



RKDF UNIVERSITY, BHOPAL

Bachelor of Computer Applications (BCA)

SCHEME

Sixth Semester

AcademicSession:2024-25

S. No	Group s	Subject Code	Subject Name	Marks Distribution					Credits
				CAA (Continuous Assessment & Assignment)	Theo ry Mark s	Practical Marks		Total Marks	
						Inte rnal	Exte rnal		
1	Group - A	Major BCA-601/M1T- G- A	Python Programming	40	60	40	60	200	06 = 4T+2P
		(DSE-I) BCA-602/DSE-I- G- A	Multimedia and Animation	40	60	--	--	100	04
		(DSE-II) BCA-603/DSE-II- G- A	Programming in C#	40	60	-	-	100	04
		BCA-604-G-A	Project/ Internship	40	60	-	-	100	06
OR		Grand Total G-A		160	240	-	-	500	20
2	Group - B	Major BCA-601/M1T- G- B	Web Technology	40	60	40	60	200	06 = 4T+2P
		(DSE-II) BCA-602/DSE-I- G- B	Management Information System (MIS)	40	60	--	--	100	04
		(DSE-II) BCA-603/DSE-I- G- B	Digital Marketing	40	60	-	-	100	04
		BCA-604-G-B	Project/ Internship	40	60	-	-	100	06
		Grand Total G-B		160	240	-	-	500	20

Note:- The Students will continue with the same group as chosen by them in Semester V.



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Bachelor of Computer Application

Sixth Semester

Course	Category	Subject	Subject Code
BCA	Major Group-A	Python Programming	BCA-601/M1T- G- A
Total Credit: 4		Max.Marks:100 (Internal:40+External:60)	

Course Outcomes:

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

CO 1. Develop and execute simple Python programs

CO 2. Structure a Python program into functions.

CO 3. Using Python lists, tuples to represent compound data

CO 4. Develop Python Programs for file processing

Syllabus

Unit	Topics	Duration
I	What is Python? WHY PYTHON? History, Features - Dynamic, Interpreted, Object oriented, Embeddable, Extensible, Large standard libraries. Free and Open source. Download & Python Installation Process in Windows, Unix, Linux and Mac. Online Python IDLE, Python Realtime. IDEs like Spyder, Jupyter Note Book, PyCharm, Rodeo. Visual Studio Code, ATOM. PyDevete, Data Types and Variables, Numbers, Operators. Comments in Python. Input output. operation in python.	14
II	Control Statements: Conditional control statements - if, else, If-elif-else, Loop control. statements- for, while, Data Structure & Collection:-String. List. Tuple, Set. Dictionary. Comparison of List, Tuple and Set. Function in python. types of function in python, map, reduce, filter function. Lamda Function.	10
III	Importance of modular programming. What is module? Types of Modules Pre defined. User defined. User defines module creation. OS. Date-time, math modules, organizing python. project into packages, Types of packages - pre defined, user defined. Package v/s Folder, File and Directory handling in Python.	12
IV	Procedural v/s Object oriented programming, Principles of OOP Encapsulation. Abstraction. (Data Hiding), Polymorphism. Inheritance. Inner Classes. Exception handling and types of errors, try, except, finally, raise, and Need to Custom exceptions, Case studies, regular expression.	12
V	Multithreading and multiprocessing in python, Threading module. Creating thread inheriting. Thread class, Using callable object. Life cycle of thread. Single threaded application, Multithreaded application, Can we call run() directly? Need to start() method. Sleep() & Join(). Synchronization Lock class acquire(), release() functions. Garbage collection. Python Data Base Communications (PDBC), Introduction of Numpy. Pandas & Matplotlib, Drawing plots.	12
Key Tags: Open Source, Data Type, Module, List, Tuples, Directory		

Recommended Text Books:

1. Mark Lutz, Learning Python
2. Tony Gaddis, Starting Out With Python
3. Kenneth A. Lambert. Fundamentals of Python
4. James Payne, Beginning Python using Python 2.6 and Python 3.2.
5. मध्य प्रदेश हिन्दी ग्रंथ अकादमी की पुस्तकें।

Recommended Web Reference:

1. www.javatpoint.com
2. www.w3school.com
3. www.python.org
4. <https://www.tutorialspoint.com/python/index.html>



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Sixth Semester

Course	Category	Subject	Subject Code
BCA	Major Group-A	Python Programming Lab	BCA-601/1 M1P-G-A
Total Credit: 2		Max.Marks:100 (Internal:40+External:60)	

Course Outcomes:

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

CO 1.Develop Simple programs in Python

CO 2. Knowledge of conditional and loop statements.

CO 3. Learning of Tuple. List, Directory in Python

CO 4. Knowledge of Files and Ooops Concepts in Python.

CO 5. Introductory Knowledge of Pandas. PDBC and Numpy.

Syllabus

Unit	Topics	Duration (2 Hours Each)
	1. Write a program to demonstrate different number data types in Python. 2. Write a program to perform different Arithmetic Operations on numbers in Python. 3. Write a program to create, concatenate and print a string and accessing sub-string from a given string. 4. Write a python script to print the current date in the following format a. "Fri Oct 11 02:26:23 IST2019" 5. Write a program to create, append, and remove lists in python. 6. Write a program to demonstrate working with tuples in python. 7. Write a program to demonstrate working with dictionaries in python. 8. Write a python program to find largest of three numbers. 9. Write a Python program to construct the following pattern, using a nested for loop <pre> * * * * * * * * * * * * * * * * </pre> 10. Write a Python script that prints prime numbers less than 20. 11. Write a python program to define a module to find Fibonacci Numbers and import the module to another program. 12. Write a python program to define a module and import a specific function in that module to another program. 13. Write a program that inputs a text file. The program should print all of the unique words in the file in alphabetical order. 14. Write a Python class to convert an integer to a roman numeral. 15. Write a Python class to reverse a string word by word	

Recommended Text Books:

1. Mark Lutz, Learning Python
2. Tony Gaddis, Starting Out With Python
3. Kenneth A. Lambert, Fundamentals of Python
4. James Payne. Beginning Python using Python 2.6 and Python 3.2.
5. मध्य प्रदेश हिन्दी ग्रंथ अकादमी की पुस्तकें।

Recommended Web Reference:

1. www.javatpoint.com
2. www.w3school.com
3. www.python.org
4. <https://www.tutorialspoint.com/python/index.html>



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Bachelor of Computer Application

Sixth Semester

Course	Category	Subject	Subject Code
BCA	DSE-I Group-A	Multimedia and Animation	BCA-602/DSE-I- G- A
Total Credit: 4		Max.Marks:100 (Internal:40+External:60)	

Course Outcomes:

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

- CO 1.** Gain knowledge about basics of Multimedia tools and its applications
- CO 2.** Understand fundamentals of Multimedia and animation
- CO 3.** Explore various applications of coral draw.
- CO 4.** Gain knowledge of designing using coral draw
- CO 5.** Apply the acquired knowledge in development of animation using Photoshop and Corel raw

Syllabus

Unit	Topics	Duration (In Hours)
I	Multimedia System, Multimedia elements. Multimedia applications, Global structure, Evolving Technologies for Multimedia systems	12
II	Multimedia: Media & Data Streams Medium, Main properties of a multimedia system, Traditional data stream characteristics, Data stream characteristics for continuous media, Information units, Image And Graphics Image File Formats, Sound Audio Basic sound concepts. Video & Animation Basic concept.	12
III	Coral Draw Drawing lines, shapes inserting-pictures. objects, tables, templates. Use of various tools such as Pick tools, Zoom tools, Free hand tool, square tool, rectangle tool, Text tool, Fill tool etc. and all fonts used in designing of monograms, logos, posters, stickers, greeting cards, wedding cards, visiting cards, etc	12
IV	Introduction to Photo Shop, the file menu, the tools. Drawing lines & shapes. Photo editing /inserting starting with Setting Up, introduction of layers Understanding Design principles and color theory Basic Image Manipulation in Photoshop Scanning images, editing their resolution and size, learning about bitmap and vector images, creating new images color modes, color management, color mode conversion, color picker functions.	12
V	Photoshop Painting Tools, Brush Settings. Locking layers. linking and stacking layers, creating layer sets. Video editing Animating GIF Images for the Web.	12

Recommended Text Books:

1. P. K. Andleigh, Kiran Thakrar Multimedia System Design
2. Ralf Steinmetz, & Klara Nashtedt Multimedia Computing Communication & Application
3. Corel draw the Official Guide By Gray David Bouton, Corel Press
4. Adobe Photoshop CS2 Classroom In A Book (2020) Adobe Press
5. मध्य प्रदेश हिन्दी ग्रंथ अकादमी की पुस्तकें।

Recommended Web Reference:

1. <https://onlinecourses.swayam2.ac.in/cec20> cs08/preview
2. <https://www.youtube.com/watch?v=LhNnEibdrpk>
3. <https://www.youtube.com/watch?v=FJYgNUYUvZc>
4. <https://www.youtube.com/watch?v=DvZ0le8SUNO>
5. <https://www.youtube.com/watch?v=ymQJbN5M1Y8>



RKDF UNIVERSITY, BHOPAL

Bachelor of Computer Application

Sixth Semester

Course	Category	Subject	Subject Code
BCA	DSE-II Group-A	Programming in C#	BCA-603/DSE-II-G-A Skill Enhancement Course
Total Credit: 4		Max.Marks:100 (Internal:40+External:60)	

Course Outcomes:

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

CO 1. Knowledge of the structure and model of the programming language C#.

CO 2. Determine logical alternatives with C# decision structures utilizing iteration, class methods, fields. and properties.

CO 3. Using the programming language C # for various programming technologies (understanding)

CO 4. Develop software in C#.

CO 5. Evaluate user requirements for software functionality required to decide whether the programming language C# can meet user requirements.

CO 6. Use of certain technologies by implementing them in the C# programming language to solve the given problem.

Syllabus

Unit	Topics	Duration (In Hours)
I	Introduction to C#: What is C#, C++ vs C#, Java vs C#. History. Features, Variables, Data Types, Operators, Keywords, Comments. C# Control Statements: if-else, switch, For Loop, While Loop. Do- While Loop, Break, Continue, Goto.	12
II	C# Functions: Function, Call By Value, Call By Reference. Out Parameter. C# Arrays: Array to Function, Multidimensional Array. Jagged Arrays. Params, Array class, Command Line Args. C# Objects and Classes: Constructor, Destructor, this, static, static class, static constructor, Structs, Enum.	12
III	C# Properties. C# Inheritance: Inheritance, Aggregation. C# Polymorphism: Member Overloading. Method Overriding. Base. Polymorphism, Sealed. C# Abstraction: Abstract, Interface. C# Namespace: Namespaces, Access Modifiers, Encapsulation.	12
IV	C# Strings. C# Exceptions: Exception Handling, try/catch, finally. Custom Exception, checked unchecked, System Exception. C# File I/O: FileStream, StreamWriter, StreamReader, TextWriter, TextReader, BinaryWriter, BinaryReader, String Writer, StringReader. FileInfo, DirectoryInfo, Serialization, Deserialization, System.IO.	12
V	C# Generics, C# Delegates, C# Reflection. C# Multithreading: Multithreading. Thread Life Cycle, Thread class, Main Thread, Thread Sleep, Thread Abort, Thread Join. Thread Name. Thread Priority. C# Synchronization, C# Web Service.	12

Recommended Text Books:

1. E Balagurusamy: Programming in C#, McGraw Hill Education, 4th edition, 2017.
2. Joydip Kanjilal: Mastering C# 8.0, BPB Publication, 2019.
3. J.G.R. Sathiaselvan: Programming With C Sharp Net, PHI Learning, 2009
4. मध्य प्रदेश हिन्दी ग्रंथ अकादमी की पुस्तकें।

Recommended Web Reference:

<https://www.eshiksha.mp.gov.in/mpdhe>



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Sixth Semester

Course	Category	Subject	Subject Code
BCA	Major Group-B	Web Technology	BCA-601/1 MIT-G-B
Total Credit: 4		Max.Marks:100 (Internal:40+External:60)	

Course Outcomes:

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

CO 1. Understand basics of Internet, World Wide Web(WWW), Client server Computing and have information of various Protocols

CO 2. Have Knowledge of various web browsers. familiarize with Java scripting, Client side scripting language, Web server Architecture, Database connectivity(DBC) and ODBC

CO 3. Have knowledge of HTML, it's essential tags, Attributes, Text styles, Links to External Documents and different sections of a HTML page.

CO 4. Develop skills to generate HTML and DHTML page and have knowledge of Java Script assisted style sheets (JSSS)

CO 5. Have knowledge of Objects, Methods, Events and Functions and various types of text, styles and be able to relate JavaScript to DHTML

Syllabus

Unit	Topics	Duration (In Hours)
I	Topics Basics of Internet and Web: The basics of Internet, World Wide Web, Web page. Home Page, Web site, Static, Dynamic and Active web page, Overview of Protocols Simple Mail Transfer Protocol, Gopher, Telnet, Emails, TFTP, Simple Network Management Protocol, Hyper Text Transfer Protocol. Client server computing concepts.	10
II	Web Client and Web Server: Web Browser, Browsers e.g., Netscape navigator. Internet Explorer, Mozilla Firefox, Client Side Scripting Languages- VB Script and Java Script, Active X control and Plug-ins; Web Server Architecture, Image maps, CGI, API web database connectivity-DBC, ODBC	12
III	Introduction to HTML Introduction to HTML, Essential Tags, Tags and Attributes, Text Styles and Text Arrangements, Text, Effects, Exposure to Various Tags (DIV, MARQUEE, NOBR, DFN, HR, LISTING, Comment, IMG), Colour and Background of Web Pages. Lists and their Types, Attributes of Image Tag. Hypertext. Hyperlink and Hypermedia, Links, Anchors and URLs. Links to External Documents, Different Section of a Page and Graphics, Footnote and e-mailing, Creating Table, Frame, Form and Style Sheet.	14
IV	DHTML Dynamic HTML, Document Object Model, Features of DHTML, CSSP (Cascading Style Sheet Positioning) and JSSS (JavaScript assisted Style Sheet), Layers of Netscape, The ID Attribute, DHTML Events.	12
V	Java Script Objects, Methods, Events and Functions, Tags, Operators, Data Types, Literals and Type Casting in JavaScript, Programming Construct, Array and Dialog Boxes, Relating JavaScript to DHTML, Dynamically Changing Text, Style, Content.	12

Recommended Text Books:

1. Web Technologies - Black Book - DreamTech Press
2. Beginning PHP 5.3 (Wrox-Wiley Publishing) by Matt Doyle
3. Beginning HTML, XHTML, CSS and Javascript by John Duckett
4. मध्य प्रदेश हिन्दी ग्रंथ अकादमी की पुस्तकें।



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Sixth Semester

Course	Category	Subject	Subject Code
BCA	Major Group-B	Web Technology	BCA-601/1 M1P-G-B
Total Credit: 2		Max.Marks:100 (Internal:40+External:60)	

Course Outcomes:

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

CO 1. Perform HTML programming with use of elements and tags...

CO 2. Perform basic and advanced text formatting

CO 3. Able to use image video and sound in HTML documents

List of Practical's

- 1 Acquaintance with elements, tags and basic structure of HTML files.
2. Practicing basic and advanced text for formatting.
3. Practice use of image, video and sound in HTML documents.
4. Designing of web pages- Document layout, list, tables.
5. Practicing Hyperlink of web pages, working with frames
6. Working with forms and controls.
7. Acquaintance with creating style sheet, CSS properties and styling.
- 8.. Working with background, text, font, list properties.
9. Working with HTML elements box properties in CSS.
10. Develop simple calculator for addition, subtraction, multiplication and division operation using javascript.
11. Create HTML page with java script which takes integer number as a input and telis whether the number is odd or even .
12. Create HTML. page that contains form with fields name, Email, mobile number, gender, favourite colour and button; now write a java script code to validate each entry. Also writea code to combine and display the information in text box when button is clicked.
13. Write a PHP program to cheek if number is prime or not.
14. Write a PHP program to print first ten Fibonacci numbers.
15. Create a MySQL data base and connect with PHP.
16. Write PHP script for storing and retrieving user information from my SQL table
 - a. Write a HTML page which takes Name, Address, Email and Mobile number from user (register PHP)
 - b. Store this data in MySQL data base.
 - c. Next page displays all user in HTML table using PHP (display PHP).
17. Using HTML, CSS, Javascript, PHP, MySQL, design and authentication module of a web page.

Recommended Text Books:

1. Web Technologies- Black Book-DreamTech Press
2. Beginning PHP 5.3 (Wrox-Willey Publishing) by Matt Doyle
3. Beginning HTML, XHTML CSS and Javascript by John Duckett



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Sixth Semester

Course	Category	Subject	Subject Code
BCA	DSE-I Group-B	Management Information System (MIS)	BCA-602/DSE-I-G-B
Total Credit: 4		Max.Marks:100 (Internal:40+External:60)	

Course Outcomes:

CO1: Apply3 SDLC developed solutions for real world problems.

CO2: Analyze4 problems and design6 efficient systems

CO3: Test5 , execute3 and maintain systems.

CO4: Explain2 MIS, GIS, DBMS and Information security.

CO5: Describe5 DSS, AI, ES and evaluate5 system quality and performance

Syllabus

Unit	Topics	Duration (In Hours)
I	The System Concept: Definition, Characteristics of Systems, Elements of a System, Open and Closed System, Formal and Informal Information Systems, Computer based information Systems. Decision Support System, Interpersonal Communicational systems, Physical or Abstract systems, Role of System Analyst, Attributes of a System Analyst	12
II	System Analysis: System Planning and initial Investigation, Information gathering tools, Tools used in System Analysis, Types of Interviews and Questionnaires, Data Dictionary, Decision Trees and Structured English, Feasibility Study, Cost/Benefits Analysis, Systems Design: Logical & Physical Design, Design methodologies, Structured Design, Input/Output and Forms Design: Input Design, Output Design, Requirements of form Design, Screen design, Specification oriented design vs. Procedure oriented Design, File Organization and Database Design	12
III	System Implementation, System Testing and validation, Systems Quality Assurance, Level of Quality Assurance, Implementation and software maintenance, Hardware and software selection, Project Scheduling, System Maintenance, Maintenance activities and issues, Security Disaster/Recovery Planning, Ethics codes and Standards of behavior in system development	12
IV	Management and Decision Making— Models of Decision Making — Classical, Administrative and Herbert Simon's Models Attributes of information and its relevance to Decision Making. Types of information, Information Technology— Definition, IT Capabilities and their Organizational impact, IT enabled services such as Call Centers. Geographical Information Systems etc.	12
V	Decision Support System— Importance of decision Support system, Characteristics of Decision Support System, Computerized Decision Support-Decision Making: introduction and Definitions, Models, Phases of the Decision-Making Process: Executive Information Systems — Executive Support Systems — Expert Systems and Knowledge Based Expert Systems — Artificial Intelligence, Performance Evaluation and monitoring, Model Building, Simulation, Quality Control and Quality Assurance.	12

Recommended Text Books:

1. “Management Information Systems”, 13th Edition, Laudon and Laudon, Pearson Education Asia, 2014
2. “Management Information Systems”, 4th Edition, Jawadekar, Tata McGraw Hill, 2011
3. “Decision Support Systems and Intelligent Systems”, 8th Edition, Turban and Aronson, Pearson Education, 2007

Recommended Web Reference:

1. https://onlinecourses.nptel.ac.in/noc20_mg60/preview
2. https://www.tutorialspoint.com/management_information_system/management_information_system.htm
3. <https://www.studocu.com/row/document/university-of-the-punjab/business-taxation/mis-pdf-lecture-notes-1-20/11486>



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Course	Category	Subject	Subject Code
BCA	DSE-II Group-B	Digital Marketing	BCA-603/DSE-II-G-B
Total Credit: 4		Max.Marks:100 (Internal:40+External:60)	

Course Outcomes:

- CO 1.** Understand the concept of digital marketing and its real-world iterations
- CO 2.** Articulate innovative insights of digital marketing enabling a competitive edge
- CO 3.** Understand how to create and run digital media based campaigns
- CO 4.** Identify and utilise various tools such as social media etc.
- CO 5.** outline an approach to developing a digital marketing plan

Syllabus

Unit	Topics	Duration (In Hours)
I	Fundamentals of Digital marketing & Its Significance, Traditional marketing Vs Digital Marketing. Evolution of Digital Marketing, Digital Marketing Landscape, Key Drivers, Digital Consumer & Communities, Gen Y & Netizen's expectation & influence wrt Digital Marketing.	12
II	The Digital users in India, Digital marketing Strategy Consumer Decision journey. POEM Framework, Segmenting & Customizing messages, Digital advertising Market in India, Skills in Digital Marketing, Digital marketing Plan.	12
III	Terminology used in Digital Marketing, PPC and online marketing through social media, Social Media Marketing, SEO techniques, Keyword advertising, Google web-master and analytics overview, Affiliate Marketing. Email Marketing, Mobile Marketing	12
IV	Display adverteng. Buying Models, different type of ad tools, Display advertising terminology, types of display ads, different ad formats, Ad placement techniques, Important ad terminology, Programmatic Digital Advertising.	12
V	Display Advertising, different types of ad tools, different ad formats. You Tube Advertising :- You Tube Channels, You Tube Ads, Type of Video, Buying Models, Targeting & Optimization, Designing & monitoring Video Companies, Display Companies.	12

Recommended Text Books:

1. Digital Marketing – Kamat and Kamat – Himalya
2. Marketing Strategies for Engaging the Digital Generation, D. Ryan,
3. Digital Marketing , V. Ahuja, Oxford University Press
4. Digital Marketing, S. Gupta, McGraw-Hill