DEPARTMENT OF COMPUTER SCIENCE

B.C.A. (COMPUTER APPLICATIONS)

(Students admitted during 2019-2020 Onwards)

(Under CBCS with Outcome Based Education (OBE) Pattern)

SYLLABUS

V & VI SEMESTER

GOBI ARTS & SCIENCE COLLEGE

(Govt. Aided Autonomous Co-educational Institution, Affiliated to
Bharathiar University, Coimbatore, Accredited with 'A' Grade by NAAC (4th cycle)
and Recognised as a STAR College by DBT, Government of India)

KARATTADIPALAYAM POST,

GOBICHETTIPALAYAM - 638453

ERODE DISTRICT.

BLOOM'S TAXONOMY BASED ASSESSMENT PATTERN

K1-Remember; **K2**- Understanding; **K3**- Apply; **K4**-Analyze; **K5**- Evaluate

I. END OF SEMESTER (EOS) EXAMINATIONS:

1. Part I, II & III-Theory: 70 Marks

Knowledge Level	Section	Marks	Description	Total
K1	A (Answer All)	15 × 1 = 15	MCQ	70
K2	B (Either or Pattern)	5 × 5 = 25	Short answers	
K3 & K4	C (Answer 3 out of 5)	3 × 10 = 30	Descriptive/Detailed	

2. Practical Examinations: 70 Marks

Knowledge Level	Section		Total
	Practical	Record work	
K3	60	10	70
K4			
K5			

II. CONTINUOUS INTERNAL ASSESSMENT (CIA):

1. Test – I & II: 30 Marks (Theory)

Knowledge Level	Section	Marks	Description	Total
K1	A (Answer All)	10 × 1 = 10	MCQ	30
K2	B (Answer 2 out of 3)	2 × 5 = 10	Short answers	
K3 & K4	C (Answer 1 out of 2)	1 × 10 = 10	Descriptive/Detailed	

2. Practical Internal Assessment: 30 Marks

Knowledge Level	Section		Total
	Test	Lab Performance	
K3	20	10	30
K4			
K5			

Components of Continuous Internal Assessment (CIA)

Components		Calculation	CIA Total
Test 1	30	$\frac{\text{Test 1 + Test 2}}{2}$	30
Test 2	30		

Programme Code:	B.C.A.	Programme Title:	Computer Applications	
Course Code:	20UACA13	Course Title:	Batch:	2020
Total Hours:	60	Python Programming (Common for CS, CA, IT, CT)	Semester:	V
			Credits:	4.5

Course Objective

The course aims

- To learn core Python scripting elements such as variables and flow control structures.
- To acquire programming and Object Oriented Skills in Python.
- To learn file handling concepts and exception handling in Python.

Course Outcomes (CO)

On the successful completion of the course, students will be able to

Knowledge Level	CO Number	Course Outcome
K1, K2, K5	CO1	Explain the basic principles of Python programming language.
K1, K2, K5	CO2	Express different Decision Making statements, Arrays and Strings.
K1, K2, K3, K5	CO3	Describe the Functions, List, Tuples and Dictionaries.
K1, K2, K3, K4, K5	CO4	Implement the concept of Object Oriented Programming.
K1, K2, K3, K4, K5	CO5	Understand and design Interfaces, Exceptions and different File handling operations.

K1 – Remember; K2 – Understanding; K3 – Apply; K4 – Analyze; K5 - Evaluate

SYLLABUS		
Unit	Content	No. of Hours
I	**Introduction to Python:** Python, Features of Python, Execution of Python program, Python Virtual Machine (PVM) **Datatypes in Python:** Comments in Python, DocStrings, How Python sees Variables, Datatypes in Python, Built-in Datatypes, bool Datatype, Sequences in Python, Sets, Literals in Python, Determining the Datatype of a Variable, What about Characters, User-defined Datatypes, Constants in Python, Identifier and Reserved words, Naming Conventions in Python. **Operators in Python, Input and Output.**	12
II	**Control Statements:** Control Statements, The if Statement, A Word on Indentation, The if...else Statement, The if...elif...else Statement, The while Loop, The for Loop, Infinite Loops, Nested Loops, The else Suite, The break Statement, The continue Statement, The pass Statement, The assert Statement, The return Statement, **Arrays in Python:** Array, Advantages of Arrays, Creating an Array, Importing the Array Module, Indexing and Slicing on Arrays, Processing the Arrays, Types of Arrays, **String and Characters:** Creating Strings, Length of a Sting, Indexing in Strings, Slicing the Strings, Repeating the Strings, Concatenation of Strings, Checking Membership, Comparing Strings, Removing spaces from a String, Finding Sub Strings, Counting Substrings in a String, Strings are Immutable, Replacing a String with another String, Splitting and Joining Strings, Changing Case of a String, Checking Starting and Ending of a String, String Testing Methods.	12

III	**Functions:** Difference between a Function and a Method, Defining a Function, Calling a Function, Returning Results from a Function, Returning Multiple Values from a Function, Functions are First Class Objects, Pass by Object Reference, Formal and Actual Arguments, Positional Arguments, Keyword Arguments, Default Arguments, Variable Length Arguments, Local and Global Variables, The Global Keyword, Passing a Group of Elements to a Function, Recursive Functions. **Lists and Tuples, Dictionaries.**	12
IV	**Introduction to OOPs:** Classes and objects- Creating a Class, The self Variable, constructor, Types of Variables, Namespace, Types of Methods, Passing Members of One Class to Another Class, Inner Class. Inheritance and Polymorphism.	12
V	**Abstract classes and Interfaces:** Method and class, Interfaces in Python, Abstract classes Vs Interfaces, Exceptions- Errors in a python programs, Exceptions, Exception Handling, Types of Exceptions, * *Files in python- Files, Types of File in Python, Opening a File, Closing a File, Working with Text Files Containing Strings, Knowing Whether a File Exists or Not, Working with Binary Files, The With Statement, The seek() and tell() Methods, Random Accessing of Binary Files.*	12

<* - ***Self Study***>

Text Book:

Dr. R. Nageswara Rao, *"Core Python Programming"*, Second Edition, Dreamtech Press, 2018. (Unit – I to V)

Reference Books:

1. B. Nagesh Rao, "Learning Python", CyberPlus Infotech Pvt. Ltd., 2016-17.
2. Mike McGrath, *"Python – in easy steps"*, McGraw Hill Education (India) Private Limited, 2013.
3. Ashok Namdev Kamthane, Amit Ashok Kamthane, "Programming and Problem Solving with PYTHON", McGraw Hill Education (India) Private Limited, 2018.
4. Reema Thareja, "Problem Solving and Programming with Python", Oxford University Press, 2018.

E-references:

1. https://www.tutorialspoint.com/python/index.htm
2. https://www.learnpython.org/
3. https://www.geeksforgeeks.org/python-programming-examples/

Mapping with Programme Specific Outcomes

PSO / CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	S	S	S	H
CO2	S	S	S	S	H
CO3	S	S	S	S	H
CO4	S	S	S	S	H
CO5	S	S	S	S	H

S - Strong; **H** - High; **M** - Medium; **L** - Low

Programme Code:	BCA	Programme Title:	Computer Applications	
Course Code:	19UACA14	Course Title:	Batch:	2019
Total Hours:	60	Java Programming (Common for CS,CA, IT, CT)	Semester:	V
			Credits:	4.5

Course Objective

The course aims

- To learn object orient programming fundamentals and the characteristics of Java language.
- To learn the syntax, semantics and use of basic Java programming language constructs.
- To know the syntax and use of utilities, applets, simple graphics methods and image loader.
- To develop stand alone applications and applet programs in Java.

Course Outcomes (CO)

On the successful completion of the course, students will be able to

Knowledge Level	CO Number	Course Outcomes
K1	CO1	Understand the fundamentals of object-oriented Programming and basic constructs of Java such as data types, operators and arrays.
K1, K2, K3	CO2	Understand the syntax and use of control statements, classes and inheritance to write programs.
K2, K1, K3	CO3	Obtain knowledge about concepts, syntax and use of packages, interfaces, threads and exception handling for writing programs.
K1, K2	CO4	Learn the use, syntax and implementation of Java utilities.
K3, K4, K5	CO5	Gain knowledge to develop applications using applets and simple graphics methods.

K1 - Remember; **K2 -** Understanding; **K3 -** Apply; **K4 -** Analyze; **K5 -** Evaluate

SYLLABUS		
Unit	Content	No. of Hours
I	**OBJECT ORIENTED FUNDAMENTALS AND JAVA REVOLUTION:** Object Oriented Programming – Encapsulation – Inheritance – Polymorphism – Java Genesis – Characteristics – Java Programming Techniques – Reserved Words – Identifiers Literals – Operators – Separators – Variables – Types – Arrays – Operator Precedence.	12
II	**FLOW – CONTROL AND CLASSES:** If – Else – Break – Switch – Return Statements – Looping – While – Do While – For – Comma Statements – Continue – Classes – Declaration – Object References – Instance Variables – New Operator – Method Declaration – Method Calling – this Operator Constructors – Methods Overloading – Inheritance – Super Class – Dynamic Method Dispatch – Final Static – Abstract Classes.	12
III	**PACKAGES AND INTERFACES:** Packages – The Package Statement – Import Statement – Interface Statement – Implements Statement – Constructors – String Creation – String Concatenation – Character Extraction – Exception Handling Fundamentals – Types – Uncaught Exceptions – Nested try Statement – The Java thread Model Priorities – Thread API Summary.	12

IV	**UTILITIES AND APPLETS:** Dictionary Class – Hash Tables – String Tokenizer – Runtime – System Class – Comparison – Input and Output – File Directory – **Filename Filter* - *File Streams.*	12
V	**APPLETS:** – HTML Applet Tab – Order of Applet initialization – Sizing Graphics – Simple Graphics Method – Draw line – Draw Arc – Font Manipulation – Simple Image Loader – **Image Observer – Summary.*	12

<* - *Self study*>

Text Book:

1. Partick Naughton (1996), "The Java Hand Book", Tata McGraw Hill Pvt. Ltd.

Reference Books:

1. E Balagurusamy (2015), Programming with Java A Primer", 5th edition, McGraw Hill Publisher (India).
2. C. Muthu (2008), "Programming with Java", Second edition, Tata McGraw Hill Pvt. Ltd (India).
3. R. Krishnamoorty, S. Prabhu (2006), "Internet and Java programming", New Age International Pvt. Ltd.

E-references:

1. https://www.edureka.co/blog/java-tutorial/
2. https://www.tutorialspoint.com/java/java_basic_syntax.htm
3. https://www.geeksforgeeks.org/java-applet-basics/

Mapping with Programme Specific Outcomes

PSO / CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	H	L	H	H	M
CO2	H	M	S	H	S
CO3	S	M	S	H	S
CO4	S	H	S	M	H
CO5	S	H	S	H	S

S - Strong; **H -** High; **M -** Medium; **L -** Low

Programme Code:	BCA	Programme Title :	Computer Applications	
Course Code:	19UACA15	Course Title:	Batch:	2019
Total Hours	60	System Analysis and Design	Semester:	V
			Credits:	4.5

Course Objective

The course aim

- To educate students about software design concept.
- To design and develop a software system.
- To know about testing and security measures.

Course Outcomes (CO)

On the successful completion of the course, students will be able to

Knowledge Level	CO Number	Course Outcome
K1, K2	CO1	Gain good understanding of System development life cycle and the roles of a System analyst
K1, K2, K4	CO2	Get knowledge about system planning and information gathering tools and structured analysis tools and cost & benefit analysis.
K1, K2, K3	CO3	Able to describe the stages of system design and forms design.
K1, K2, K3	CO4	Demonstrate the concept of activity network.
K1, K2, K3	CO5	Explore about implementation and maintenance of software.

K1 - Remember; **K2 -** Understanding; **K3 -** Apply; **K4 -** Analyze; **K5 –** Evaluate

SYLLABUS		
Unit	**Content**	**No. of Hours**
I	Characteristics of a system – Elements of a system – The system development life cycle, Recognition of need – Feasibility study – Analysis – Design – Implementation – Post Implementation – Maintenance – Prototyping – Multifaceted role of systems analyst.	12
II	System planning and initial investigation – Dimensions of Planning – Needs identification – Determining the use's formation requirements – Problem definition and Project initiation – Fact and Background analysis – Kinds of information procedure – information gathering tools. Structured Analysis: Structured analysis tools – DFD – Data dictionary – Decision tree and Tables, Feasibility Study: System Performance definition – Feasibility consideration – Steps in feasibility analysis – Feasibility report, Cost Benefit analysis: Categories and procedures.	12
III	Process and stages of system design – Logical and Physical design – structured design – HIPO AND IPO charts – Audit consideration- Input/output design. Forms design: Form classification – requirements of form – Copy types – Layout considerations.	12

IV	System testing: Need of system testing – Activity network. Quality assurance goals – ***Audit trail**** – Activity network for conversion – Role of DP auditor.	12
V	Post implementation review – *S*oftware maintenance – Maintenance cost – ***System Security**** – Threats of security – Control measures – Disaster / Ethics in system development.	12

< - Self study>*

Text Book:

1. Elias H.Awad, "*System Analysis and Design*", Galgotia publication, second edition, 2002

Reference Books:

1. Jeffrey A. Hoffer, "*Modern Systems Analysis And Design*", Pearson Education, Fourth Edition, 2008.
2. Alan Dennis, Barbara Haley Wixom, Roberta M-Roth, "*Systems Analysis and Design*", Wiley publications, 4th edition, 2010.
3. Kendall, "*Systems Analysis and Design*", PHP publications, 7th Edition, 2008.

E-References:

1. https://www.w3computing.com/systemsanalysis/
2. https://www.tutorialspoint.com/system_analysis_and_design/system_analysis_and_design_quick_guide.htm
3. https://www.slideshare.net/aamir_libr/system-analysis-and-design-14843784

Mapping with Programme Specific Outcomes

CO \ PSO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	H	S	S	M
CO2	S	S	H	H	H
CO3	S	H	M	S	H
CO4	H	S	H	M	M
CO5	S	M	S	H	S

S - Strong; **H -** High; **M -** Medium; **L -** Low

Programme Code:	BCA	Programme Title:	Computer Applications	
Course Code:	19UACA16	Course Title:	Batch:	2019
Total Hours:	60	Computer Networks (Common for CS, BCA, IT, CT)	Semester:	V
			Credits:	4.5

Course Objective

The course aims

- To acquire basic knowledge in networking environments and its applications in the area of business and others.
- To learn about how to use network software and hardware with network environment.
- To learn about networks layers.
- To learn about network protocol and internet using networks.

Course Outcomes (CO)

On the successful completion of the course, students will be able to

Knowledge Level	CO Number	Course Outcome
K2, K4	CO1	Understand the basics knowledge about computer networks and public switched telephone networks.
K2, K3	CO2	Understand the fundamentals of elementary data link protocol and sliding window protocols.
K1, K2, K3, K5	CO3	Know about various operations of algorithms in networks.
K2, K3, K4	CO4	Learn about various types of protocol and layers.
K2, K4, K5	CO5	Acquire knowledge about computer networks domain name system and electronic mail using internet.

K1 - Remember; **K2 -** Understanding; **K3 -** Apply; **K4 -** Analyze; **K5 –** Evaluate

	SYLLABUS	
Unit	Content	No. of Hours
I	**INTRODUCTION** – Uses of Computer Networks – Network Hardware – Network software – Reference models –PHYSICAL LAYER – Guided transmission media, the Public switched telephone network.	12
II	**DATA LINK LAYER –** Data link layer design Issues – Elementary data link protocols – Sliding window protocols.	12
III	**NETWORK LAYER –** Network layer design issues – Routing algorithms – Congestion control algorithms.	12
IV	**TRANSPORT LAYER –** ***The transport service**** – Elements of transport protocols – The internet transport protocols: UDP	12
V	**THE APPLICATION LAYER –** Domain Name System – ***Electronic Mail**** – The World Wide Web.	12

< - Self study>*

Text Book:

1. Andrew S. Tanenbaum, "*Computer Networks*", Fourth Edition, Prentice Hall of India, 2007. [UNITS I – V]

Reference Books:

1. Larry l.Peterson & Bruce S.Davie *"Computer Networks a Systems Approach"*, Fourth Edition, Elsevier, 2007.
2. Douglas E.Comer, *"Computer Networks and Internets"*, Fourth Edition, Pearson Education, 2004.
3. William Stallings, *"Computer Networking with Internet Protocols and Technology"*, First Impression, Pearson Education, 2007.
4. Uyless Black, *"Computer Networks"*, Second Edition, PHI learning private limited, 2010.

E-References:

1. https://www.geeksforgeeks.org/computer-network-tutorials
2. https://www.tutorialspoint.com/data_communication_computer_network/index.html
3. https://www.softwaretestinghelp.com/computer-networking-basics

Mapping with Programme Specific Outcomes

CO \ PSO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	H	H	M	H
CO2	H	H	S	H	S
CO3	S	S	M	M	M
CO4	H	S	H	M	S
CO5	H	S	H	S	M

S - Strong; **H -** High; **M -** Medium; **L -** Low

Programme Code:	BCA	Programme Title	Computer Applications	
Course Code:	19UACAP7	Course Title:	Batch:	2019
Total Hours:	60	Major Core Programming Lab - VII: (Java Programming) (Common for CS,CA, IT, CT)	Semester:	V
			Credits:	2.5

Course Objective

The course aims

- To gain knowledge about basic Java language syntax and semantics to write Java programs.
- To write programs for the concepts of object oriented programming include classes, inheritance, packages, interfaces and exception handling and applet programming.

Course Outcomes (CO)

On the successful completion of the course, students will be able to

Knowledge Level	CO Number	Course Outcome
K1, K2, K5	CO1	Write programs using simple data types.
K1, K2, K5	CO2	Write programs using classes, control statements, arrays and strings.
K1, K2, K3, K5	CO3	Write programs using inheritance, interface and exception handling.
K1, K2, K3, K4, K5	CO4	Write programs for thread creation and implementation.
K3, K4, K5	CO5	Write programs for utilities and applets.

K1 - Remember; **K2 -** Understanding; **K3 -** Apply; **K4 -** Analyze; **K5 -** Evaluate

SYLLABUS

1. Write a java program to find the number of odd, even and prime numbers.
2. Write a java program to display Floyd's triangle upto the given limit.
3. Write a java program to (i) display the number in reverse order (ii) find the sum of the digits.
4. Write a java program to count the number of vowels in the given string.
5. Write a java program to arrange the given set of names in alphabetical order.
6. Write a java program to find matrix multiplication for the given numbers.
7. Write a java program to perform arithmetic and scientific operations.
8. Write a java program to perform stack operation using Interface.
9. Write a java program to display any two subject marks and sports marks of the student and find the total marks using Interface.
10. Write a java program to handle different Exceptions.
11. Write a java program for i) assigning thread priority ii) executing thread methods yield(), stop() and sleep().
12. Write a java program for traffic light simulation using Applet.
13. Write a java program to display digital clock using Applet.
14. Write a java program to display different fonts using Applet.
15. Write a java program using File to get the string and display it using Byte stream classes.

Text Book:

1. Partick Naughton (1996), “The Java Hand Book”, Tata McGraw Hill Pvt. Ltd.

Reference Books:

1. E Balagurusamy (2015), Programming with Java A Primer”, 5th edition, McGraw Hill Publisher (India).
2. C. Muthu (2008), “Programming with Java”, Second edition, Tata McGraw Hill Pvt. Ltd (India).
3. R. Krishnamoorty, S. Prabhu (2006), “Internet and Java programming”, New Age International Pvt. Ltd.

E-References:

1. https://www.edureka.co/blog/java-tutorial/
2. https://www.tutorialspoint.com/java/java_basic_syntax.htm
3. https://www.geeksforgeeks.org/java-applet-basics/

Mapping with Programme Specific Outcomes

PSO / CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	H	L	H	H	M
CO2	H	M	S	H	S
CO3	S	M	S	H	S
CO4	S	H	S	M	H
CO5	S	H	S	H	S

S - Strong; **H -** High; **M -** Medium; **L -** Low

Programme Code:	B.C.A.	Programme Title:	Computer Applications	
Course Code:	20UACAP8	Course Title:	Batch:	2020
Total Hours:	60	Programming Lab – VIII: (Python Programming) (Common for CS, CA, IT, CT)	Semester:	V
			Credits:	2.5

Course Objective

The course aims

- To learn core Python scripting elements such as variables and flow control structures.
- To acquire programming and Object Oriented Skills in Python.
- To learn file handling concepts and exception handling in Python.

Course Outcomes (CO)

On the successful completion of the course, students will be able to

Knowledge Level	CO Number	Course Outcome
K1, K2, K5	CO1	Explain the basic principles of Python programming language.
K1, K2, K5	CO2	Express different Decision Making statements, Arrays and Strings.
K1, K2, K3, K5	CO3	Describe the Functions, List, Tuples and Dictionaries.
K1, K2, K3, K4, K5	CO4	Implement the concept of Object Oriented Programming.
K1, K2, K3, K4, K5	CO5	Understand and design Interfaces, Exceptions and different File handling operations.

K1 – Remember; **K2** – Understanding; **K3** – Apply; **K4** – Analyze; **K5** - Evaluate

SYLLABUS
1. Write a Python program to print prime numbers. 2. Write a Python program to check the given string is palindrome or not. 3. Write a Python program to print fibonacci series. 4. Write a Python program to find the factorial value for a given number using recursive function. 5. Write a Python program to count the total number of vowels, consonants and words in a text sentence. 6. Write a Python program to perform stack operations using list. 7. Write a Python program to perform queue operations using list. 8. Write a Python program to perform built in functions of list manipulation. 9. Write a Python program to create a file. 10. Write a Python program to read and display file content. 11. Write a Python program to print the calendar. 12. Write a Python program to display student details using simple class. 13. Write a Python program to implement the concept of constructor. 14. Write a Python program to perform operator overloading. 15. Write a Python program to implement the concept of single inheritance.

Text Book:

Dr. R. Nageswara Rao, *"Core Python Programming"*, Second Edition, Dreamtech Press, 2018. (Unit – I to V)

Reference Books:

1. B. Nagesh Rao, "Learning Python", CyberPlus Infotech Pvt. Ltd., 2016-17.
2. Mike McGrath, *"Python – in easy steps"*, McGraw Hill Education (India) Private Limited, 2013.
3. Ashok Namdev Kamthane, Amit Ashok Kamthane, "Programming and Problem Solving with PYTHON", McGraw Hill Education (India) Private Limited, 2018.
4. Reema Thareja, "Problem Solving and Programming with Python", Oxford University Press, 2018.

E-references:

1. https://www.tutorialspoint.com/python/index.htm
2. https://www.learnpython.org/
3. https://www.geeksforgeeks.org/python-programming-examples/

Mapping with Programme Specific Outcomes

PSO / CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	S	S	S	H
CO2	S	S	S	S	H
CO3	S	S	S	S	H
CO4	S	S	S	S	H
CO5	S	S	S	S	H

S-Strong; **H**-High; **M**- Medium; **L**-Low

Total Hours:	90	Web Design (Common for CS, BCA, IT, CT)	**Semester:**	VI
			Credits:	4.5

Course Objective

The course aims

- To learn the syntax, semantics and applications of web design languages which include HTML, JAVASCRIPT and DHTML.
- To learn the syntax and use of XML documents.
- To develop static and dynamic websites.

Course Outcomes (CO)

On the successful completion of the course, students will be able to

Knowledge Level	CO Number	Course Outcome
K1, K2, K3, K5	CO1	Obtain knowledge to create website using the various elements of HTML which include text, list, table, image, hyperlink and form tags.
K1, K2, K3, K4	CO2	Develop a website using the programming constructs of JavaScript.
K2, K3, K4	CO3	Gain knowledge about Form, String, Math & Date objects, User defined objects of JavaScript.
K2, K3, K4	CO4	Create dynamic and attractive WebPages using CSS properties of dynamic HTML.
K1, K2, K3, K5	CO5	Gain knowledge about XML for describing data using DTD, CSS and XSL style sheets.

K1 – Remember; **K2** – Understanding; **K3** – Apply; **K4** – Analyze; **K5** – Evaluate

SYLLABUS		
Unit	**Content**	**No. of Hours**
I	INTRODUCTION TO HTML - Hyper Text Markup Language, HTML Tags, Structure of HTML program, Titles and Footers, Text Formatting, Heading Styles, Text styles and other text effects. Lists - Adding Graphics to HTML documents - Tables - Linking documents - Frames - Forms - Sample programs.	18
II	INTRODUCTION TO JAVASCRIPT - JavaScript in web pages, Advantages of Java script, Writing Java script into HTML, Basic Programming Techniques, Operators and expressions in Java script, Java Programming Constructs, Condition Checking, ***Loops****, Built-in and User Defined Functions, Placing text in a Browser, Dialog boxes - Sample programs.	18
III	THE FORM OBJECT - Methods, Properties & methods of Form elements, Text, Password, Button, Submit, Reset, Checkbox, Radio, TextArea, Select & Option elements. Built-in objects in JavaScript - String, Math & Date objects. User defined objects- creating a user defined object, Instances, Objects within Objects.	18
IV	DYNAMIC HTML - Cascading Style Sheets (CSS) - ***Font attributes****, Color and background attributes, Text attributes, Border attributes, Margin attributes, List attributes - Class - using the <SPAN> tag-External style sheets - using the	18

	<DIV> tag - Sample programs.	
V	INTRODUCTION TO XML – Introduction, XML Fundamentals, Document Type Definitions, XML Parsers, Entities. Document Type Definitions (DTD) – Internal DTD, External DTD, Element declarations, Attributes, Creating Attribute Lists, DTD symbols, Entities. XML Style Sheets (XSL) – Introduction, Cascading Style Sheets, eXtensible Style Sheet Language (XSL), Presenting Data in the Tabular Format. Sample programs.	18

< - Self study>*

Text Books:

1. Ivan Bayross, "*Web Enabled Commercial Application Development Using HTML, JavaScript, DHTML and PHP*", 4th Revised Edition, BPB Publications, 2010. **[UNITS – I, II, III, IV]**
2. A.K.Saini and Sumit Tuli, "*Mastering XML*", First Edition, EXCEL BOOKS Pvt. Ltd., 2002. **[UNIT V]**

Reference Books:

1. Ravinder Singh, Amit Gupta, "*Magic with HTML, DHTML & JAVASCRIPT*", First Edition, University Science Press, 2009.
2. C. Xavier, "*World Wide Web Design with HTML*", 13th Reprint, Tata McGraw Hill Education Pvt. Ltd., 2010.
3. *Ann* Navarro, chuck White, "*Mastering XML*", First Indian Edition, BPB Publications, 2000.

E-References:

1. https://www.w3schools.com
2. https://www.tutorialspoint.com/xml/xml_overview.htm
3. https://www.javapoint.com/javascript-tutorial

Mapping with Programme Specific Outcomes

PSO / CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	H	M	H	H	M
CO2	H	M	S	H	S
CO3	S	M	H	M	S
CO4	H	H	S	H	M
CO5	S	H	M	H	S

S - Strong; **H** - High; **M** - Medium; **L** - Low

Programme Code:	BCA	Programme Title:	Computer Applications	
Course Code:	19UACAP9	Course Title:	Batch:	2019
Total Hours:	60	Major Core Programming Lab - IX : (Web Design)	Semester:	VI
			Credits:	2.5

Course Objective

The course aims

- To learn the syntax, semantics and applications of web design languages which include HTML, JAVASCRIPT and DHTML.
- To learn the syntax and use of XML documents.
- To develop static and dynamic websites.

Course Outcomes (CO)

On the successful completion of the course, students will be able to

Knowledge Level	CO Number	Course Outcome
K1, K2, K3, K5	CO1	Obtain knowledge to create website using the various elements of HTML which include text, list, table, image, hyperlink and form tags.
K1, K2, K3, K4	CO2	Develop a website using the programming constructs of JavaScript.
K2, K3, K4	CO3	Gain knowledge about Form, String, Math & Date objects, User defined objects of JavaScript.
K2, K3, K4	CO4	Create dynamic and attractive WebPages using CSS properties of dynamic HTML.
K1, K2, K3, K5	CO5	Gain knowledge about XML for describing data using DTD, CSS and XSL style sheets.

K1– Remember; **K2**– Understanding; **K3** – Apply; **K4**– Analyze; **K5** – Evaluate

S. No.	SYLLABUS (60 Hours)
	HTML
1	Write a HTML program to design an invitation card using text level tags.
2	Write a HTML program to display transfer certificate application form using list tag.
3	Write a HTML program to display a student mark sheet using table tag.
4	Write a HTML program to design Gobi Arts & Science College website using hyperlinks.
5	Write a HTML program to design a website for product advertisement using frames.
6	Write a HTML program to design student Bio-data using forms tag.
	JAVASCRIPT
7	Write a JavaScript program to display stars based on the user input.
8	Write a JavaScript program to ask a question & accept an answer using Dialog Boxes.
9	Write a JavaScript program to display Current Date and Time.
	DHTML
10	Write a DHTML program to design a webpage for super market offers using Internal Style Sheet.
11	Write a DHTML program to design a web page for company profile using External Style Sheet.
12	Write a DHTML program to display dynamic content based on the mouse place operations.

	XML
13	Write a XML program to display bank details using XSL style sheet.
14	Write a XML program to display employee details using CSS style sheet.
15	Write a XML program to display book details using CSS style sheet.

Text Books:

1. Ivan Bayross, "*Web Enabled Commercial Application Development Using HTML, JavaScript, DHTML and PHP*", 4th Revised Edition, BPB Publications, 2010. **[UNITS – I, II, III, IV]**
2. A.K.Saini and Sumit Tuli, "*Mastering XML*", First Edition, EXCEL BOOKS Pvt. Ltd., 2002. **[UNIT V]**

Reference Books:

1. Ravinder Singh, Amit Gupta, "*Magic with HTML, DHTML & JAVASCRIPT*", First Edition, University Science Press, 2009.
2. C. Xavier, "*World Wide Web Design with HTML*", 13th Reprint, Tata McGraw Hill Education Pvt. Ltd., 2010.
3. *Ann* Navarro, chuck White, "*Mastering XML*", First Indian Edition, BPB Publications, 2000.

E-references:

1. https://www.w3schools.com
2. https://www.tutorialspoint.com/xml/xml_overview.htm
3. https://www.javapoint.com/javascript-tutorial

Mapping with Programme Specific Outcomes

PSO / CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	H	M	H	H	M
CO2	H	M	S	H	S
CO3	S	M	H	M	S
CO4	H	H	S	H	M
CO5	S	H	M	H	S

S - Strong; **H -** High; **M -** Medium; **L -** Low

Programme Code:	BCA	Programme Title:	Computer Applications	
Course Code:	19UECA01	Course Title:	Batch:	2019
Total Hours:	90	Major Skill Based Paper: Computer Graphics (Common for CS, BCA, IT and CT)	Semester:	VI
			Credits:	4.5

Course Objective

The course aims

- To provide comprehensive introduction about computer graphics system.
- To design algorithms and two dimensional transformations.
- To facilitate the students elaborately know about computer graphics techniques in C programming.
- To implement the computer graphics techniques to solve the variety of graphics problems.

Course Outcomes (CO)

On the successful completion of the course, students will be able to

Knowledge Level	CO Number	Course Outcome
K1, K2	CO1	Design algorithms and two dimensional transformations.
K1, K2, K3, K5	CO2	Familiar with techniques of clipping, three dimensional graphics and three dimensional transformations.
K1, K2, K3	CO3	Actively involving in design, development and testing of modelling, rendering, shading and animation.
K1, K2, K4, K5	CO4	Implement various graphics drawing algorithms, 2D-3D transformations and clipping techniques.
K2, K4	CO5	Practical knowledge about color modelling and its application procedures.

K1 – Remember; K2 – Understanding; K3 – Apply; K4 – Analyse; K5 - Evaluate

	SYLLABUS	
Unit	Content	No. of Hours
I	**Overview Of Graphics Systems**: Video Display Devices – Input Devices. **Output Primitives**: Points & Lines – Line Drawing Algorithm – DDA Algorithm – Bresenham's Line Algorithm – Circle Generating Algorithms.	18
II	**Two Dimensional Geometric Transformations:** Basic Transformations - Matrix Representations & Homogeneous Co-ordinates - Composite Transformations: Translations, Rotations, Scalings – General Pivot-Point Rotation, Fixed Point Scaling - Reflection and Shear Transformations. **Two Dimensional Viewing:** The Viewing Pipeline – Window to Viewport Coordinate Transformation. Clipping Operations – Point Clipping – Line Clipping – Cohen-Sutherland Line Clipping – **Polygon Clipping**: Sutherland-Hodgeman Polygon – Curve Clipping – Text Clipping – Exterior Clipping. Interactive Picture Construction Techniques.	18

III	**Three Dimensional Concepts:** Three Dimensional Display Methods. Three Dimensional Object Representations: Polygon Surfaces - Curved Lines and Surfaces. **Three Dimensional Geometric And Modelling Transformations**: Translation – Rotation – Coordinate Axes Rotations – General Three Dimensional Rotations – Scaling - Reflection and Shear Transformations.	18
IV	**Visible-Surface Detection Methods**: Classification of Visible-Surface Detection Algorithm – Back-Face Detection – Depth-Buffer Method - Scan-Line Method - Depth-Sorting Method - Area-Subdivision Method - Octree Method - ***Curved Surfaces****.	18
V	**Color Models And Color Applications:** Properties of Light - Standard Primaries and the Chromaticity diagram - Intuitive Color Concepts - RGB Color Model – YIQ Color Model – ***CMY Color Model**** - HSV Color Model – HLS Color Model.	18

< - Self Study>*

Text Book:

1. Donald Hearn & M. Pauline Baker, "*Computer Graphics*", Second Edition, Prentice Hall of India, 2003.

Reference Books:

1. Roy A.Plastock, Gorden Kalley, "*Theory & Problems of Computer Graphics*", Schaum's Outline Series, 1987.
2. R.K.Chauvan, Abhishek Taneja,"*Computer graphics & Multimedia* ", Galgotia Publications Pvt Ltd,2009.
3. D.P.Mukherjee, Debasish Jana, "*Computer Graphics Algorithms and Implementations",* PHI Learning Private Ltd, 2010.
4. Edward Angel, "*Interactive Computer Graphics – A Top Down Approach using OpenGL*", 5th Edition, Pearson Publications, 2013.

E-references:

1. https://www.tutorialspoint.com/computer_graphics/index.htm
2. https://www.javatpoint.com/computer-graphics-tutorial
3. https://www.programmingsimplified.com/c-graphics-programming-tutorial

Mapping with Program Specific Outcomes

PSO / CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	H	H	H	M
CO2	S	S	H	S	S
CO3	H	H	S	S	H
CO4	H	M	S	S	H
CO5	S	M	H	M	H

S - Strong; **H -** High; **M -** Medium; **L -** Low

Programme Code:	BCA	Programme Title:	Computer Applications	
Course Code:	19UECAP1	Course Title:	Batch:	2019
Total Hours:	60	Major Skill Based Practical : Programming Lab - X : (Computer Graphics)	Semester:	VI
			Credits:	2.5

Course Objective

The course aims

- To provide comprehensive introduction about computer graphics system.
- To design algorithms and two dimensional transformations.
- To facilitate the students elaborately know about computer graphics techniques in C programming.
- To implement the computer graphics techniques to solve the variety of graphics problems.

Course Outcomes (CO)

On the successful completion of the course, students will be able to

Knowledge Level	CO Number	Course Outcome
K1, K2	CO1	Design algorithms and two dimensional transformations.
K1, K2, K3, K5	CO2	Familiar with techniques of clipping, three dimensional graphics and three dimensional transformations.
K1, K2, K3	CO3	Actively involving in design, development and testing of modelling, rendering, shading and animation.
K1, K2, K4, K5	CO4	Implement various graphics drawing algorithms, 2D-3D transformations and clipping techniques.
K2, K4	CO5	Practical knowledge about color modelling and its application procedures.

K1– Remember; **K2**– Understanding; **K3** – Apply; **K4**– Analyze; **K5**– Evaluate

S. No.	SYLLABUS
1 2 3	Write a C program to plot a Line using DDA Line Drawing Algorithm. Write a C program to plot a Line using Bresenham's Line Drawing Algorithm. Write a C program to plot a Circle using Bresenham's Circle Drawing Algorithm.
4 5 6	Write a C program to plot a Circle using Mid-Point Circle Drawing Algorithm. Write a C program to display a Man Walking using Stick Simulation. Write a C program to Clip a Line Using Line Clipping Algorithm.
7 8 9	Write a C program for Flag Hoisting. Write a C program for Text Animation. Write a C program to display different shapes.
10 11 12	Write a C program for Eye Blinking. Write a C program to display a Chess Board. Write a C program to display a Clock.
13 14 15	Write a C program for 2D Translation. Write a C program for 2D Rotation about fixed point. Write a C program for 2D Scaling about fixed point.

Text Book:

1. Donald Hearn & M. Pauline Baker, "*Computer Graphics*", Second Edition, Prentice Hall of India, 2003.

Reference Books:

1. Roy A.Plastock, Gorden Kalley, "*Theory & Problems of Computer Graphics*", Schaum's Outline Series, 1987.
2. R.K.Chauvan, Abhishek Taneja, "*Computer graphics & Multimedia*", Galgotia Publications Pvt Ltd, 2009.
3. D.P.Mukherjee, Debasish Jana, "*Computer Graphics Algorithms and Implementations*", PHI Learning Private Ltd, 2010.
4. Edward Angel, "*Interactive Computer Graphics – A Top Down Approach using OpenGL*", 5th Edition, Pearson Publications, 2013.

E-references:

1. https://www.tutorialspoint.com/computer_graphics/index.htm
2. https://www.javatpoint.com/computer-graphics-tutorial
3. https://www.programmingsimplified.com/c-graphics-programming-tutorial

Mapping with Programme Specific Outcomes

PSO / CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	H	H	H	M
CO2	S	S	H	S	S
CO3	H	H	S	S	H
CO4	H	M	S	S	H
CO5	S	M	H	M	H

S - Strong; **H -** High; **M -** Medium; **L -** Low

Programme Code:	B.C.A.	Programme Title:	Computer Applications	
Course Code:	19UACA18	Course Title:	Batch:	2019
Total Hours:	90	Programming with PHP (Common for CS, BCA, IT, CT)	Semester:	VI
			Credits:	4.5

Course Objective

The course aims

- To understand the syntax and semantics of the PHP Scripts and MYSQL Database.
- To develop and implement various types of dynamic web pages in the PHP Scripts.
- To apply the PHP Scripts in the appropriate applications.

Course Outcomes (CO)

On the successful completion of the course, students will be able to

Knowledge Level	CO Number	Course Outcome
K1, K2	CO1	Remember the PHP Scripts along with MySQL and understand the components of PHP and various operators.
K2, K3, K5	CO2	Understand the various techniques of scripts, functions and how it is implemented in website developing.
K2	CO3	Working with Date and Time functions in PHP and also investigate the object and String functions.
K2, K3, K5	CO4	Be aware of the dynamic web page with HTML Forms and PHP Script.
K2, K3, K4	CO5	Know about the Files, directories and creating and using Images in PHP Scripts.

K1 - Remember; **K2 -** Understanding; **K3 -** Apply; **K4 -** Analyze; **K5 –** Evaluate

SYLLABUS		
Unit	**Content**	**No. of Hours**
I	Introduction of PHP: What is PHP? Advantages of PHP –**PHP Language structure:** The Building blocks of PHP – Variables – Data types – type casting – Operator and Expressions – Constants - **Introduction to MYSQL:** Data types – table creation - insert, select, replace, update and delete commands – using where in your Queries.	**18**
II	**Flow control function in PHP:** Switching Flow–***Loops****–code block and browser output. **Working with Arrays:** Array definition-Creating Arrays–Array Related Functions–**Working with Function:** Definition-Calling functions-Defining a function-returning values from user defined functions-variable scope-static statement-more about arguments-testing for existence of a function.	**18**
III	**Working with Strings, Date and Time:** Formatting strings with PHP – Investigating strings in PHP – Manipulating strings with PHP – using Date and Time functions– **Working with objects:** Creating an object – properties of object – object methods – constructors - Object Inheritance.	**18**
IV	**Working with forms:** ***Creating a simple input form**** – Accessing form – combining HTML and PHP code on a single page – using hidden fields to save state – redirecting the user – sending mail on form submission -	**18**

	working with file uploads – **Working with cookies and user sessions:** Introducing cookies – setting a cookies– Deleting a cookie – session function – starting a session - working with session variables – passing session IDs - Destroying sessions and unsetting variables.	
V	**Working with files and Directories:** Including files with include() – validating files - Creating and Deleting file – opening a file for writing, reading and appending – reading from files – Writing or appending to a file - working with directories - Opening pipes to and from processes using popen()- Running commands with exec(), system() or passthru() – **Working with images:** Image creation process – Drawing a new image – Creading pie charts - modifying existing images – using images created by scripts.	**18**

<* - ***Self Study***>

Text Book:

1. Julie C.Meloni, "*PHP, MYSQL and Apache*", Dorling Kindersley (India) Pvt. Ltd., 2005.

Reference Books:

1. Jeremy Allen & Charless Hornberger "*PHP, Apache, Mysql, Web development*", Wiley Publications, First Edition, 2006.
2. Vikram Vaswani, "*A Beginner's Guide PHP*" ,Tata McGraw Hill Education Pvt. Ltd., Fourth Edition, 2005.
3. Steven Holzner, "*PHP: The Complete Reference*", Tata McGraw Hill Education Pvt. Ltd., First Edition, 2008.
4. Sheldon Moes, "*Beginning MYSQL*", Wiley Publications, Fourth Edition, 2005.

E-references:

1. https://www.www3.com
2. http://www.spoken-tutorial.org
3. https://www.studytonight.com

Mapping with Programme Specific Outcomes

PSO / CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	H	L	M	S
CO2	S	S	M	M	L
CO3	H	S	H	H	H
CO4	S	S	S	S	M
CO5	S	S	M	S	H

S - Strong; **H -** High; **M -** Medium; **L -** Low

Programme Code:	BCA	Programme Title:	Computer Applications	
Course Code:	19UACAPA	Course Title:	Batch:	2019
Total Hours:	60	Programming Lab – XI: (PHP) (Common for CS, BCA, IT, CT)	Semester:	VI
			Credits:	2.5

Course Objective

The course aims

- To understand the syntax and semantics of the PHP Scripts and MYSQL Database.
- To develop and implement various types of dynamic web pages in the PHP Scripts.
- To apply the PHP Scripts in the appropriate applications.

Course Outcomes (CO)

On the successful completion of the course, students will be able to

Knowledge Level	CO Number	Course Outcome
K1, K2	CO1	Remember the PHP Scripts along with MySQL and understand the components of PHP and various operators.
K2, K3, K5	CO2	Understand the various techniques of scripts, functions and how it is implemented in website developing.
K2	CO3	Working with Date and Time functions in PHP and also investigate the object and String functions.
K2, K3, K5	CO4	Be aware of the dynamic web page with HTML Forms and PHP Script.
K2, K3, K4	CO5	Know about the Files, directories and creating and using Images in PHP Scripts.

K1– Remember; **K2**– Understanding; **K3** – Apply; **K4**– Analyze; **K5**– Evaluate

S. No.	SYLLABUS
1 2 3	Write a PHP program to validate the text box. Write a PHP program to draw different shapes. Write a PHP program to perform the string manipulation.
4 5 6	Write a PHP program to perform the file uploading. Write a PHP program to perform the user registration form using HTML tags. Write a PHP program to display the date and time using AJAX.
7 8 9	Write a PHP program to check the user login. Write a PHP program to create a college website. Write a PHP program for cookies and session concepts.
10 11 12	Write a PHP program to perform the file read, write, open and append operation. Write a PHP program to create a library information using inheritance. Write a PHP program for online examinations.
13 14 15	Write a PHP program to send the mail using mail concept. Write a PHP program for supermarket. Write a PHP program for online recharging.

Text Book:

1. Julie C.Meloni, "*PHP, MYSQL and Apache*", Dorling Kindersley (India) Pvt. Ltd., 2005.

Reference Books:

1. Jeremy Allen & Charless Hornberger "*PHP, Apache, Mysql, Web development*", Wiley Publications, First Edition, 2006.
2. Vikram Vaswani, "*A Beginner's Guide PHP*", Tata McGraw Hill Education Pvt. Ltd., Fourth Edition, 2005.
3. Steven Holzner, "*PHP: The Complete Reference*", Tata McGraw Hill Education Pvt. Ltd., First Edition, 2008.
4. Sheldon Moes, "*Beginning MYSQL*", Wiley Publications, Fourth Edition, 2005.

E-references:

1. https://www.www3.com
2. http://www.spoken-tutorial.org
3. https://www.studytonight.com

Mapping with Programme Specific Outcomes

CO \ PSO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	H	L	M	S
CO2	S	S	M	M	L
CO3	H	S	H	H	H
CO4	S	S	S	S	M
CO5	S	S	M	S	H

S - Strong; **H -** High; **M -** Medium; **L -** Low

Question Paper Pattern

(Common for Major, Allied, Allied Optional and Major Optional Papers)

For EOS Examinations: 70 Marks

The Question Paper is to be divided into THREE Sections.

Section-A Carries 15 Marks, Section-B Carries 25 Marks and Section-C Carries 30 Marks.

Section-A Contains 15 Multiple Choice Questions. (15 x 1 = 15 Marks)

Three Questions from each unit. (Q. No: 1 to 15)

Section-B Contains 5 Either or Choice Questions. (5 x 5 = 25)

Each Question carries 5 Marks. Both (a) and (b) from the same unit.

Q. No.: 16 (a) or (b) to 20(a) or (b)

Section-C Contains 5 Questions out of which, 3 Questions are to be answered. (3 x 10 = 30)

Each Question carries 10 Marks. One Question from each unit. Q. No.: 21 to 25

For CIA Examinations: 30 Marks

Section-A: 10 Multiple Choice Questions. (10 x 1 = 10)

Section-B: Two Questions out of Three. (2 x 5 = 10)

Section-C: One Question out of Two. (1 x 10 = 10)

Programme Code:	ALL U.G.	Programme Title:	Major Optional	
Course Code:	19UFCA01	Course Title:	Batch:	2019
Total Hours:	60	Desk Top Publishing	Semester:	V
			Credits:	3.0

Course Objective

The course aims

- To apply basic design concepts to commercial design.
- To learn the basics of successful design.
- To understand the basic desktop publishing terminology.
- To understand the importance of preplanning a document in terms of audience, purpose, timeline, budget, page arrangement, and production method.

Course Outcomes (CO)

On the successful completion of the course, students will be able to

Knowledge Level	CO Number	Course Outcome
K1, K2	CO1	Create Documents and Templates, add text into documents using various methods, and apply different formatting styles to characters and paragraphs.
K2, K3	CO2	Import graphics, create objects using various tools, add effects to objects.
K1, K2, K4	CO3	Working with Layers, Master pages, Plug-ins.
K2, K3	CO4	Multipage Layout Design.
K1, K2, K5	CO5	Create a book and export it into PDF.

K1 - Remember; **K2 -** Understanding; **K3 -** Apply; **K4 -** Analyze; **K5 –** Evaluate

	SYLLABUS	
Unit	Content	No. of Hours
I	Introduction - The page maker screen - The rulers-Repositioning the zero point - Viewing the page - Working with a publication - Drawing tools : Lines, Boxes, Ellipse, Polygon - selecting, Deleting, Moving and Resizing element - grouping - ungrouping - Power pasting-Rotation tools	12
II	Importing Graphics - Text Tool - Manipulating text - Default text settings - Transformation - Skewing - Reflection - Cropping and Resizing with the Control palette - Locking Elements - Importing text	12
III	Master pages - paragraph specification - Windows and Orphans - Keep with Next Command - Columns an page breaks - Paragraph rules-Indents/Tabs - Hyphenation - Text wrap	12
IV	Style Sheet - Long documents features - Frames: Frames tools - Adding Text Content to a frame - ***Frame options****	12
V	Utilities - Layer: Layer Palette - Creating a new Layer - Assigning an object to a layer - Layer in Action - ***Layer Palette****	12

< - Self study>*

Text Book:

1. Scott Basham, “PAGEMAKER IN EASY STEPS”, Dreamtech press, Second Edition, 2009. (Unit I - V)

Reference Books:

1. Satish Jain, “TRAINING GUIDE: PAGEMAKER 7”, BPB Publications, First Edition, 2002.
2. David Webster, Tony Webster, “INTRODUCING PAGEMAKER 3”, BPB Publications, First Edition, 1989.

E-References:

1. http://ncsmindia.com/wp-content/uploads/2012/04/DTP4.
2. https://www.brighthub.com/multimedia/publishing/articles/5615.aspx
3. bestlibrary.org/journalism/files/using_pagemaker_7_text_doc.pdf

Mapping with Programme Specific Outcomes

PSO / CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	H	H	S	H
CO2	H	S	H	M	S
CO3	S	S	H	M	S
CO4	M	S	H	S	M
CO5	S	H	S	H	S

S - Strong; **H -** High; **M -** Medium; **L -** Low

Programme Code:	ALL U.G.	Programme Title	Major Optional	
Course Code:	19UFCAP1	Course Title:	Batch:	2019
Total Hours:	30	Desk Top Publishing (Lab)	Semester:	V
			Credits:	1.0

Course Objective

The course aims

- To apply basic design concepts to commercial design.
- To learn the basics of successful design.
- To understand the basic desktop publishing terminology.
- To understand the importance of preplanning a document in terms of audience, purpose, timeline, budget, page arrangement, and production method.

Course Outcomes (CO)

On the successful completion of the course, students will be able to

Knowledge Level	CO Number	Course Outcome
K4, K5	CO1	Create Documents and Templates, add text into documents using various methods, and apply different formatting styles to characters and paragraphs.
K3, K5	CO2	Import graphics, create objects using various tools, add effects to objects.
K3, K5	CO3	Working with Layers, Master pages, Plug-ins.
K3, K4	CO4	Multipage Layout Design.
K3, K4	CO5	Create a book and export it into PDF.

K1 - Remember; **K2 -** Understanding; **K3 -** Apply; **K4 -** Analyze; **K5 -** Evaluate

SYLLABUS

1. Create a page maker design for text tools.
2. Create a page maker design for different drawing tools.
3. Create a page maker design for threaded text.
4. Create a page maker design for grouping and ungrouping.
5. Create a page maker design for importing graphics.
6. Create a page maker design for rotating and locking.
7. Create a page maker design using column guides to create a newspaper design.
8. Create a page maker design for cropping an image.
9. Create a page maker design for combining effects.
10. Create a page maker design for image control effects.
11. Create a page maker design for table editor.
12. Create a page maker design for adding graphic content to a frame.

Text Book:

1. Scott Basham, "PAGEMAKER IN EASY STEPS ", Dream tech press, Second Edition, 2009. (Unit I - V)

Reference Books:

1. Satish Jain, "TRAINING GUIDE: PAGEMAKER 7", BPB Publications, First Edition, 2002.
2. David Webster, Tony Webster, "INTRODUCING PAGEMAKER 3", BPB Publications, First Edition, 1989.

E-References:

1. http://ncsmindia.com/wp-content/uploads/2012/04/DTP4.
2. https://www.brighthub.com/multimedia/publishing/articles/5615.aspx
3. bestlibrary.org/journalism/files/using_pagemaker_7_text_doc.pdf

Mapping with Programme Specific Outcomes

PSO / CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	H	H	S	H
CO2	H	S	H	M	S
CO3	S	S	H	M	S
CO4	M	S	H	S	M
CO5	S	H	S	H	S

S - Strong; **H -** High; **M -** Medium; **L -** Low

Programme Code:	ALL U.G.	Programme Title:	Major Optional	
Course Code:	19UFCA03	Course Title:	Batch:	2019
Total Hours:	60	Multimedia	Semester:	V
			Credits:	3.0

Course Objective

The course aims

- To know about various software tools for the elements of multimedia.
- To learn the concepts of text editing and designing tools.
- To understand the concepts of audio, video and making animations.

Course Outcomes (CO)

On the successful completion of the course, students will be able to

Knowledge Level	CO Number	Course Outcome
K1	CO1	Gain knowledge on different tools of multimedia.
K2, K3	CO2	Understand the text formatting concepts.
K1, K2, K3	CO3	Get knowledge for creating and editing sound enabled applications.
K2, K4	CO4	Understand the principles and making of animation in images.
K2, K3	CO5	Understand the shooting and editing of video files.

K1 - Remember; **K2 -** Understanding; **K3 -** Apply; **K4 -** Analyze; **K5 –** Evaluate

	SYLLABUS	
Unit	Content	No. of Hours
I	Introduction: What is Multimedia-Definitions-Where to use Multimedia-Introduction to making Multimedia-Basic Software Tools-Text Editing and Word Processing Tools-Painting and Drawing Tools-3-D Modeling and Animation Tools-Image Editing Tools-Sound Editing Tools-Animation, Video and Digital Movie Tools.	12
II	Text-The Power of Meaning-About Fonts and Faces-Using Text in Multimedia-Computers and Text-Font Editing and Design Tools-***Hypermedia and HyperText****.	12
III	Sound-The Power of Sound-Multimedia System Sounds-MIDI versus Digital Audio-Digital Audio-Making MIDI Audio-Audio File Formats-Adding sound to Multimedia Projects-Production Tips.	12
IV	Images before start to Create-Making Still Images-***Color****-Image File Formats-Animation-The Power of Motion-The Principles of Animation-Making Animations That Work.	12
V	Video-Using Video-How Video Works-Broadcast Video standards-Integrating computers and Television-Shooting and Editing Video-Video Tips-Recording Formats-Digital Video.	12

< - Self study>*

Text Book:

1. Tay Vaughan, *"Multimedia Making It Work"*, Fifth Edition, Tata McGraw-Hill Publications, 2001(Unit I - V).

Reference Books:

1. Ralf Steinmetz, Klara Nahrstedt, *"Multimedia Computing, Communications & Application"*, 14th Edition, Pearson Education, 2013.
2. Nigel Chapman, Jenny Chapman, *"Digital Multimedia"*, 2nd Edition, John Wiley & Sons Ltd., 2004.
3. Ranjan Parekh, "*Principles of Multimedia*", Tata McGraw-Hill Publications, 2012.

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1. https://www.wisdomjobs.com/e-university/multimedia-tutorial-270/what-is-multimedia-12717.html
2. http://www.srmuniv.ac.in/sites/default/files/files/Multimedia%20Systems.pdf
3. https://www.slideshare.net/MailtoBadarWaseer/multimedia-system-design-ch-1-2-3-multimedia

Mapping with Programme Specific Outcomes

PSO / CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	H	H	S	H
CO2	H	S	S	H	S
CO3	S	S	H	S	H
CO4	H	S	H	H	S
CO5	M	H	M	H	M

S - Strong; **H -** High; **M -** Medium; **L -** Low

Programme Code:	ALL U.G.	Programme Title	Major Optional	
Course Code:	19UFCAP3	Course Title:	Batch:	2019
Total Hours:	30	Multimedia (Lab)	Semester:	V
			Credits:	1.0

Course Objective

The course aims

- To know about various software tools for the elements of multimedia.
- To learn the concepts of text editing and designing tools.
- To understand the concepts of audio, video and making animations.

Course Outcomes (CO)

On the successful completion of the course, students will be able to

Knowledge Level	CO Number	Course Outcome
K1	CO1	Gain knowledge on different tools of multimedia.
K2, K3	CO2	Understand the text formatting concepts.
K1, K2, K3	CO3	Get knowledge for creating and editing sound enabled applications.
K2, K4	CO4	Understand the principles and making of animation in images.
K2, K3	CO5	Understand the shooting and editing of video files.

K1 - Remember; **K2 -** Understanding; **K3 -** Apply; **K4 -** Analyze; **K5 -** Evaluate

SYLLABUS

1. Write a program to design a Greeting card using Text.
2. Write a program to design an Invitation card.
3. Write a program to design a logo of our college.
4. Write a program to create a Rainbow on existing Images.
5. Write a program to create a Natural scene.
6. Write a program to animate Fish in a fish tank.
7. Write a program to animate blooming and budding flower.
8. Write a program to animate walking and dancing of a doll.
9. Write a program to animate shape change.
10. Write a program to animate shooting of two layers.
11. Write a program to building crash with animation.
12. Write a program to animate text.
13. Write a program to animate a flying butterfly.
14. Write a program to animate Natural scenery.
15. Write a program to demo a product with animation.

Text Book:

1. Tay Vaughan, *"Multimedia Making It Work"*, Fifth Edition, Tata McGraw-Hill Publications, 2001(Unit I - V).

Reference Books:

1. Ralf Steinmetz, Klara Nahrstedt, *"Multimedia Computing, Communications & Application"*, 14th Edition, Pearson Education, 2013.
2. Nigel Chapman, Jenny Chapman, *"Digital Multimedia"*, 2nd Edition, John Wiley & Sons Ltd., 2004.
3. Ranjan Parekh, "*Principles of Multimedia*", Tata McGraw-Hill Publications, 2012.

E-References:

1. https://www.wisdomjobs.com/e-university/multimedia-tutorial-270/what-is-multimedia-12717.html
2. http://www.srmuniv.ac.in/sites/default/files/files/Multimedia%20Systems.pdf
3. https://www.slideshare.net/MailtoBadarWaseer/multimedia-system-design-ch-1-2-3-multimedia

Mapping with Programme Specific Outcomes

PSO / CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	H	H	S	H
CO2	H	S	S	H	S
CO3	S	S	H	S	H
CO4	H	S	H	H	S
CO5	M	H	M	H	M

S - Strong; **H -** High; **M -** Medium; **L -** Low