag with all attributes.	
6	table tag with all attributes.	
7	frame tag with all attributes.	
8	user registration form using all controls and attributes of form tag.	
9	rollover button.	
10	CSS of embedded styles	
11	CSS of Inline styles.	
12	CSS for imported/external styles.	
13	adding java script to documents in web page.	
14	input and output statements of java script.	

**Specify Course Outcome:**

- Able to develop static and dynamic web pages.
- Improve web development skill by using java script.

**Specify Program Outcome:**

- Describe structure of HTML and various tags for developing web pages.
- Competent static and dynamic web pages are created.



- Improve HTML programming , web pages can be published.

**Signature of Teacher**

Deshmukh G.V.



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**Name of Teacher:** khairajani S.U

**Department:** Computer science

**Program:** Bcs Fy

**Subject:** computer science

**Course Code:** BCA-204 B

**Paper Title:** Elective : Desktop Publishing (DTP)

Unit Number	Unit Name	Topics	Unit-wise Outcome
UNIT I	PAGEMAKER	PAGEMAKER BASICS, StartingPageMaker.,PageMaker Window Elements,Viewing the Page,Toolbox,Using the Zoom Tool.	Build personal documents such as business cards and resumes.
UNIT II	WORKING WITH A PUBLICATION	Working With A Publication,Opening a Publication,Creating a New Document,Setting the Margins,Setting the Page Size,Setting the Page Orientation,The Page Icons. ,Displaying Master Pages and Master Page Items.,Inserting and Removing Pages, Inserting a Page, Removing a Page,Setting Page Numbers.,Saving a New Document.	Build business documents such as flyers and advertisements
UNIT III	INTRODUCTION TO ADOBE PHOTOSHOP	Basic Features of Adobe Photoshop,Various Page Mesurments, Use Of Various Tools, Layer Concepts, Basic Of Type, Control Settings & Placements.	Build a newsletter with graphics and draw objects

UNIT IV	IMAGE EDITING WITH ADOBE PHOTOSHOP	Images Contrast, Toning & Colour Correction, Colour Conversions, Cleaning, Repairing & Altering Images, Shadow, Relection & Dimention, Creating Background, Patterns, Brushes, Texture & Frames, Types Effects, Freehand.	Build document with using image editing
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**Specify Course Outcome:** the course will be basic page layout and design principles and integrating text and graphics to create attractive business publications.

**Specify Program Outcome:** This course will provide students the opportunity to learn to use basic features of desktop publishing software to create all types of publications: flyers, brochures, newsletters, and advertisements

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*Pro-forma for program and course outcomes (2.6.1)*  
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**Name of Teacher: Agarmore J.R.**

**Department: Comp. Sci**

**Program: BCA FY**

**Subject: Comp App**

**Course Code: BCA.205.B**

**Paper Title: Corporate English**

Unit Number	Unit Name	Topics	Unit-wise Outcome
1		Group discussion, seminar conference, meeting, interview	Useful for personality development.
2		e-mail and cover letter writing, resume and C.V, report writing	Understands the purpose of these things for professional purpose
3		Articles, prepositions, conjunctions, quantifier	Understands the basic things to improve the communication
4		Phrases, clauses, sentence: basic structure	Useful to improve basic grammar

**Specify Course Outcome:** Students will be able to understand and apply knowledge of human communication and language processes as they occur across various contexts. Use technology to communicate effectively in various settings and contexts.

**Specify Program Outcome:** Learning the basic grammar for proper communication. To enhance effective communication and interpersonal skills.

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*Pro-forma for program and course outcomes (2.6.1)*

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**Name of Teacher:** Taur M.A.

**Department:** Computer Science

**Program:** BCA SY.

**Subject:** Computer Science

**Course Code:** S3.AEC.1

**Paper Title:** Logical Reasoning

Unit Number	Unit Name	Topics	Unit-wise Outcome
Unit 1	Series, Analogy and Classification	A Series: Types of series, Alphabet series, Alpha numeric series, Examples on continues pattern series.  B Analogy: Completing the Analogous Pair, Direct/Simple Analogy, Choosing the Analogous Pair, Double Analogy, Number analogy, Alphabet analogy, Correlation between letters/numbers.  C Classification: Choosing the odd word, Choosing the odd numeral, Choosing the odd letter group.	Understand the basic concepts of LOGICAL REASONING Skills
Unit 2	Coding-Decoding		
Unit 3	Blood Relation	A Introduction to relations B Concepts of deciphering relations based problems  C Problems on deciphering jumbled up descriptions D Relation puzzle E Coded relation	Identify logical relations among statements; and analyze logically complex statements into their truth-functional or quantificational components.

Unit 4	Seating or Placing Arrangement	Problems based on linear and circular based arrangement	
Unit 5	Direction Sense Test	A Introduction B Problems based on angular changes in direction Problems on Shadows D General Problems based on Pythagoras Theorem	Distinguish the basic elements of arguments and recognize the different types of arguments.
Unit 6	Syllogism and Data Sufficiency	A Syllogism: Introduction of logic, Rules of syllogism, Two statement problem, Three statement problem B Data Sufficiency: Problems of Data sufficiency based on all Chapters.	Symbolize natural language statements in the language of propositional and predicate logic.

**Specify Course Outcome:** This course enables students to develop their ability to reason by introducing them to elements of formal reasoning. The primary focus will be on recognizing the logical structure of arguments. The primary focus will be on recognizing the logical structure of arguments.

**Program Outcome:.** Studying logic also advances understanding of symbolic systems generally and in particular those of mathematics and computer science. Logic, then, occupies the ground that is intermediate between literary and quantitative analysis.

**Signature of Teacher**



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**College of Arts, Commerce and Science, Parbhani**

*Pro-forma for program and course outcomes (2.6.1)*

**Name of Teacher: Shaikh Khaja Jamil Mohiuddin**

**Department: Computer Science**

**Program: BCS SY**

**Subject: COMPUTER SCIENCE**

**Course Code: S3.3(C C)**

**Paper Title: Object Oriented Concept Using C++**

<b>Unit Number</b>	<b>Unit Name</b>	<b>Topics</b>	<b>Unit-wise Outcome</b>
<b>UNIT – I</b>	<b>Introduction to OOPs</b>	Object Oriented Programming, Basic concepts of OOPS, Benefits of OOPs	<b>Understand the concepts of Object Oriented Programming.</b>
<b>UNIT – II</b>	<b>Introduction to C++</b>	Tokens Identifiers Keywords, Constant variable data types, Scope Resolution Operator, I/O statements Structure of C++ program, Control statements Looping, Type casting · Arrays, Pointer, References, Structure and Unions, Function: Call by value, Call by reference, Inline function, Default arguments, Function Overloading	<b>Design, implement, test and debug programs that use arrays, pointer, control structure and overloading in OOPs</b>
<b>UNIT – III</b>	<b>Class and Objects</b>	Define Class, Members Object, Visibility modes, Static members, Pointer to members, Pointer to objects, Constructors & Destructors, Friend Function	<b>Implementation of Class and Object</b>
<b>UNIT - IV</b>	<b>Operator Overloading and Type Conversions</b>	Concept of Operator Overloading, Unary & Binary operator overloading, Rules for Overloading, Type conversions – Basic to Class, Class to basic Class to Class	<b>Understanding the operator overloading and data type conversion.</b>
<b>UNIT – V</b>	<b>Inheritance and Polymorphism</b>	Concept of Inheritance, Types of Inheritance, Polymorphism, Virtual Base Classes, Pointer to Derived class, Virtual functions,	<b>Design and implementation of programs through inheriting data from</b>

		Rules for Virtual function, Pure Virtual functions	<b>one class to another class.</b>
<b>UNIT – VI</b>	<b>C++ I/O System</b>	C++ Streams Stream classes, Unformatted I/O operations, Formatted I/O operations, Manipulators, Opening and closing file, file modes, Updating file	<b>Understanding basic I/O stream and file handling</b>

**Specify Course Outcome:** To understand how C++ improve C with Object Oriented features.

**Specify Program Outcome:** To improve programming language and logic to solve problem.

**Signature of Teacher**

SHAIKH KHAJA MOHIUDDIN





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*Pro-forma for program and course outcomes (2.6.1)*

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**Name of Teacher:** Shaikh Khaja Jamil Mohiuddin

**Department:** Computer Science

**Program:** BCS SY

**Subject:** COMPUTER SCIENCE

**Course Code:** S3.Lab 2

**Paper Title:** Object Oriented Concept using C++

Unit Number	Unit Name	Topics	Unit-wise Outcome
		<p>Program to demonstrate Constant Variable.</p> <p>Program to demonstrate scope of Variable</p> <p>Program to demonstrate branching statement</p> <p>Program to demonstrate Looping statement</p> <p>Program to demonstrate simple class</p> <p>Program to demonstrate method parameter</p> <p>Program to demonstrate call by value.</p> <p>Program to demonstrate call by reference.</p> <p>Program to demonstrate pointer to object.</p> <p>Program to demonstrate function in c++</p> <p>Program to demonstrate factorial number using for loop.</p> <p>Program to demonstrate fibonacci sequence.</p> <p>Program to demonstrate sum of even or odd number.</p> <p>Program to demonstrate find area of circle.</p> <p>Program to demonstrate arithmetic operation using switch case.</p> <p>Program to demonstrate method overloading</p>	<p><b>Solve problem using Object Oriented Programming Concepts</b></p>

		<p>Program to demonstrate constructor</p> <p>Program to demonstrate destructor.</p> <p>Program to demonstrate static member</p> <p>Program to demonstrate Method overriding</p> <p>Program to demonstrate Final variable, Method and Final Class.</p> <p>Program to demonstrate Finilize method()</p> <p>Program to demonstrate Array and It's types.</p> <p>Program to demonstrate String class and it's method.</p> <p>Program to demonstrate String Buffer and it's method.</p> <p>Program to demonstrate inheritance and its Types</p> <p>Program to demonstrate Abstract method and Abstract Class.</p> <p>Program to demonstrate Polymorphism.</p> <p>Program to demonstrate Function overloading.</p> <p>Program to demonstrate Operator Overloading.</p>	
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**Specify Course Outcome:** Understand concept of object oriented programming.

**Specify Program Outcome:** To developed application software.

**Signature of Teacher**

SHAIKH KHAJA MOHIUDDIN



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*Pro-forma for program and course outcomes (2.6.1)*

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**Name of Teacher:** Taur M.A.

**Department:** Computer Science

**Program:** BCA /BSc (CS) SY

**Subject:** Computer Science

**Course Code:** S3.CC.3

**Paper Title:** Data Structure

Unit Number	Unit Name	Topics	Unit-wise Outcome
Unit 1	Introduction	Introduction , Basic terminology, elementary data organization,Data structure ,Data structure operation , Algorithm complexity	Understand the concept of Dynamic memory management, data types, algorithms, Big O notation.
Unit 2	Array, Records and Pointers	Linear array,Representation of linear array in memory,Traversing linear array, Inserting and Deleting , Searching methods (Binary and linear search), Sorting Method (selection sort, bubble sort and Insertion sort)	Apply Algorithm for solving problems like sorting, searching, insertion and deletion of data
Unit 3	Linked List	Introduction, Linked list , Representation of Linked list in memory ,Searching a linked list ,Memory allocation, Garbage collection, insertion & Deletion into Linked List, Two way Linked List	Understand basic data structures such as arrays, linked lists .
Unit 4	Stack	Introduction,stack,Representation of stack (sequential & linked) , Push & pop operation ,Arithmetic expression ,Infix, postfix & prefix ,Evaluation of postfix expression ,Recursion :factorial, Fibonacci	Understand basic data structures such as stack .

<b>Unit 5</b>	<b>Queue</b>	<b>Introduction, Queues ,Memory Representation of Queue.(sequential &amp; linked),Insertion &amp; Deletion on Queue. D-queue, Priority Queue</b>	<b>Understand basic data structures such queues.</b>
<b>Unit 6</b>	<b>Tree &amp; graph</b>	<b>Binary Tree, Types of Binary tree ,Traversing of binary tree(pre-order, post-order, inorder), Header Nodes, Threads , Graph,Representation of graph, Operations on graph</b>	<b>Solve problem involving graphs, trees and heaps</b>

**Specify Course Outcome:** Students develop knowledge of applications of data structures including the ability to implement algorithms for the creation, insertion, deletion, searching, and sorting of each data structure.

**Specify Program Outcome:** Students implement projects requiring the implementation of the above data structures.

**Signature of Teacher**



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**Name of Teacher:** Taur M.A.

**Department:** Computer Science

**Program:** BSc(CS) SY / BCA SY

**Subject:** Computer Science

**Course Code:** S3.Lab2

**Paper Title:** Lab Course – 2 (Data Structure)

Sr. No	Title of program	Program-wise Outcome
1	Write a program traversing the array.	Describe how arrays, records, linked structures, stacks, queues, trees, and graphs are represented in memory and used by algorithm
2	Write a program to insert the element into array at given position.	
3	3 Write a program to delete the element from array.	
4	Write a program to find element in the array using binary search.	
5	Write a program to sort the array using for bubble sort.	
6	Write a program to perform insertion sort on array.	

7	8 Write a program to implement the selection sort on array.	
8	Write a program to implement stack using linked list.	
9	Write a program to implement stack using array.	
10	Write a program to perform push & pop operations on stack.	
11	Write a program to convert an infix expression into postfix expression.	
12	Write a program to evaluation of postfix expression using stack.	
13	Write a program to implement queue using linked list.	
14	Write a program to implement queue using array.	
15	Write a program to perform queue operation.	
16	Write a program to create a linked list & performing traversing operation.	
17	Write a program for insertion & deletion of linked list.	
18	Write a program to simulate tree traversing technique.	

**Specify Course Outcome:**

**Specify Program Outcome:**

**Signature of Teacher**



**Dnyanopasak Shikshan Mandal's**  
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*Pro-forma for program and course outcomes (2.6.1)*

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**Name of Teacher: Agarmore J.R.**

**Department: Comp. Sci**

**Program: BCA SY SEM III**

**Subject: Comp. Application**

**Course Code: S3.5**

**Paper Title: Multimedia**

Unit Number	Unit Name	Topics	Unit-wise Outcome
1	Multimedia element	Definition,element,application,global structure	Learning medias like audio,video,animation,text,graphics.
2	Data Compression	Storage space, coding requirement, basic compression technique	Learn the techniques to reduce the size of data in each format.
3	Optical Storage Media	Basic technology,video disk,WORMs,CD-ROM,DVD-ROM	Understands different optical storage medias which provides random access.
4	Sound/Audio	MIDI,Digital audio,audio file formats	Understands audio,its storage in digital form, & its different formats like mp3
5	Image/Graphics	Bitmaps,vector drawing,image formats,color	Understands images with its different formats.
6	Video & Animation	Broadcast video standards,T.V.,computer based animation	Learn how to broadcast video on T.V., learn softwares for animation.

- **Specify Course Outcome:** 1.Developed understanding of technical aspect of Multimedia Systems. 2. Understand various file formats for audio, video and text media. Develop various Multimedia Systems applicable in real time. 4. Design interactive multimedia software. 5. Apply various networking protocols for multimedia applications. 6. To evaluate multimedia application for its optimum performance.
- **Specify Program Outcome:** Understands multimedia elements to make applications more familiar to users.

**Signature of Teacher**





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*Pro-forma for program and course outcomes (2.6.1)*

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**Name of Teacher:** Siddqui Uzma

**Department:** Computer Science

**Program:** BCA SY SEM II

**Subject:** Computer Science

**Course Code:** S3..6

**Paper Title:** S3.6 (Skill Enhancement Course PC)

Number	Program	Pro Outcome
1	Study of Hardware Component on Motherboard	Study of hardware components and detail study of pc installation
2	SD, DDR, DDR1, DDR2, DDR3	
3	Study of Assemble a Computer System.	
4	Study of Installing Windows 8 OS	
5	Study of Networking Devices – Hub, Switch, Router	
6	Troubleshoot	
7	Installing any Local Printer	
8	To share a printer	
9	To share a Folder/Map a Drive	
10	Study of BIOS options	
11	Study of Installing Windows 8 OS	

12	Study of Windows Firewall and Windows Defender
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**Specify Course Outcome:** understand the fundamental hardware components that make up a computer's hardware and the role of each of these components understand the difference between an operating system and an application program, and what each is used for in a computer

**Specify Program Outcome:** This course enables the students to understand the fundamentals of PC assembly. Learning **Outcomes:** The student will assemble / **setup** ...

**Signature of Teacher**



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*Pro-forma for program and course outcomes (2.6.1)*

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**Name of Teacher:** Pattewar D.D.

**Department:** Computer science

**Program:** BCA SY

**Subject:** Computer science

**Course Code:** S4.AEC.1

**Paper Title:** Numerical Aptitude

<b>Unit Number</b>	<b>Unit Name</b>	<b>Topics</b>	<b>Unit-wise Outcome</b>
<b>1</b>	<b>Introduction of Number system</b>	Numbers: Types of numbers, Divisibility tests of numbers, Geometric progression, arithmetic progression, Relationship between Arithmetic progression and Geometric progression, HCF and LCM : Methods of calculating highest common factor and greatest common divisor, factorization method, Division method, Finding HCF and LCM more than two Numbers, LCM and HCF of fractions and decimal numbers, Applications of LCM and HCF.	Easy to solve equation it's used to competitive exams
<b>2</b>	<b>Average, Problem on ages, Percentage, and Profit and Loss</b>	Average: Definition of average, Formulae and theoretical problem on average. Problem on ages: simultaneous equations and their applications Theoretical problems on ages, Theoretical problems on numbers. Percentage: Concept of percentage, Application of percentage, Results on populations, Result on depreciations, Theoretical problem on	Easy to Calculations like profit and loss average all calculation perform

		percentage ,Profit and Loss: Definition of cost price, selling price and profit, Formulae of profit and loss, Theoretical problems on profit and loss.	
<b>3</b>	<b>Percentage,</b>	Percentage: Concept of percentage, Application of percentage, Results on populations, Result on depreciations, Theoretical problem on percentage	Is used to calculate parentage
<b>4</b>	<b>Time and Work, Time and Distance and Problems on Train</b>	Time and Work: Concept of time and work, Relationship between time and work, Theoretical problems on time and work Time and Distance: Concept of time and distance, Formulae of time and distance, Theoretical problems on time and distance. Problems on Train: Formulae of problems on train, Theoretical problems on train.	Any work are perform using time and work and relationship, distance etc easy to understand
<b>5</b>	<b>Boat and streams, Allegations and Mixtures, and Calendar</b>	Boat and streams: Concept of boat and streams, Formulae of boat and streams, Allegations and Mixtures: Definition of allegation and mixtures, Rules of allegation's, Theoretical problems on mixture and allegation. Calendar: Concept of odd days, Leap years and ordinary years, Problems on Calendar.	Easy to perform calculation
<b>6</b>	<b>Simple and Compound Interest, Probability, and Permutations and combinations</b>	Simple and Compound Interest: Definition of simple and Compound interest, Formulae of simple and compound interest, Relationship between simple	All type interest are calculated

		<p>and compound interest,  Theoretical problems on simple and compound interest. Probability: Definition of probability, Examples of performing a random experiment, Probability of occurrence of an event, Results on probability, Theoretical problems on probability. Permutations and combinations: Definition of permutations and combinations, Formulae of permutation and combinations, Relationship between permutation and combinations, Problems on permutations and combinations.</p>	
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**Specify Course Outcome:** calculating the equation and to solve the problems simple interest, compound interest, average this all calculation are performing.

**Specify Program Outcome:** implement the all equation in comparative exams and also use the set, net, Banking exams.

**Signature of Teacher**



**DnyanopasakShikshanMandal's**  
**College of Arts, Commerce and Science, Parbhani**

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*Pro-forma for program and course outcomes (2.6.1)*

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**Name of Teacher: Agarmore J.R.**

**Department: Comp. Sci**

**Program: BCA SY**

**Subject: Comp. App**

**Course Code: S4.4**

**Paper Title: Java programming**

Unit Number	Unit Name	Topics	Unit-wise Outcome
1		Java history, features, how java differ from c,c++,JVM, java environment, java programming structure, installing java	Understands java environment
2		Types of comments, java tokens- reserve keywords, identifiers, literals, operators, variable, constants, type casting, control statements, branching statements, looping statements, break and continue statements	To understand how to design, implement, test, debug, and document programs that use basic data types and computation, simple I/O, conditional and control structures, string handling and functions.
3		Creating applet, it's lifecycle, passing parameter to applet, working with graphics	Understands internet computing
4		Defining class, fields, method creating object, visibility modes, this keyword, method parameter, method overloading, finalize method, method overriding, abstract method, class	To understand the importance of Classes & objects along with constructors, Arrays and Vectors.
5		Define and implement interface, inner class, package, create package, access package, exception handling	Discuss the principles of inheritance, interface and packages and demonstrate through problem analysis assignments how they relate to the design of methods, abstract classes and interfaces and packages.
6		String class, string buffer, stream buffer, types of stream, byte stream classes, character stream classes, file classes	Understands string and buffer classes

**Specify Course Outcome:**

1. To understand how to design, implement, test, debug, and document programs that use basic data types and computation, simple I/O, conditional and control structures, string handling and functions.
2. To understand the importance of Classes & objects along with constructors, Arrays and Vectors.
3. Discuss the principles of inheritance, interface and packages and demonstrate through problem analysis assignments how they relate to the design of methods, abstract classes and interfaces and packages.
4. To understand importance of Multi-threading & different exception handling mechanisms.
5. To learn experience of designing, implementing, testing, and debugging graphical user interfaces in Java using applet and AWT that respond to different user events.
6. To understand Java Swings for designing GUI applications based on MVC architecture.

**Specify Program Outcome:**

1. Implement Object Oriented programming concept using basic syntaxes of control Structures, strings and function for developing skills of logic building activity.
2. Identify classes, objects, members of a class and the relationships among them needed for a finding the solution to specific problem
3. Demonstrates how to achieve reusability using inheritance, interfaces and packages and describes faster application development can be achieved.
4. Demonstrate understanding and use of different exception handling mechanisms and concept of multithreading for robust faster and efficient application development.

**Signature of Teacher**



DnyanopasakShikshanMandal's

College of Arts, Commerce and Science, Parbhani

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*Pro-forma for program and course outcomes (2.6.1)*  
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**Name of Teacher: Agarmore J.R.**

**Department: Comp. Sci/App**

**Program: BCA/BCS SY**

**Subject: Comp Sci/Comp App**

**Course Code: S4.Lab-2**

**Paper Title: Java(PR)**

Sr.No.	Topic	
2.	Program to demonstrate Constant Variable.	<b>1.</b> To understand how to design, implement, test, debug, and document programs that use basic data types and computation, simple I/O, conditional and control structures, string handling and functions. <b>2.</b> To understand the importance of Classes & objects along with constructors, Arrays and Vectors. <b>3.</b> Discuss the principles of inheritance, interface and packages and demonstrate through problem analysis assignments how they relate to the design of methods, abstract classes and interfaces and packages.
3.	Program to demonstrate scope of Variable	
4.	Program to demonstrate branching statement	
5.	Program to demonstrate Looping statement	
6.	Program to demonstrate simple class	
7.	Program to demonstrate method parameter	
8.	Program to demonstrate method overloading	
9.	Program to demonstrate constructor	
10.	Program to demonstrate static member	
11.	Program to demonstrate Method overriding	
12.	Program to demonstrate Final variable, Method and Final Class.	
13.	Program to demonstrate Finilize method()	
14.	Program to demonstrate Array and It's types.	
15.	Program to demonstrate String class and it's method.	
16.	Program to demonstrate String Buffer and it's method.	
17.	Program to demonstrate inheritance and its Types	
18.	Program to demonstrate Abstract method and Abstract	



19.	Class.	
20.	Program to demonstrate Multiple catch statement	
21.	Program to demonstrate finally clause	
22.	Program to demonstrate package	
23.	Program to demonstrate interface	
24.	Program to demonstrate Applet life cycle	
25.	Program to demonstrate Finilize method()	

- **Specify Course Outcome:**

- 1.To understand how to design, implement, test, debug, and document programs that use basic data types and computation, simple I/O, conditional and control structures, string handling and functions.
2. To understand the importance of Classes & objects along with constructors, Arrays and Vectors.
3. Discuss the principles of inheritance, interface and packages and demonstrate through problem analysis assignments how they relate to the design of methods, abstract classes and interfaces and packages.
4. To learn experience of designing, implementing, testing, and debugging graphical user interfaces in Java using applet and AWT that respond to different user events. 6. To understand Java Swings for designing GUI applications based on MVC architecture.

- **Specify Program Outcome**

1. Implement Object Oriented programming concept using basic syntaxes of control Structures, strings and function for developing skills of logic building activity.
2. Identify classes, objects, members of a class and the relationships among them needed for a finding the solution to specific problem
3. Demonstrates how to achieve reusability using inheritance, interfaces and packages and describes faster application development can be achieved.
4. Demonstrate understanding and use of different exception handling mechanisms and concept of multithreading for robust faster and efficient application development.

**Signature of Teacher**



Dnyanopasak Shikshan Mandal's

College of Arts, Commerce and Science, Parbhani

Pro-forma for program and course outcomes (2.6.1)

Name of Teacher: Shaikh Khaja Jamil Mohiuddin

Department: Computer Science

Program: BCA SY

Subject: COMPUTER APPLICATION

Course Code: S4.CC.3

Paper Title: RDBMS

Unit Number	Unit Name	Topics	Unit-wise Outcome
UNIT – I	Introduction and Basic Concepts	Structure of DBMS, Advantages and Disadvantages of DBMS, Users of DBMS, Relational Database: Entities, Attributes and Domains, Tuples, Relations and their schemes.	Understand basic knowledge about database.
UNIT – II	SQL Statements & Working With Tables	What is SQL?, Types of SQL Commands (DDL, DML, DQL, DCL, Transaction Control Commands, Data types in SQL, Creating Tables, Selecting from tables, WHERE Clause, Selecting from tables, DISTINCT Clause, Column aliasing, Manipulation Table data, Altering Table structure, Data Constraints: Unique, Not Null, Primary Key, Foreign Key, Check, Default Constraint	To insert, update, delete data as well as secure data through constraints
UNIT – III	Operators & SQL Functions & Views	Arithmetic Operators, Relational Operators, Comparison Operators BETWEEN , IN, LIKE, IS NULL, LOGICAL Operators: AND OR NOT, SQL Functions: Single, Multiple Row Functions, Single Row Character , Single Row Number, Single Row Date, Single Row Conversion, Single Row General Functions, Multiple Row Functions, Views	To perform all about retrieving data from databases using some operators.
UNIT - IV	Sorting & Grouping Data and Joining	What is Sorting?, ORDER BY & ORDER BY DESC Clauses,	We can joining, grouping and sorting

	<b>Tables &amp; Subqueries in ORACLE</b>	GROUP BY & GROUP BY HAVING Clauses,What is Join?, Join Styles: Theta , ANSI , Using clause, Types of Joins: Equi Joins, Non Equi Join, Outer Join: Left, Right, Full Self Join Cross Join, Joining three tables,Subqueries & its types	<b>various data through some commands.</b>
<b>UNIT – V</b>	<b>Introduction to PL/SQL</b>	PL/SQL Overview,Declarations Section,Executable Commands Section,Exception Handling Section	<b>Execute a program or group of command using pl/sql block</b>
<b>UNIT – VI</b>	<b>Database Triggers &amp; Cursors</b>	What are Triggers? Triggers Syntax,Types of triggers,Row Level Statement Level, Before , After Instead of Triggers,Enabling and Disabling Triggers,Replacing and Dropping Triggers,Working with Cursor,% TYPE Variable % ROWTYPE Variable	<b>Generating events through triggers and perform task at background.</b>

**Specify Course Outcome:** Understand and effectively explain the underlying concepts of RDBMS. Populate and query a database using SQL DML/DDDL/DQL/DCL/TCL and database constraints.

**Specify Program Outcome:** Students are able to prepare some application through java as a front end and RDBMS as backend.

**Signature of Teacher**

SHAIKH KHAJA MOHIUDDIN



**Dnyanopasak Shikshan Mandal's**

**College of Arts, Commerce and Science, Parbhani**

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*Pro-forma for program and course outcomes (2.6.1)*  
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**Name of Teacher: Shaikh Khaja Jamil Mohiuddin**

**Department: Computer Science**

**Program: BCA SY**

**Subject: COMPUTER APPLICATION**

**Course Code: S4.Lab 2**

**Paper Title: Lab Course – 2 (RDBMS)**

Unit Number	Unit Name	Topics	Unit-wise Outcome
		What is SQL? Types of SQL Commands Study of Datatypes in ORACLE Creating Tables & Retrieving , Manipulating Data from tables Study of Altering Tables IN ORACLE Study of Data Constraints in ORACLE Study of Operators Study of SQL Functions Study of Views in ORACLE Study of Joining Tables in ORACLE Study of Subqueries in ORACLE Study of in PL/SQL Blocks in ORACLE Study of in Triggers in ORACLE Study of in Cursors in ORACLE	<b>Study and demonstrate the various query i.e DDL/DML/DCL/DQL/TCL on database</b>

**Specify Course Outcome:** Students can perform to insertion, updation, deletion and retrieving data in database.

**Specify Program Outcome:** Learning Java and Relational Database Management System so that to Implementation of various application with the help of front end and backend.

**Signature of Teacher**

SHAIKH KHAJA MOHIUDDIN



**DnyanopasakShikshanMandal's**

**College of Arts, Commerce and Science, Parbhani**

*Pro-forma for program and course outcomes (2.6.1)*

**Name of Teacher: Surnar S.B.**

**Department: Computer Science**

**Program: BCASY**

**Subject: Computer Science**

**Course Code: S5.CC.4**

**Paper Title: Operating System**

<b>Unit Number</b>	<b>Unit Name</b>	<b>Topics</b>	<b>Unit-wise Outcome</b>
<b>1</b>	Introduction	a) What Operating System Do – 1) User View 2) System View 3) Defining OS b) Computer System Organization c) Computer System Architecture – 1) Single Processor System 2) Multiprocessor System d) Extended Machine Concept e) Operating System Structure f) An Operating System Resource Manager	Overview of operating system
<b>2</b>	System Structure	a) Operating System Services b) User Operating System Interface 1) Command Interpreter 2) GUI c) System Boot d) System Calls	System Structure different services of operating system

		<p>Types of System Calls –</p> <ol style="list-style-type: none"> <li>1) Process Control</li> <li>2) File Management</li> <li>3) Device Management</li> <li>4) Information Maintenance</li> <li>5) Communication</li> <li>6) Protection</li> </ol>	
<b>3</b>	<b>Process Management</b>	<ol style="list-style-type: none"> <li>a) Process Concept – <ol style="list-style-type: none"> <li>1) The Process</li> <li>2) Process States</li> <li>3) Process Control Block</li> </ol> </li> <li>b) Process Scheduling <ol style="list-style-type: none"> <li>1) Scheduling Queues</li> <li>2) Schedulers</li> <li>3) Context Switching</li> </ol> </li> <li>c) Scheduling Criteria</li> <li>d) Scheduling Algorithms – <ol style="list-style-type: none"> <li>1) FCFS</li> <li>2) SJF</li> <li>3) Priority Scheduling</li> <li>4) Round-Robin Scheduling</li> </ol> </li> </ol>	To understand various Memory Management techniques
<b>4</b>	<b>Multithreaded Programming</b>	<ol style="list-style-type: none"> <li>a) Overview</li> <li>b) Multithreading Models</li> <li>c) Thread Libraries – pthreads</li> </ol>	To understand the concept of process and thread management
<b>5</b>	<b>Memory Management</b>	<ol style="list-style-type: none"> <li>a) Introduction</li> <li>b) Contiguous Memory Allocation <ol style="list-style-type: none"> <li>1) Memory Allocation</li> <li>2) Fragmentation</li> </ol> </li> <li>c) Paging <ol style="list-style-type: none"> <li>1) Basic Method</li> <li>2) Hardware Support</li> </ol> </li> <li>d) Segmentation <ol style="list-style-type: none"> <li>1) Basic Method</li> <li>2) Hardware Support</li> </ol> </li> </ol>	To understand various Memory Management techniques

6	File System	a) File concept b) Access Methods 1) Sequential 2) Direct c) Directory and Disk Structure 1) Directory Overview 2) Single Level Directory 3) Two Level Directory 4) Tree Structure Directory d) Allocation Methods 1) Contiguous Allocation 2) Linked Allocation 3) Indexed allocation e) Free Space Management 1) Bit Vector 2) Linked List 3) Grouping 4) Counting	understand the scheduling of processes and threads.
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**Specify Course Outcome:** To introduce basic concepts and functions of modern operating systems.

- To understand the concept of process and thread management.
- To understand the scheduling of processes and threads.
- To understand various Memory Management techniques.

**Specify Program Outcome:** Fundamental understanding of the role of Operating Systems.

- To understand the various memory management techniques
- To apply the cons of process/thread scheduling
- To understand the concept of a process and thread.

**Signature of Teacher**



Dnyanopasak Shikshan Mandal's

College of Arts, Commerce and Science, Parbhani

Pro-forma for program and course outcomes (2.6.1)

Program: BCASY Subject: Computer Application

Course Code: S5.CC.4

Paper Title: Elective-I (Computer Graphics)

Unit Number	Unit Name	Topics	Unit-wise Outcome
1	Introduction to computer graphics	Introduction	Awareness about computer graphics and display devices.
		Advantages of CG	
		Applications of CG	
		Display Devices	
		Cathode ray tubes	
		Color CRT monitors	
		Direct View Storage Tube	
2	Raster Scan graphics & Transformation	Line drawing algorithm	Explain raster scan graphics and how transformation takes place
		Digital Differential Analyzers	
		Bresenham's Line algorithms	
3	Transformation	Two dimensional transformation	Knowledge about various transformation techniques.
		Matrix representation	
		Translation	
		Rotation	
		Scaling	
		Reflection	
		Shearing	
4	Segmented Display Files	Segment table	Detail discussion on segmented display files.
		Functions for segmenting display file	
		Posting & unposting segments	
		Segment naming scheme	
		Default error conditions	
		Appending to segments	
5	Clipping window & display file Compilation	2-D clipping	Exposure of clipping window and display file compilation, storage allocation, reconstruction.
		Simple visibility algorithm	
		End point codes	
		Midpoint subdivision algorithm	
		Display File Compiler	
		Refresh concurrent with reconstruction	
		Free storage allocation	
		Display file structure	
6	Geometrics Model &	Geometric modeling	
		Symbols & instances	



	<b>Graphics package</b>	Implementation of Instance transformation	Study geometric model and graphics package like ground rules for graphics s/w design and graphics primitives.
		Ground rules for graphics s/w design	
		Function domains	
		Graphics primitives	

**Specify Course Outcome:**

- Understanding the core concepts of computer graphics.
- Critical understanding of the theory of 2D and 3D transformations, projection and viewing
- Elucidate raster scan graphics and various transformation techniques.
- Exposure of segmentd display file, clipping window and display file compilation, storage allocation, reconstruction.
- Learning geometric model and graphics package like ground rules for graphics s/w design and graphics primitives.

**Specify Program Outcome:**

- Ability to think and plan critically in three dimensions
- General critical analysis, evaluation and synthesis of ideas for the design of their project
- Representation of, planning for, and solution of problems
- Ability to draw upon a range of sources when making decisions in their project work

**Signature of Teacher**

Deshmukh G.V.



**Dnyanopasak Shikshan Mandal's**

**College of Arts, Commerce and Science, Parbhani**

*Pro-forma for program and course outcomes (2.6.1)*

**Name of Teacher: Surnar S.B.**

**Department: Computer Application**

**Program: BCASY**

**Subject: Computer Application**

**Course Code: S4.SEC-1**

**Paper Title: XML Programming**

<b>Unit Number</b>	<b>Unit Name</b>	<b>Topics</b>	<b>Unit-wise Outcome</b>
<b>1</b>	<b>1. Introduction to XML</b>	How is XML used? Rules of XML XML Syntax XML Declarations XML tags XML Document Elements Tags and attributes Entity references Comments Processing instructions CDATA sections Well Formed XML Documents XML DTD's XML Schemas Using XML Parser XSL	Overview of xml all information we can understand
<b>2</b>	<b>XML DOM</b>	DOM Introduction DOM Nodes DOM Accessing DOM Node Info DOM Node List DOM Traversing DOM Navigating DOM Get Values - DOM Change Nodes DOM Remove Nodes DOM Replace Nodes DOM Create Nodes DOM Add Nodes DOM Clone Nodes	Introduction for DOM and information for dom with example

		DOM Examples	
3	<b>XML DTD</b>	DTD Introduction DTD Building Blocks DTD Elements DTD Attributes DTD Elements vs Attribute DTD Entities DTD Examples	Introduction To DTD with all elements and attributes with example
4	<b>XSLT</b>	XSLT Introduction XSL Languages XSLT Transform XSLT <template> XSLT <value-of> XSLT <for-each> XSLT <sort> XSLT <if> XSLT <choose> XSLT Apply XSLT on the Client XSLT on the Server XSLT Edit XML XSLT Examples	Introduction <b>to</b> XSLT how to use and apply

**Specify Course Outcome:** To understand what is XML & its uses.

- To understand DTD, CSS, XLST
- To understand what functions are and why they're useful.
- The basic syntax of the XML.

**Specify Program Outcome:** .• Use of Document Models: A Higher Level of Control. • Use different template rules. • To build dynamic web pages and web applications.

**Signature of Teacher**



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Pro-forma for program and course outcomes (2.6.1)

Department: Computer Science

Program: BCATY(V-Sem)

Subject: Computer Application

Course Code: S5.CC.1

Paper Title: Windows Programming with C#.NET

Unit Number	Unit Name	Topics	Unit-wise Outcome
1	Introduction	Introduction to .Net Technology & Framework	Understanding of the DOTNET framework.
		.Net Architecture	
		Common Language Runtime(CLR)	
		IDE Components	
		Intellisense	
		Project Types	
		Java vs C#	
2	Windows Applications and Windows Controls	Important Classes Used in Windows	Implementing Windows controls for creation of windows applications.
		Creating and Customizing Windows Form	
		TextBox and Label Control	
		Button, CheckBox and RadioButton	
		Listbox and ComboBox control	
		Menus and Dialog Boxes	
3	Functions, Arrays and Strings	C# Function	Use of functions , arrays and Strings in programs
		Call by Value & Call by Reference	
		Out Parameter	
		Array and ArrayList class	
		Jagged Array	
		String Class	
4	Properties, Indexers, Delegates & Events	Properties	Understanding and using the various characteristics of c# like properties, indexers, delegates, events.
		Indexers	
		Delegates	
		Multicast Delegates	
		Custom events	
5	Namespace, interface & Exception handling	Creating & using Namespace(DLL library)	Creating and using dynamic link libraries, and handling exceptions.
		Creating & using interface	
		Try Catch Block	
		Using Finally Block	
		Custom Exception	
		Introduction ADO.Net	

<b>6</b>	<b>Database Connectivity</b>	Advantages of ADO.Net	Creating application using ADO.Net.
		Developing a Simple ADO.NET Based	
		Retrieving & Updating Data From Tables	
		Disconnected Data Access Through Dataset Objects	

**Specify Course Outcome:**

- Enhance the knowledge on basics concepts of object oriented programming.
- Impart the knowledge of CLR and DOTNET framework.
- Become skilled at C# cors as well as windows programming.
- Able to create application using ADO.net.

**Specify Program Outcome:**

- Get adequate knowledge about C#.
- Expertise in core as well as windows programming.
- Enhance the concepts of OOPs.

**Signature of Teacher**

Deshmukh G.V.



**DnyanopasakShikshanMandal's**  
**College of Arts, Commerce and Science, Parbhani**

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*Pro-forma for program and course outcomes (2.6.1)*

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**Department: Computer Science**

**Program:** BCATY(VI-Sem) **Subject:** Computer Application **Course Code:** S5.Lab3

**Paper Title:** Windows Programming with C#.NET

Unit Number	Topics	Outcome
1	Creating simple windows application.	Understanding DOTNET framework and various characteristics of C#. Understanding of various Windows controls. Use of DOTNET framework for developing console and Windows applications.
2	Text Box and Button control.	
3	List Box and Combo Box Control.	
4	Designing Menus.	
5	Using dialog boxes.	
6	Functions.	
7	Array.	
8	Creating properties.	
9	Creating Indexers.	
10	Creating Delegates.	
11	Creating custom namespace.	
12	Handling exception.	
13	Creating and using custom exception.	
14	Accessing data from database.	
15	Modifying data from database.	

**Specify Course Outcome:**

- Expertise in windows programming.
- Develop applications using ADO.NET.

**Specify Program Outcome:**

- Understand the DOTNET framework
- Familiarity in the concept of developing window application.
- Develop background knowledge as well as core expertise in C#.
- Build a console and windows application.
- Develop applications using ADO.Net.

**Signature of Teacher**

Deshmukh G.V.



**Dnyanopasak Shikshan Mandal's**

**College of Arts, Commerce and Science, Parbhani**

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*Pro-forma for program and course outcomes (2.6.1)*  
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**Name of Teacher: Agarmore J.R.**

**Department: Comp. Sci**

**Program: BCA TY SEM V**

**Subject: Comp. Application**

**Course Code: S5.CC.2**

**Paper Title: Adv Java**

<b>Unit Number</b>	<b>Unit Name</b>	<b>Topics</b>	<b>Unit-wise Outcome</b>
<b>1</b>	Multithreading	Creating thread, it's lifecycle, its methods, priorities & synchronization	concept of multithreading for robust faster and efficient application development.
<b>2</b>	Frame class and it's methods	AWT controls, delegation event handling	To learn experience of designing, implementing, testing, and debugging graphical user interfaces in Java using applet and AWT that respond to different user events.
<b>3</b>	Applet Programming	Creating and executing applet, it's lifecycle, passing parameter to applet	Learn all about internet computing by applet.
<b>4</b>	Working with graphics	2D shapes, color, font, images	Understand s Java Swings for designing GUI applications based on MVC architecture.
<b>5</b>	Collection and it's hierarchy	Arraylist, linkedlist, queue	Learn all things for collection which used in different data structure.

- **Specify Course Outcome:**

1. To understand importance of Multi-threading & different exception handling mechanisms.
2. To learn experience of designing, implementing, testing, and debugging graphical user interfaces in Java using applet and AWT that respond to different user events.
3. To understand Java Swings for designing GUI applications based on MVC architecture.

- **Specify Program Outcome**

1. Demonstrates how to achieve reusability using inheritance, interfaces and packages and describes faster application development can be achieved.
2. Demonstrate understanding and use of different exception handling mechanisms and concept of multithreading for robust faster and efficient application development.

**Signature of Teacher**

**AGARMORE J.R.**





**Dnyanopasak Shikshan Mandal's**  
**College of Arts, Commerce and Science, Parbhani**

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*Pro-forma for program and course outcomes (2.6.1)*

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**Name of Teacher: Agarmore J.R.**

**Department: Comp. Sci**

**Program: BCA TY SEM VI**

**Subject: Comp. Application**

**Course Code: S5.lab1**

**Paper Title: practical(Adv Java)**

Unit Number	Topics	Unit-wise Outcome
1.	Write a program for demonstration of creating multiple threads.	To develop background knowledge as well as core expertise AWT, Frames, Applet etc. To understand the dynamic web page creation and provide knowledge for creating Dynamic Websites.
2.	. Write a program for demonstration of thread methods.	
3.	Write a program for demonstration of thread synchronization.	
4.	Write a program for demonstration of creating frame and layout managers.	
5.	Write a program for demonstration of using AWT controls.	
6.	Write a program for demonstration of Action Event.	
7.	Write a program for demonstration of creating Applet.	
8.	Write a program for demonstration of passing parameters to Applet.	
9.	Write a program for demonstration of accessing data from database.	
10.	Write a program for demonstration of modifying data from database.	
11.	Write a program for demonstration of ArrayList and LinkedList.	
12.	Write a program for demonstration of creating servlet application.	

13.	Write a program for demonstration of creating jsp application.	
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- **Specify Course Outcome:**

1. To understand how to design, implement, test, debug, and document programs that use basic data types and computation, simple I/O, conditional and control structures, string handling and functions.
2. To understand the importance of Classes & objects along with constructors, Arrays and Vectors.
3. Discuss the principles of inheritance, interface and packages and demonstrate through problem analysis assignments how they relate to the design of methods, abstract classes and interfaces and packages.
4. To understand importance of Multi-threading & different exception handling mechanisms.
5. To learn experience of designing, implementing, testing, and debugging graphical user interfaces in Java using applet and AWT that respond to different user events.
6. To understand Java Swings for designing GUI applications based on MVC architecture.

### **Specify Program Outcome**

5. Implement Object Oriented programming concept using basic syntaxes of control Structures, strings and function for developing skills of logic building activity.
6. Identify classes, objects, members of a class and the relationships among them needed for a finding the solution to specific problem
7. Demonstrates how to achieve reusability using inheritance, interfaces and packages and describes faster application development can be achieved.
8. Demonstrate understanding and use of different exception handling mechanisms and concept of multithreading for robust faster and efficient application development.

### **Signature of Teacher**

**AGARMORE J.R.**



**Dnyanopasak Shikshan Mandal's**

**College of Arts, Commerce and Science, Parbhani**

*Pro-forma for program and course outcomes (2.6.1)*

**Name of Teacher: Shaikh Khaja Jamil Mohiuddin**

**Department: Computer Science**

**Program: BCA TY**

**Subject: COMPUTER APPLICATION**

**Course Code: S5.CC.3**

**Paper Title: Linux and Shell Programming**

<b>Unit Number</b>	<b>Unit Name</b>	<b>Topics</b>	<b>Unit-wise Outcome</b>
<b>UNIT – I</b>	<b>Introduction</b>	Features of Linux OS, Installation steps of Linux, Linux Kernel, Linux Boot loader, Booting process of Linux OS	<b>How to implement Unix operating system.</b>
<b>UNIT – II</b>	<b>Working with Linux OS</b>	Working with the Linux File system, Logging into and working with Linux, Changing User information, Linux Shell, Text Editor in Linux, Working with Permissions	<b>Understanding file systems, permissions as well as Text editor</b>
<b>UNIT – III</b>	<b>Linux Commands and Utilities</b>	Adduser , alias, at ,cat , cd, chmod , chown ,cp, cpio, dd,d f,dc,dir,du,find,finger,grep,zip,unzip,gzip,halt,hostname,ifconfig,kill,l ogin,look, lpc, lpd ,lpr, lprm, ls, mail, man,mde, mkdir,more,mount, mv,netstat,passwd,ping, ps,pwd,rm, rmdir,shutdown,sort, su,tar,tree,moun, umount,unzip,vi,wc, who,whoami,zip.	<b>Study of Linux commands</b>
<b>UNIT - IV</b>	<b>Basic Shell Scripting</b>	Types of shells, Shell functionality, Environment, Writing first script and executing basic script, Variables, Mathematical Expressions.	<b>Understanding Basics of shell programming</b>
<b>UNIT – V</b>	<b>Shell Programming in Linux</b>	Conditional Statements in shell Scripting, Looping Statements in shell Scripting-While,For,Until,	<b>Implement shell program through conditional</b>

		Break and Continue, Logical operators-AND,OR,NOT	<b>statements and control statements.</b>
<b>UNIT – VI</b>	<b>Functions and File Manupulations</b>	Processing File line by line, Functions in Shell, Command line Arguments in shell Scripting, Grep command and patterns	<b>Understanding concepts of Subroutine.</b>

**Specify Course Outcome:** Understanding Basics of Linux Operating System.

**Specify Program Outcome:** Students are able to implement project through this program.

**Signature of Teacher**

SHAIKH KHAJA MOHIUDDIN



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**College of Arts, Commerce and Science, Parbhani**

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*Pro-forma for program and course outcomes (2.6.1)*

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**Name of Teacher:** Shaikh Khaja Jamil Mohiuddin

**Department:** Computer Science

**Program:** BCA TY

**Subject:** COMPUTER APPLICATION

**Course Code:** S5.Lab.2

**Paper Title:** Linux and Shell Programming

Unit Number	Unit Name	Topics	Unit-wise Outcome
		Introduction to Red Hat Linux. Red Hat installation. Simple commands in Linux (files and directory related commands- cat,cp,sort,touch,vi,mkdir,cd,rm ,rmdir, etc...) WAP for Arithmetical operations in Shell Script WAP for conditional Operators WAP for Looping Statements. WAP for Switch Case. WAP for String operations. WAP for File Handling.	<b>Understanding the basic concept of shell programming</b>

**Specify Course Outcome:** Understand the Linux OS architecture.

**Specify Program Outcome:** Awareness of existing demanding trends in IT industry in order to get placement & research.

**Signature of Teacher**



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*Pro-forma for program and course outcomes (2.6.1)*

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**Name of Teacher: Surnar S.B.**

**Department: Computer Application**

**Program: BCATY**

**Subject: Computer Application**

**Course Code: S5.CC.4**

**Paper Title: Project**

<b>Topics</b>	<b>Outcome</b>
<b>Project</b>	This program aims at developing tremendous Computer Skills to the learners. The program will allow Learners to gain knowledge about computers in an "ALL AROUND" fashion; which will include both hardware and software components. The program will develop programming and networking skills of the learners. Learners of the BCA Program will have theoretical as well as practical knowledge and demonstrate application of technical principles in a professional work setting.

**Specify Course Outcome:** : In-depth understanding of various concepts of C language. Ability to read, understand and trace the execution of programs. • Skill to debug a program. • Skill to write program code in C to solve real world problems.

**Specify Program Outcome:** To provide thorough understanding of nature, scope and application of computer and computer languages • To develop interdisciplinary approach among the students

**Signature of Teacher**



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*Pro-forma for program and course outcomes (2.6.1)*

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**Name of Teacher: Mr. Kuptekar Sawankumar Vijay**      **Department: Computer Science**

**Program: B.C.A. TY**      **Subject: Computer Application**      **Course Code: S5.CC.5**

**Paper Title: Cloud Computing**

Unit Number	Unit Name	Topics	Unit-wise Outcome
I	Enterprise computing: a retrospective	Introduction, Mainframe architecture, Client-server architecture, 3-tier architectures with TP monitors	Understanding basics architecture of client server
II	The internet as a platform and Software as a service	Internet technology and web-enabled applications, Web application servers, Internet of services, Emergence of software as a service, Successful SaaS architectures, Dev 2.0 platforms, Cloud computing,	Know all about servers
III	Cloud computing platforms	Infrastructure as a service: Amazon EC2, Platform as a service: Google App Engine , Microsoft Azure	Understating platforms of cloud computing.
IV	Web services, AJAX & mashups	Web services: SOAP and REST, SOAP versus REST, AJAX: asynchronous 'rich' interfaces, Mashups: user interface services	Understanding various web services in cloud computing
V	Data in the cloud	Relational databases, Cloud file systems: GFS and HDFS, BigTable, HBase and Dynamo, Cloud data stores: Datastore and SimpleDB	Know about data in cloud computing
VI	MapReduce and extensions	Parallel computing, The MapReduce model, Parallel efficiency of MapReduce, Relational operations using	Understanding about mapreduce in cloud computing.

		MapReduce, Enterprise batch processing using MapReduce	
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**Specify Course Outcome:** Able to know about cloud computing.

**Specify Program Outcome:**

**Signature of Teacher**





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**College of Arts, Commerce and Science, Parbhani**

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**Pro-forma for program and course outcomes (2.6.1)**  
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**Name of Teacher: Agarmore J.R.**

**Department: Comp. Sci**

**Program: BCA TY SEM VI**

**Subject: comp App**

**Course Code: S5.SEC.1**

**Paper Title: Javascript**

<b>Unit Number</b>	<b>Topics</b>	<b>Unit-wise Outcome</b>
<b>1.</b>	Write a JavaScript program to print "Hello World".	1. Use operators, variables, arrays, control structures, functions and objects in JavaScript. 2. Map HTML using the DOM - Document Object Model. 3. Identify popular JavaScript Libraries. 4. Create dynamic styles. 5. Create animation on a web page.
<b>2.</b>	Write a JavaScript program to perform all arithmetic operations.	
<b>3.</b>	Write a JavaScript program to find out entered number is even or odd.	
<b>4.</b>	Write a menu driven program in JavaScript, which has following options (Use of switch statement). 1. Addition 2. Subtraction	
<b>5.</b>	Write a JavaScript program to display series 1, 2, ..., 10 using while loop	
<b>6.</b>	Write a JavaScript program to display multiplication table of any number entered through the keyboard using do - while loop.	
<b>7.</b>	Write a JavaScript program to find the factorial value of any number entered through the keyboard using for loop.	
<b>8.</b>	Write a JavaScript program to demonstrate concept of global and local variables.	

• **Specify Course Outcome:**

7. Use operators, variables, arrays, control structures, functions and objects in JavaScript.

<b>9.</b>	Write a JavaScript program to demonstrate array methods.	6. Use regular expressions for form validation.
<b>10.</b>	Write a JavaScript program to demonstrate math methods.	
<b>11.</b>	Write a JavaScript program to demonstrate string methods	

8. Map HTML using the DOM - Document Object Model.
9. Identify popular JavaScript Libraries.
10. Create dynamic styles.
11. Create animation on a web page.
12. Use regular expressions for form validation.
13. Debug using firebug.
14. Create an XMLHttpRequest Object

**Specify Program Outcome:**

**Signature of Teacher**

**AGARMORE J.R.**



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**College of Arts, Commerce and Science, Parbhani**

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**Pro-forma for program and course outcomes (2.6.1)**  
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**Name of Teacher: Agarmore J.R.**

**Department: Comp. Sci**

**Program: BCS TY SEM VI**

**Subject: comp science**

**Course Code: S5.SEC.1**

**Paper Title: Javascript**

<b>Unit Number</b>	<b>Topics</b>	<b>Unit-wise Outcome</b>
<b>12.</b>	Write a JavaScript program to print "Hello World".	15. Use operators, variables, arrays, control structures, functions and objects in JavaScript. 16. Map HTML using the DOM - Document Object Model. 17. Identify popular JavaScript Libraries. 18. Create dynamic styles. 19. Create animation on a web page.
<b>13.</b>	Write a JavaScript program to perform all arithmetic operations.	
<b>14.</b>	Write a JavaScript program to find out entered number is even or odd.	
<b>15.</b>	Write a menu driven program in JavaScript, which has following options (Use of switch statement). 1. Addition 2. Subtraction	
<b>16.</b>	Write a JavaScript program to display series 1, 2, ..., 10 using while loop	
<b>17.</b>	Write a JavaScript program to display multiplication table of any number entered through the keyboard using do - while loop.	
<b>18.</b>	Write a JavaScript program to find the factorial value of any number entered through the keyboard using for loop.	
<b>19.</b>	Write a JavaScript program to demonstrate concept of global and local variables.	

• **Specify Course Outcome:**

21. Use operators, variables, arrays, control structures, functions and objects in JavaScript.

<b>20.</b>	Write a JavaScript program to demonstrate array methods.	20. Use regular expressions for form validation.
<b>21.</b>	Write a JavaScript program to demonstrate math methods.	
<b>22.</b>	Write a JavaScript program to demonstrate string methods	

22. Map HTML using the DOM - Document Object Model.

23. Identify popular JavaScript Libraries.

24. Create dynamic styles.

25. Create animation on a web page.

26. Use regular expressions for form validation.

27. Debug using firebug.

28. Create an XMLHttpRequest Object

**Specify Program Outcome:**

**Signature of Teacher**

**AGARMORE J.R.**



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**College of Arts, Commerce and Science, Parbhani**

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*Pro-forma for program and course outcomes (2.6.1)*

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**Name of Teacher: Agarmore J.R.**

**Department: Comp. Sci**

**Program: BCA TY SEM VI**

**Subject: Computer App**

**Course Code: S6.CC.4**

**Paper Title: Soft. Engineering**

Unit Number	Unit Name	Topics	Unit-wise Outcome
1		Evolving role of software, characteristics, application, crisis, horizon and myths	Understand basic information of software
2		Software engineering, process, the waterfall model, incremental model, evolutionary process model, spiral model	Understands different models for software
3		Software engineering-a technology, process framework, personal and team process model, personal , software process technology, product and process	Learn different things required for software
4		What is agility? What is agile process? The politics of agile development, agile process models, feature driven development	Understands agile process
5		Software engineering practice, the essence of practice, core principle, communication, planning practice, modeling, design modeling principles	Understands different practice modeling of software
6		Computer based system, the system engineering hierarchy, system modeling system simulation	Learn hierarchy and modeling of software

**Specify Course Outcome :**

1. Define various software application domains and remember different process model used in software development.
2. Explain needs for software specifications also they can classify different types of software requirements and their gathering techniques.

3. Convert the requirements model into the design model and demonstrate use of software and userinterface design principles.
4. Distinguish among SCM and SQA and can classify different testing strategies and tactics and compare them.
5. Justify role of SDLC in Software Project Development and they can evaluate importance of Software Engineering in PLC.
6. Generate project schedule and can construct, design and develop network diagram for different

**Specify Program Outcome:**

1. Define various software application domains and remember different process model used in software development.
2. Explain needs for software specifications also they can classify different types of software requirements and their gathering techniques.
3. Convert the requirements model into the design model and demonstrate use of software and user interface design principles.
4. Distinguish among SCM and SQA and can classify different testing strategies and tactics and compare them.

**Signature of Teacher**

AGARMORE J.R.



Dnyanopasak Shikshan Mandal's

College of Arts, Commerce and Science, Parbhani

Pro-forma for program and course outcomes (2.6.1)

Name of Teacher: Shaikh Khaja Jamil Mohiuddin

Department: Computer Science

Program: BCA TY

Subject: COMPUTER APPLICATION

Course Code: S6.CC.3

Paper Title: LINUX ADMINISTRATION

Unit Number	Unit Name	Topics	Unit-wise Outcome
UNIT – I	Managing Accounts	Managing User Accounts, Managing Groups, Managing Passwords, Granting System Administrator Privileges to Regular Users, The User Login Process	Understand creation of users and groups. And assigning the permissions to users.
UNIT – II	Managing the File system	Working with the Linux File System, Working with ext3 File system, Other File system, Available to Fedora Core Linux, Creating a File system , Mounting File systems	To configure linux file system so that data can be secure.
UNIT – III	Printing with Fedora	Overview of Fedora Printing Configuring and Managing Print Services Creating and Configuring Local Printers Creating Network Printers Console Print Controls Using the Common UNIX Printing System (CUPS) GUI	Understand and configure printers on unix platform.
UNIT - IV	System Administration	System services and run levels. Controlling services with administrative tools (chkconfig & GUI based services) Performing system maintenance. Managing s/w with RPM Communication commands	Configure various services on different run levels.
UNIT – V	Backup and Restore	Backup strategies and operation. Choosing backup hardware and media Using backup s/w and commands Managing users and groups	Understand backup policy and perform backup of data for recovery purpose.

<b>UNIT – VI</b>	<b>Networking and shell scripting in Linux</b>	Network configuration tools Working with DHCP Using NFS Introduction to SAMBA Introduction to DNS and Apache Web Server Working with shell scripting in Linux.	<b>Understanding networking concepts.</b>
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**Specify Course Outcome:** Awareness of existing demanding trends in IT industry in order to get placement & research in open source code market. Install and use different types of distributions available in market.

**Specify Program Outcome:** In this Program course students are perform administrations of unix, networking etc.

**Signature of Teacher**

SHAIKH KHAJA MOHIUDDIN





**Dnyanopasak Shikshan Mandal's**  
**College of Arts, Commerce and Science, Parbhani**

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*Pro-forma for program and course outcomes (2.6.1)*

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**Name of Teacher:** Shaikh Khaja Jamil Mohiuddin

**Department:** Computer Science

**Program:** BCA TY

**Subject:** COMPUTER APPLICATION

**Course Code:** S6.Lab 1

**Paper Title:** LINUX ADMINISTRATION

Unit Number	Unit Name	Topics	Unit-wise Outcome
		Introduction to Red Hat Linux. Red Hat installation. Simple commands in Linux (files and directory related commands- cat,cp,sort,touch,vi,mkdir,cd,rm ,rmdir, etc...) Administrative commands in Linux (Commands requires root (#) prompt) Communication Commands.(write,wall talk,mesg,prelogin,mesg,motd) Backup and compression commands Networking commands Printing commands DHCP configuration in Linux. Working with shell scripting Any 5 programs on shell scripting.	<b>To understand the basic concept of Linux operating system administration</b>

**Specify Course Outcome:** Understand the Linux OS architecture.

**Specify Program Outcome:** Learn Advance Networking, Testing, System Administration and various Application software.

**Signature of Teacher**

SHAIKH KHAJA MOHIUDDIN



**Dnyanopasak Shikshan Mandal's**  
**College of Arts, Commerce and Science, Parbhani**

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*Pro-forma for program and course outcomes (2.6.1)*

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**Name of Teacher:** Pattewar D.D.

**Department :** Computer Science

**Program :** BCATY

**Subject:** Computer Science

**Course Code:** S6 .CC.5\S6CC.4

**Paper Title: Elective (software testing)**

UnitNumber	UnitName	Topics	Unit-wiseOutcome
Unit 1	Quality concepts	Quality , Software Quality ,McCall's Quality Factors ,ISO 9126 Quality Factors , Targeted Quality Factors,, The Cost of Quality , Quality and Security , Quality Control , Quality Assurance	To learn technical skills to assure production of quality software.
Unit 2	Software Quality Assurance	Software Quality Assurance , Software Reviews ,Formal Technical Reviews ,Software Reliability ,The SQA Plan	To enhance skills of designing and testing software.
Unit 3	SOFTWARE TESTING STRATEGIES	A Strategic Approach to Software Testing , Unit Testing , Integration Testing , Validation Testing , System Testing , The Art Of Debugging	To develop software engineering skills and testing plans
Unit 4	TESTING APPLICATION	Software Testing Fundamentals , Internal and External Views of Testing , ,White-Box Testing , Basic Path Testing ,Control Structural Testing , Black Box Testing	To understand system concepts and its application in Software development

Unit 5	WEBAPPS FOR TESTING	Testing Concepts for WebApps , The Testing Process-An Overview , Content Testing , User interface Testing , Navigation Testing , Security Testing	To understand system concepts and its application in Software development
Unit 6	PRODUCT METRICS	A frame work for product metrics , Metrics for the requirements model , Metrics for design model , Metrics for source code , Metrics for testing	To develop software engineering skills and testing plans

**Specify Course Outcome:** Ability to learn various methods of software development.

**Specify Program Outcome:** Ability to apply various software testing techniques

**Signature of Teacher**



**Dnyanopasak Shikshan Mandal's**  
**College of Arts, Commerce and Science, Parbhani**

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*Pro-forma for program and course outcomes (2.6.1)*

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**Name of Teacher:** Pattewar D.D.

**Department:** Computers science

**Program:** B.C.A. T.Y.

**Subject:** Computer science

**Course Code:** S6.Lab.2

**Paper Title:** Software Testing

Unit Number	Topics	Unit-wise Outcome
1	To study introduction to QTP.	Apply Morden software testing process in relation of software development and project management .
2	To study synchronization in QTP.	
3	To study checkpoints in QTP.	
4	To Study working with regular Expression.	
5	To study test director	

**Specify Course Outcome:** Student learn systematic approach to the development , operation ,maintenance and retirement of software

**Specify Program Outcome :** Student learn how to use method and tools of testing and maintenance of software

**Signature of Teacher**

Pattewar D.D.



**DnyanopasakShikshanMandal's**

**College of Arts, Commerce and Science, Parbhani**

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*Pro-forma for program and course outcomes (2.6.1)*  
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**Name of Teacher:** Taur M.A

**Department:** Computer science

**Program:** Bcs ty

**Subject:** computer science

**Course Code:** S6.SEC.1 (SEC III)

**Paper Title:** Android Programming

Unit Number	Unit Name	Topics	Unit-wise Outcome
UNIT I	Introduction	Installing Eclipse, Installing Android Development Tools for Eclipse, Installing Android Studio	Classify to android
UNIT II	Android Architecture	Android applications structure, creating a project, working with the AndroidManifest.xml, Activities	Classify the Android OS architecture.
UNIT III	UI Architecture	Application context, Intents, Activity life cycle	Classify of user interface architecture of android
UNIT IV	User Interface Widgets	Text controls, Button controls, Toggle buttons, Images, Notification and Toast	classify of user interface widgets
UNIT V	Menus, Dialogs and Animation	Options menu, Context menu, Dialogs, Animation	classify of menu and animation
UNIT VI	Working with data storage and Publishing Apps	Shared preferences, Files access, SQLite database, publishing Apps	calssify of SQL database

**Specify Course Outcome:** Understand the Android application architecture, including the roles of the task stack, activities, & services. Build user interfaces with fragments, views, form widgets, text input, lists, tables, and more.

**Specify Program Outcome:** Creating android app

**Signature of Teacher**

Taur M.A



**Dnyanopasak Shikshan Mandal's**  
**College of Arts, Commerce and Science, Parbhani**

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*Pro-forma for program and course outcomes (2.6.1)*

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**Name of Teacher:** Taur M.A

**Department:** Computer science

**Program:** Bca Ty

**Subject:** computer science

**Course Code:** S6.SEC.1 (SEC III)

**Paper Title:** Android Programming

no	Program	pro Outcome
1	Installing Eclipse and Android Studio	
2	Study of Android Application structure.	
3	Sample Apps for Working with AndroidManifest.xml	
4	Sample Apps for Working with Activities.	Classify ty the Android application architecture, including the roles of the task stack, activities, & services.
5	Sample Apps for Working with Application Context	
6	Apps for Demonstration of Intends	
7	Apps for Demonstration of Activity Life Cycle.	
8	Apps for demonstration of Buttons and Textbox.	
9	Designing simple Calculator Apps	
10	Sample Apps for Working with Images and Buttons	
11	Sample Apps for Working with Notification and Toast.	
12	Sample Apps for Demonstration of Context menu and Dialogs	
13	Sample Apps for Working with SQLite Database.	
14	Sample Apps for Demonstration of File Access.	
15	Sample Apps for Demonstration of Shared preferences and Preferences activity	

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**Specify Course Outcome:** Understand the Android application architecture, including the roles of the task stack, activities, & services. •Build user interfaces with fragments, views, form widgets, text input, lists, tables, and more.

**Specify Program Outcome:** crating android app

**Signature of Teacher**

**Taur M.A**