Ahmednagar Jilha Maratha Vidya Prasarak Samaj's New Arts, Commerce, and Science College, Ahmednagar (Autonomous) (Affiliated to Savitribai Phule Pune University, Pune)



National Education Policy (NEP) Choice Based Credit System (CBCS)

> Programme Framework B.B.A.(C.A.)(Major)

> > **Implemented from**

Academic Year 2023-24

## Ahmednagar Jilha Maratha Vidya Prasarak Samaj's New Arts, Commerce and Science College, Ahmednagar (Autonomous)

Sr. No.	Name .	Designation
1.	Mrs. Nimbalkar Sangita Sham	Chairman
2.	Mr. Talule Sonyabapu Sakharam	Member
3.	Mr. Gobare Manohar B.	Member
4.	Miss. Danave Bharati M.	Member
5.	Mr. Pachpande Suhas D.	Academic Council Nominee
6.	Dr. Patil Chandrashekhar Himmatrao	Academic Council Nominee
7.	Prof. (Mrs.) Siddavatam A. Shakilabanu	Vice-Chancellor Nominee
8.	Mrs. Mohite-Patil Amruta Rahul	Alumni
9.	Mr. Dawbhat Arun Rangnath	Industry Expert
10.	Mrs. Kulkarni Aparna A.	Member(co-opt)
11.	Mrs. Suroshi M.S.	Member
12.	Mr. Bade R.K.	Member
13.	Mr. Supekar K.A.	Member

### Board of Studies in B.B.A.(C.A.)

### 1. Prologue/ Introduction of the programme: At least one page

With the rapid growth of IT industry in India, the demand of computer professional is increasing day by day. This increasing growth of IT industry has created a lot of opportunities for the computer graduates.

B.B.A.(C.A.) program is a full time three years degree program with six semesters. It is based on Choice-based credit system containing 132 credit points.

B.B.A.(C.A.) program helps interested students in setting up a sound academic base for an advanced career in Computer Applications. The main goal of a B.B.A.(C.A.) degree is to

provide students with the knowledge and abilities necessary for professions in the software sector, as well as with the application of computers.

B.B.A.(C.A.) program is a combination of computer and applied courses from Commerce and management streams. This course includes database management systems, operating systems, software engineering, web technology and languages such as C, C++, HTML, Java etc. It is a highly popular course amongst students aspiring to establish a career in established IT companies

This course provides a lot of opportunities to arts, commerce and science stream students who are interested in computer field and wants to work in the IT sector as programmer or software developer. This Degree will help students to become an IT professional and to be place in the network support and system support/ administration roles. Student can either work in the corporate sector in an administration.

The Course is planned and structured to provide you with a dynamically engaging atmosphere in which you can develop into highly qualified IT professionals. The curriculum has been intended to provide students with a thorough understanding of numerous areas linked to information technology as well as basic management concepts. This course offers the prequalification for professionals heading for smart career in the IT field, which measures up to international standards.

As a computer programmer, you can find different types of software, including databases and web software. In general, it pays well along with diverse career prospects. In addition to this, the career market is still growing, so you can work in IT outsourcing in various parts of the world,

### 2. Programme outcomes (Pos)

Students enrolled in the program complete a curriculum that exposes and trains students in a full range of essential skills and abilities. They will have the opportunity to master the following objectives.

- 1. Imparts advanced knowledge on a wide range of computer applications so that the students pursuing this course can easily face any kind of challenges and opportunities related to the IT industry.
- 2. An ability to identify, formulate, and develop solutions to computer application challenges.

- 3. An ability to function effectively on teams to accomplish shared computing design, evaluation, or implementation goals.
- 4. An understanding of professional, ethical, legal, security, and social issues and responsibilities for the computing profession.
- 5. An ability to communicate and engage effectively with diverse stakeholders.
- 6. An ability to analyze impacts of computing on individuals, organizations, and society.
- Recognition of the need for and ability to engage in continuing professional development.
- 8. An ability to use appropriate techniques, skills, and tools necessary for industry ready resources.
- 9. Inculcate spirit of entrepreneurship.
- 10. To encourage innovation and the pursuit of perfection in computer applications.

	Type of Courses	III	IV Yrs	IV Yrs
		Yr	(Honours)	Research
Major	Discipline-Specific Courses (DSC)	46	74	66
<b>BBA(CA)</b>	Discipline Specific Elective (DSE)	08	16	16
	Skill Enhancement Courses (SEC)	06	06	06
	Vocational Skill Courses (VSC)	08	08	08
	On-Job Training (OJT)	04	08	04
	Field Project (FP)	04	04	04
	Community Engagement and Service (CEP)	02	02	02
	Research project	00	00	12
	Research Methodology	00	04	04
	Indian Knowledge System	02	02	02
	Total (I, II and III Year)	80	124	124
Minor	Minor	20	20	20
Other	Open Elective (OE)/ Multidisciplinary	12	12	12
Courses	Courses			
	Co-Curricular Courses	08	08	08
	Ability Enhancement Courses	08	08	08
	Value Education Courses	04	04	04
	Total	132	176	176

#### Credit Distribution: B.B.A.(C.A.)(Major) including Minor and OE and other courses.

			D S C	D S F	SEC	V S	FP/ OJT /IN/CEP	I K S							
Ι	Ι	4. 5	06	-	02	-	-	02	03	03		02	02	02	22
Ι	II	4. 5	06	-	02	02	-	-	03	03	-	02	02	02	22
	Exit	t Opti crec	on: A lit coi	ward re NS	of UG Co OF cours	ertific e /Int	cate in Majo ernship or (	or wit Contir	h 44 ( nue w	credit vith M	s ar ajo	nd an r and	addit Minc	ional or	4
II	III	5. 0	08	-	02	-	FP-02	-	03	03	-	02	02	-	22
II	IV	5. 0	08	-	00	02	CEP-02	-	03	03	-	02	02	-	22
	Exit Option: Award of UG Diploma in Major with 88 credits and an additional 4 credit core NSOF course /Internship or Continue with Major and Minor														
III	V	5. 5	10	04	-	02	FP-02	-	04	-	-	-	-	-	22
III	VI	5. 5	08	04	-	02	OJT-04	-	04	-	-	-	-	-	22
								-							
	Ex	tit Op	tion:	Awar	d of 3-Yr continue	UG I with	Degree in M Maior for	lajor a 4-ve	and N ear D	Ainor egree	wit	th 132	2 cred	its or	
IV	VII	6. 0	14	04	RM:0 4	-	-	-	-	-	-	-	-	-	22
IV	VII	6. 0	14	04	-	-	OJT-04	-	-	-	-	-	-	-	22
	1	4-	·Yr U	G De	gree (Ho	nours	) with Maio	or and	Min	or wit	:h 1	76 cr	edits		
IV	VII	6. 0	10	04	RM:0 4	-	RP-04		-	-	-	-	-	-	22
IV	VII I	6. 0	10	04	-	-	RP-08		-	-	-	-	-	-	22
	4-Y	r UG	Degr	ee (H	onours w	ith R	esearch) wi	th Ma	ajor a	nd M	inoi	r with	176	credit	S

## **B.B.A.(C.A.) Programme Framework: Credit Distribution**

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1	1	4.5		02	-	0 1	-	-	01	0 1	01	0 1	01	0 1	0 9
Ι	II	4.5		02	-	0 1	0 1	-	-	0	01	0	01	0 1	09
				Exit	Optic	on: A	war	d of UG	Certi	ficat	e in N	Aajo	or wit	h 44	-
				credi	ts an	d an	addi	itional 4	credi	t core	e NSO	QF (	Cours	se	
TT	TT	5.0		/Inter	rnshi	p or	Con	tinue wi	th Ma	jor a	nd M	ino	r		0
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Π	IV	5.0		03	-	-	0	01	-	0	01	0	01	-	0
			L	Exit	Optic	on: A	war	d of UG	Diplo	oma i	in Ma	ajor	with	88	/
				credi	ts an	d an	addi	itional 4	credi	t core	e NS	ĴF (	Cours	se	
				/Inte	rnshi	o or	Con	tinue wi	th Ma	jor a	nd M	ino	r		
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III	VI	5.5		02	01	-	0 1	01	-	0		-	-	-	0
				Exit	Optic	on: A	war	d of 3-Y	r UG	Deg	ree in	Ma	ajor a	nd	
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IV	VII	6.0		4-11	00	Degi				1 1114	J01 W	1,111		reun	5
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				4-Yr	UG	Deg	ee (	Honours	s with	Rese	earch	) wi	th M	ajor	
				with	176 (	credi	ts								

## **B.B.A.(C.A.)** Programme Framework: Course Distribution

Year	Semeste	Leve	Major		SEC	VSC	FP/OJT /IN/CEP	IKS
	1	1	DSC	DSE				
Ι	Ι	4.5	02	00	01	00	00	01
Ι	II	4.5	02	00	01	01	00	-
II	III	5.0	03	00	01	00	FP-01	-
II	IV	5.0	03	00	00	01	CEP-01	-
III	V	5.5	03	01	00	01	FP-01	-
III	VI	5.5	02	01	00	01	OJT-01	-
IV	VII	6.0	04	01	RM:01	00	-	_
IV	VIII	6.0	04	01	00	00	OJT-01	-
IV	VII	6.0	03	01	RM:01	00	RP-01	_
IV	VIII	6.0	03	01	00	00	RP-01	_

Programme Framework (Course Distribution): B.B.A.(C.A.)(Major)

Programme Framework (Credit Distribution): B.B.A.(C.A.)(Major)

Year	Semeste	Level			Majo	or					
	r		DSC	DSE	SEC	VS	FP/OJT	IKS			
						С	/IN/CE				
							Р				
Ι	Ι	4.5	06	00	02	00	00	02			
Ι	II	4.5	06	00	02	02	00	-			
Exit Opt	ion: Award	of UG Cer	rtificate	with 44 cre	edits and an a	ddition	al 4 credit				
core NSQF course /Internship or Continue with Major and Minor											
II	III	5.0	08	00	02	00	FP-02	-			
II	IV	5.0	08	00	00	02	CEP-02	-			
Exit Op	otion: Award	d of UG Di	<b>ploma</b> w	vith 88 cred	lits and an ad	ditional	4 credit				
c	ore NSQF o	course /Inte	rnship o	r Continue	with Major a	nd Min	or				
III	V	5.5	10	04	00	02	FP-02	-			
III	VI	5.5	08	04	00	02	OJT-04	-			
Exit	Option: Av	vard of UG	Degree	in Major a	nd Minor with	h 132 c	redits				
or co	ntinue with	a Major fo	r 4-year	Degree wit	h honours or	honour	s with				
		-	rese	earch							
IV	VII	6.0	14	04	RM:04	00	00	-			
IV	VIII	6.0	14	04	00	00	0JT-04	-			
4-year Degree (Honours)											
IV	VII	6.0	10	04	RM:04	00	RP-04	-			
IV	VIII	6.0	10	04	00	00	RP-08	-			
		4-yea	r Degree	e (Honours	with Researc	eh)					

Sr.		Semeste	Leve	Course	Course Code	Title	Credit
No	Year	r	1	Туре			S
1.	Ι	Ι	4.5	DSC-1	BBACA111T	Computer Fundamentals and Office Automation	03
2.	Ι	Ι	4.5	DSC-2	BBACA112T	Programming Language C	03
3.	Ι	Ι	4.5	SEC-1	BBACA113T	Practical (CF and C)	02
4.	Ι	Ι	4.5	IKS-1	BBACA114T	Science and Technology in Ancient India	02
5.	Ι	II	4.5	DSC-3	BBACA121T	Database Management System	03
6.	Ι	II	4.5	DSC-4	BBACA122T	Web Technology	03
7.	Ι	II	4.5	SEC-2	BBACA123P	Practical(DBMS)	02
8.	Ι	II	4.5	VSC-1	BBACA124P	Practical (WEB)	02
9.	II	III	5.0	DSC-5	BBACA231T	Relational Database Management System	03
10.	II	III	5.0	DSC-6	BBACA232T	Web Development with PHP	03
11.	II	III	5.0	DSC-7	BBACA233T	Data Structure using C	02
12.	II	III	5.0	SEC-3	BBACA234P	Practical (RDBMS)	02
13.	II	III	5.0	FP-01	BBACA235P	Practical (PHP & DS)	02
14.	II	IV	5.0	DSC-8	BBACA241T	Object Oriented Programming Using C++	03
15.	II	IV	5.0	DSC-9	BBACA242T	Advanced Web Development	03
16.	II	IV	5.0	DSC-1 0	BBACA243T	Software Engineering	02
17.	II	IV	5.0	VSC-2	BBACA244P	Practical (C++)	02
18.	II	IV	5.0	CEP-01	BBACA245P	Practical (AWT)	02
19.	III	V	5.5	DSC-11	BBACA351T	Python Programming	04
20.	III	V	5.5	DSC-1 2	BBACA352T	Programming in Core JAVA	04
21.	III	V	5.5	DSC-1 3	BBACA353T	OOSE	02
22.	III	V	5.5	DSE-01	BBACA354T	Angular JS/Block Chain(T+P)	04

23.	III	V	5.5	VSC-3	BBACA355P	Practical	02
24.	III	V	5.5	FP-02	BBACA356P	Practical/Project	02
25.	III	VI	5.5	DSC-1 4	BBACA361T	Advanced JAVA	04
26.	III	VI	5.5	DSC-1 5	BBACA362T	React	04
27.	III	VI	5.5	DSE-2	BBACA363T	Software Testing/ Mongo DB	04
28.	III	VI	5.5	VSC-4	BBACA364P	Practical	02
29.	III	VI	5.5	OJT-01	BBACA365P	Practical/Project	04

Title of	Title of the Course: Computer Fundamentals and Office Automation									
Year: I	-	-	nester: I							
Course	Course Code	Credit Dist	tribution	Credits	Allotte	All	otted M	larks		
Туре		Theory Practic			d					
					Hours					
						CI	ES	Total		
						E	E			
DSC-1	BBACA111T	03	00	03	45	30	70	100		

### Learning Objectives:

The main objective of this course is to introduce the fundamentals of computing devices and reinforce computer vocabulary, particularly with respect to personal use of computer hardware and software, the Internet, networking and mobile computing. It focuses on such computer literacy that prepares students for life-long learning of computer concepts and skills. Students discover why computers are essential components in education, business and society in this course.

On completing the subject, students will be able to:

To understand the basics of computers and working with OS.

To develop working skills with productivity tools, graphics designing and Internet.

To acquire basic programming skills.

To apply computing in problem solving.

### **Course Outcomes (Cos)**

- 1. Understanding the concept of input and output devices of Computers
- 2. Learn the functional units and classify types of computers, how they process information and how individual computers interact with other computing systems and devices.
- 3. Understand an operating system and its working, and solve common problems related to operating systems
- 4. Learn basic word processing, Spreadsheet and Presentation Graphics Software skills.
- 5. Study to use the Internet safely, legally, and responsibly

### **Detailed Syllabus:**

### **Unit I: Introduction to Computers**

- 1.1. Introduction
- 1.2. Characteristics of Computers
- 1.3. Generations of Computer
- 1.4. Block diagram of computer
- 1.5. Concept of Hardware and Software Hardware, Software , Application Software , Systems software

(6)

(6)

(6)

(6)

(8)

- 1.6. Types of computers and features Mini, Micro, Mainframe, Super
- 1.7. Types of Programming Languages Machine, Assembly, High Level
- 1.8. Computer Memory- RAM, ROM, PROM, EPROM
- 1.9. Storage Devices ( FD, CD, HD, Pen drive ), DVD, Blue Ray Disk, Flash Memory 1.9.1.I/O Devices
  - 1.9.2. Input Devices Keyboard, Mouse, Scanners,
  - 1.9.3. Output Devices- Monitor, Digitizers, Plotters. Printer,

## Unit II: Number Systems

- 2.1. Introduction to Number System
- 2.2. Definition of Information, difference between data and information
- 2.3. Importance of Binary Number System, various number systems,
- 2.4. Conversion from Decimal to Binary, Binary to Decimal, binary number into hexadecimal number, hexadecimal number into binary number System.
- 2.5. Simple Addition, Subtraction, Multiplication, Division
- 2.6. Memory Addressing and its Importance, ASCII and BCD & EBCDIC coding System

### Unit III Boolean algebra

- 3.1. Logic Gates AND, OR, NOT, NAND, NOR Gate
- 3.2. Logic circuits Converting expression to logic circuit
- 3.3. Universal NAND gate Universal NOR gate Exclusive OR and equivalence function

### Unit IV : Working of CPU

- 4.1. Evolution and Development of Microprocessor
- 4.2. Working of 8088 Microprocessor
- 4.3. Components of Motherboard
- 4.4. Cabinet, Power Supply & UPS

### Unit V : Operating System and Services in O.S.

- 5.1. Evaluation of OS
- 5.2. Types of O.S.
- **5.3.** Comparison of DOS and Windows
- 5.4. Switching Between DOS and Windows
- 5.5. Basic DOS Commands

File/Directory Manipulations Copying of files and Disks

- Delete/Undelete
- Formatting a floppy

Data Organization – Drives, Files, Directories

5.6. Windows Operating Environment Features of MS – Windows- Control Panel, Taskbar, Desktop, Windows Application, Icons

### Unit VI : Office Automation

### 6.1. MS-Word

Introduction to desktop publishing. Word Processing Basics; Opening and Closing of documents; Text creation and Manipulation; Formatting of text; Table handling; Spell check, language setting and thesaurus; Printing of word document.

### 6.2. MS-Excel

Basics of Spreadsheet; Manipulation of cells; Formulas and Functions; Editing of Spread Sheet, printing of Spread Sheet

### 6.3. MS-Access

(8)

(5)

Creation of files in Database packages.

### 6.4. MS – PowerPoint

Basics of presentation software; Creating Presentation; Preparation and Presentation of Slides; Slide Show; Taking printouts of presentation / handouts.

### Unit VII. Internet and its working

7.1. History, Advantages, Applications, Web browser, Web Server, Protocols, Internet Connection Types,

Internet uses, Internet Security, Virus, Antivirus, Cloud System, Cloud Technology, Cloud Architecture

### **Suggested Readings:**

- 1. Fundamental of Computers By V. Rajaraman B.P.B. Publications
- 2. Fundamental of Computers By P. K. Sinha
- 3. Computer Today- By Suresh Basandra
- 4. MS- Office 2000(For Windows) By Steve Sagman
- 5. Computer Networks By Tennenbum Tata MacGrow Hill Publication

Title of	Title of the Course: Programming Language C									
Year: I			nester: I	-	_					
Course	Course Code	Credit Dist	tribution	Credits	Allotte	Alle	otted M	larks		
Туре		Theory	Practical		d					
					Hours	CI	DO	<b>T</b> (1		
						CI	ES	Total		
						E	E			
DSC-2	BBACA112T	03	00	03	45	30	70	100		

### Learning Objectives:

The course is designed to provide complete knowledge of C language. Students will be able to develop logics which will help them to create programs, applications in C. Also by learning the basic programming constructs they can easily switch over to any other language in future.

In this course, students will learn about:

- Programming basics and the fundamentals of C
- Data types in C
- Mathematical and logical operations
- Using if statement and loops
- Arranging data in arrays
- Implementing pointers
- File management and dynamic memory allocation

### **Course Outcomes (Cos):**

After completing this course, you will be able to:

- 1. Develop a C program
- 2. Control the sequence of the program and give logical outputs
- 3. Implement strings in your C program
- 4. Store different data types in the same memory
- 5. Manage I/O operations in your C program
- 6. Repeat the sequence of instructions and points for a memory location
- 7. Apply code reusability with functions and pointers
- 8. Understand the basics of file handling mechanisms
- 9. Explain the uses of pre-processors and various memory models

### **Detailed Syllabus:**

Unit I: Introduction to C language	(4)
1.1 History and Features of C	()
1.2 Basic structure of C Programming	
1.3 Language fundamentals	
1.3.1 Character set, tokens	
1.3.2 Keywords and identifiers	
1.3.3 Constants, Variables and data types	
1.4. Types of operators : Arithmetic, Unary, Relational and Logical and Conditional	
Operators	
1.4.1 The increment and Decrement Operators,	
1.4.3 Expression.	
1.4.4 Flowchart and Algorithm	
Unit II. I/O Functions and operations	(4)
2.1 Console based I/O and related built-in I/O functions	(4)
2.1 Console based 1/0 and related bulk-in 1/0 functions 2.1 1 printf() scanf()	
2.1.2 getch(), getchar()	
2.1.3 Format specifiers and Backslash character	
2.2 Formatted input and formatted output	
2.3 Program execution phases- A Simple C Program.	
Unit III: Decision Making and looping	(9)
3.1 Introduction	
3.2 Decision making structure	
3.2.1 If statement	
3.2.2 If-else statement	
3.2.3 Nested if-else statement	
3.2.4 Conditional operator	
3.2.5 Switch statement	
3.5 Loop control structures	
3 3 2 Do-while loop	
3.3.3 For loop	
3.3.4 Nested for loop	
3.4 Jump statements	
3.4.1 break	
3.4.2 continue	
3.4.3 go to	
3.4.4 exit	
3.5 Programs through conditional and looping statements	
Unit IV: Arrays and Strings	(9)
4.1 Introduction to one-dimensional Array	
4.1.1 Definition 4.1.2 Declaration	
4.1.3 Initialization	
4.2 Accessing and displaying array elements	
4.3 Finding smallest and largest number from array	
4.4 Reversing array	
4.5 Finding odd/even/prime number from array	
4.6. Introduction to two-dimensional Array	

(05)

(05)

- 4.6.1 Definition
- 4.6.2 Declaration
- 4.6.3 Initialization

4.6.4 Accessing and displaying array elements

4.6.5 Matrices: Addition, Multiplication, Transpose, Symmetry, upper/lower

triangular 4.7 Introductions to Strings

4.7.1 Definition

4.7.2 Declaration

- 4.7.3 Initialization
- 4.8 Standard library functions
- 4.9 Implementations without standard library functions.

Unit V: Structures and union	
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- 5.1 Introduction to structure
  - 5.1.1 Definition
  - 5.1.2 Declaration
  - 5.1.3 Accessing members
- 5.2 structure operations
- 5.3 nested structure
- 5.4 Introduction to union
  - 5.4.1 Definition
  - 5.4.2 Declaration
  - 5.5 Differentiate between structure and union

### Unit VI: Functions

- 6.1 Introduction
- 6.1.1 Purpose of function
- 6.1.2 Function definition
- 6.1.3 Function declaration
- 6.1.4 Function call
- 6.2 Types of functions
- 6.3 Call by value and call by reference
- 6.4 Storage classes
- 6.8 Function Programs

### Unit VII: Introduction to pointer

- 7.1 Definition
- 7.2 Declaration
- 7.3 Initialization
- 7.4 Indirection operator and address of operator
- 7.5 Pointer arithmetic
- 7.6 Dynamic memory allocation
- 7.7 Functions and pointers Programs.

### Unit VIII: File handling

- 8.1 Definitions of files
- 8.2 File opening modes
- 8.3 Standard functions
- 8.4 Random access to files
- 8.5 Command line argument

(03)

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### **Suggested Readings:**

1) Let us C – Yashwant Kanetkar, BPB publication.

- 2) Programming in C Balguruswamy, Tata McGraw-Hill publication.
- 3) Pointers in C Yashwant Kanetkar, BPB publication.
- 4) C programming by Dr.Vishal Lichade dreamtech press.

Title of	Title of the Course: Practical (CF and C)							
Year: I Semester: I								
Course	Course Code	Credit Dist	tribution	Credits	Allotte	All	otted M	Iarks
Туре		Theory	Practical		d			
					Hours			
						CI	ES	Total
						E	E	
SEC-1	BBACA113T	00	02	02	50	15	35	50

### **Course Outcomes (Cos)**

Practical Implementation of C programming language

Practical Implementation of Word, Excel and Powerpoint.

**Detailed Syllabus:** 

## Unit I :- Computer Fundamentals and Office Automation

Sr.	ASSIGNMENT
1.	Introduction to hardware (parts of computer, functions, meaning, importance ) and software (types)
2.	Windows Operating Environment Features of Windows, Control Panel, Taskbar, Desktop, Icons.
3.	Applications of Windows (Paint, Notepad, WordPad)
4.	Introduction to desktop publishing. Word Processing Basics; File Menu - Opening and Closing of documents, Cover page, header, footer, page number, Text Box, WordArt, DropCap, Date & Time, Symbols
5.	Home Menu – Copy, Cut, Paste, Format Painter, Text Formatting, paragraph - bullet, numbering, multiple level numbering
6.	Table handling, Chart, Spell check, language setting and thesaurus, Word Count, New Comment
7.	Table, Picture, ClipArt, Shapes, Chart, hyperlink
8.	Page Layout Menu – Margin, Size, Columns, Watermark, Page color, Page Border, Indent, Spacing, Position, Wrap Text, Forward, Backward
9.	Mailing Menu – Envelop, Mail Merge
10.	View Menu – Print Layout, Full Screen Reading, Macros, Design Menu – Table Styles, Shading, Borders, Draw Table, Eraser Layout Menu – Text Direction, Cell Margins, Sort, Convert to Text
11.	MS-EXCEL File Operation – Open, Close, Save, Save As, New, Print

12.	Home Menu – Cut, Copy, Format Painter, Font Type, Size, Color, Alignment,
	Merge Cell, Increase Decimal, Conditional Formatting, Format Table, Auto sum,
	Sort & Filter
13.	Insert Menu – Table, Pivot Table, Picture, ClipArt, Shapes, Chart – types,
	Hyperlink, Text Box, Header, Footer, WordArt
14.	Page Layout – Margin, Orientation, Size, Print Area, Color, Grid Line, Heading
	Formula Menu – Insert Functions,
	Data Menu – Sorting, Group, Ungroup
	View Menu – Normal, Page layout, page break, custom, full screen, zoom.
15	Power point -Create ppt, insert, design, animation, slide show.

## **Unit -II :- Programming Language C**

Sr.	ASSIGNMENT
1	First C Program, Compile and Run Program, Demonstration of Arithmetic Operator, Finding Maximum between Two and Three Numbers, Display Quotient, Remainder, Illustration of Increment and Decrement operators, Use of Operators,
2	Input / output functions, Accept input using Keyboard and Display output
3	Programs of Control Structure i.e. if else, if else if, if else ladder, etc.
4	Programs of Switch statements.
5	Progrmas of Loop Structure i.e. while, do while, for, etc.
6	Programs of Nested Loop, Pattern Programs.
7	Programs of 1D Array, accept n elements of 1D array and then display sum, program to find maximum and minimum elements of 1D array, program to calculate sum of all odd elements of 1-D array, sorting array, display union, intersection, etc.
8	Programs of 2D array, Matrix programs, sum, addition, multiplication, transpose,
9	String Programs, operations i.e. strlen, strcmp, strcpy, strcat, and string operations programs.
10	Programs of various functions like factorial, perfect number, prime number, sum of digit, etc. reverse number, palindrome number, armstring number, etc.
11	Programs of various functions like reverse number, palindrome number, armstring number, etc.
12	Programs of pointers, program to display the elements of an array containing n integers in the reverse order using a pointer to the array, Pass the addresses of the counters to the function, dynamic memory allocation, etc.
13	Programs of structure, create structure and functions based on structure.
14	File Handling programs- Create, Read, Write Files
15	Command Line Argument Programs

Title of	Title of the Course: Science and Technology in Ancient India							
Year: I	Year: I Semester: I							
Course	Course Code	Credit Dist	Credit Distribution		Allotte	All	otted M	Iarks
Туре		Theory	Practical		d			
					Hours	CI	ES	Total
						E	E	
IKS-1	BBACA114T	02	00	02	50	15	35	50

### Learning Objectives:

1. To introduce learners to the landscape of Vedic literature with broad taxonomy of Indian knowledge systems.

2. Creating awareness amongst the youths about the true history and rich culture of the country.

3. Understanding the scientific value of the traditional knowledge of India.

4. Promoting the youths to do research in the various fields of Indian knowledge system.

### **Course Outcomes (Cos):**

1. youth will be aware about the true history and rich culture of the country, also the history of printing and publishing in India.

2. Youths can do research in various interdisciplinary courses of Indian knowledge system.

### **Detailed Syllabus:**

Unit I : Importance of the Study of History of Science	(15)
1.1 Indian Knowledge System and overview.	
1.2 Importance of Ancient Knlowledge	
1.3 Defining Indian Knoelwdgw system.	
1.4 The IKS corpos-a classification framework	
1.5 The vedic corpos –Introduction to vedas and four vedas	
1.6 vedic life features	
Unit II : History of Mathematics in Ancient India	(15)
2.1 Number system and unit of measurements.	
2.2 Gautam Buddha philosophy on number system.	
2.3 Historical evidence of number system in India.	
2.4 Features of Indian Number Sytsem.	
2.5 Approaches to represent Number.	
2.6 Measurement of time, distance and weight.	
2.7 Pingala and the binary system.	
2.8 Great mathematicians and their contributions	
2.9 Unique aspects of Indian Mathematics.	
Suggested Readings/Material:	
https://ndl.iitkgp.ac.in/ https://doaj.org/ https://www.doabooks.org/ https://nptel.ac.in/ https://shodhganga.inflibnet.ac.in/ https://epgp.inflibnet.ac.in/ https://oatd.org/ https://openknowledge.worldbank.org/ http://liiofindia.org/	

http://www.oapen.org/content/ https://www.ncbi.nlm.nih.gov/pmc/?cmd=search&term https://dev.gutenberg.org/

https://www.highwirepress.com/ https://libguides.southernct.edu/openaccess http://agris.fao.org/agris-search/index.do https://www.sciencedirect.com/#open-access https://www.aiddata.org/

https://ilostat.ilo.org/ https://academic.oup.com/journals/pages/open\_access https://www.projecteuclid.org/librarians/lib\_oa https://www.springeropen.com/journals https://www.tandfonline.com/openaccess/openjournals https://www.cambridge.org/core/what-we-publish/open-access

### Ahmednagar Jilha Maratha Vidya Prasarak Samaj's

## New Arts, Commerce and Science College, Ahmednagar (Autonomous) Syllabus B.B.A.(C.A.)(Major)

Title of	Title of the Course: Database Management System							
Year: I	Year: I Se					-		
Course	Course Code	Credit Distribution		Credits	Allotte	Allotted Marks		Iarks
Туре		Theory	Practical		d			
					Hours	CI	FS	Total
						E	E	10141
DSC-3	BBACA121T	03	00	03	45	30	70	100

### Learning Objectives:

The objective of the course is to present an introduction to database management systems, with an emphasis on how to organize, maintain and retrieve - efficiently, and effectively - information from a DBMS.

This course introduces the core principles and techniques required in the design and implementation of database systems. This course focus on relational database management systems, including database design theory: E-R modeling, data definition and manipulation languages, database security and administration. It also covers essential DBMS concepts such as: Transaction Processing, Concurrency Control and Recovery and various types of databases like distributed database, and intelligent database, Client/Server. Students undertake a semester project to design and build a simple database system and demonstrate competence with the fundamental tasks involved with modeling, designing, and implementing a DBMS. It also provides students with theoretical knowledge and practical skills in the use of databases and database management systems in information technology applications.

### **Course Outcomes (Cos)**

Upon successful completion of this course, students should be able to:

• Describe the fundamental elements of relational database management systems

• Explain the basic concepts of relational data model, entity-relationship model, relational database design, relational algebra and SQL.

• Design ER-models to represent simple database application scenarios

• Convert the ER-model to relational tables, populate relational databases and formulate SQL queries on data.

• Improve the database design by normalization.

• Familiar with basic database storage structures and access techniques: file and page organizations, indexing methods including B tree, and hashing.

### Unit I:

### File Structure and Organization(07)

1.1 Introduction

1.2 Logical and Physical Files

1.2.1 File

- 1.2.2 File Structure
- 1.2.3 Logical and Physical Files Definitions
- 1.3 Basic File Operations
  - 1.3.1 Opening Files
  - 1.3.2 Closing Files
  - 1.3.3 Reading and Writing
  - 1.3.4 Seeking
- 1.4 File Organization
  - 1.4.1 Field and Record structure in file
  - 1.4.2 Record Types
  - 1.4.3 Types of file organization
  - 1.4.3.1 Sequential
  - 1.4.3.2 Indexed
  - 1.4.3.3 Hashed

1.5 Indexing

- 1.5.1 What is an Index?
- 1.5.2 When to use Indexes?
- 1.5.3 Types of Index
- 1.5.3.1 Dense Index
- 1.5.3.2 Sparse Index

### Unit II: Database Management System

(10)

- 2.1 Introduction
  - 2.2 Basic Concept and Definitions
  - 2.2.1 Data and Information
  - 2.2.2 Data Vs Information
  - 2.2.3 Data Dictionary
  - 2.2.4 Data Item or Field
  - 2.2.5 Record
- 2.3 Definition of DBMS
- 2.4 Applications of DBMS
- 2.5 File processing system Vs DBMS
- 2.6 Advantages and Disadvantages of DBMS
- 2.7 Users of DBMS
  - 2.7.1 Database Designers
  - 2.7.2 Application programmer
  - 2.7.3 Sophisticated Users
  - 2.7.4 End Users
- 2.8 Views of Data
- 2.9 Data Models
  - 2.9.1 Object Based Logical Model
    - 2.9.1.1. Object Oriented Data Model
    - 2.9.1.2. Entity Relationship Data Model
  - 2.9.2 Record Base Logical Model
    - a. Relational Model
      - b. Network Model
      - c. Hierarchical Model
- 2.10 Entity Relationship Diagram(ERD)
- 2.11 Extended features of ERD
- 2.12 Overall System structure

### **Relational Model**

#### 3.1 Introduction

3.2 Terms

**Unit III:** 

- 1. Relation
- 2. Tuple
- 3. Attribute
- 4. Cordinality
- 5. Degree of relationship set
- 6. Domain
- 3.3 Keys
- 3.3.1 Super Key
- 3.3.2 Candidate Key
- 3.3.3 Primary Key
- 3.3.4 Foreign Key
- 3.4 Relational Algebra Operations
  - 1) Select
    - 2) Project
    - 3) Union
    - 4) Difference
    - 5) Intersection
    - 6) Cartesian product
    - 7) Natural Join

### Unit IV: SQL (Structured Query Language)

4.1 Introduction

- 4.2 History Of SQL
- 4.3 Basic Structure
- 4.4 DDL Commands
- 4.5 DML Commands
- 4.6 Simple Queries
- 4.7 Nested Queries
- 4.8 Aggregate Functions
- 4.9. String Functions 4.10. Date Functions
- 4.10. Date Functions

### **Unit V: Relational Database Design**

- 5.1 Introduction
- 5.2 Anomalies of un normalized database
- 5.3 Normalization
- 5.4 Normal Form
  - 5.4.1 1 NF 5.4.2 2 NF 5.4.3 3 NF 5.4.3.4 BCNF

#### **Suggested Readings:**

1) Database System Concepts By Henry korth and A. Silberschatz

2) SQL, PL/SQL The Programming Language Oracle :- Ivan Bayross, BPB Publication.

- 3) Database Systems Concepts, Designs and Application by Shio Kumar Singh, Pearson
- 4) Introduction to SQL by Reck F. van der Lans by Pearson
- 5) Modern Database Management by Jeffery A Hoffer, V.Ramesh, Heikki Topi, Pearson
- 6) Database Management Systems by Debabrata Sahoo ,Tata MacgrawHill

(8)

(10)

(10)

(06)

(06)

## 7) Understanding of DBMS – B.W. Khalakr, Parthsarthi Ahmednagar Jilha Maratha Vidya Prasarak Samaj's New Arts, Commerce and Science College, Ahmednagar (Autonomous) Syllabus B.B.A.(C.A.)(Major)

Title of	Title of the Course: Web Technology							
Year: I	Year: I					-		
Course	Course Code	Credit Distribution		Credits	Allotte	All	otted M	Iarks
Туре		Theory	Practical		d			
					Hours			
						CI	ES	Total
						E	E	
DSC-4	BBACA122T	03	00	03	45	30	70	100

### **Learning Objectives:**

This course is intended to teach the basics involved in publishing content on the World Wide Web. This includes the 'language of the Web' – HTML, the fundamentals of how the Internet and the Web function, a basic understanding of graphic production with a specific stress on creating graphics for the Web, and a general grounding introduction to more advanced topics such as programming and scripting. This will also expose students to the basic tools and applications used in Web publishing.

### **Course Outcomes (Cos)**

The student will be able to:

- Analyze a web page and identify its elements and attributes.
- Create web pages using XHTML and Cascading Style Sheets.
- Build dynamic web pages using JavaScript (Client side programming).
- Create XML documents and Schemas.
- Build interactive web applications using AJAX

### **Detailed Syllabus: Example**

### **1 1. Introduction**

- 1.1 Clients- Servers and Communication
- 1.2 Internet-Basic, Internet Protocols (HTTP, FTP, IP)
- 1.3 World Wide Web(WWW)
- 1.4 HTTP request message, HTTP response message

### 2 2. Web Design

- 2.1 Concepts of effective web design
- 2.2 Web design issues including Browser Bandwidth and Cache
- 2.3 Display resolution
- 2.4 Look and Feel of the Website
- 2.5 Page Layout and linking

2.6	User	centric	design
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2.7 Sitemap

2.8 Planning and publishing website

2.9 Designing effective navigation

### 3. HTML

(12)

(08)

(08)

(05)

3.6 List, Table, Frames3.7 Embedding Audio, Video

3.4 Physical and Logical HTML

3.1 Introduction to HTML3.2 Basic HTML Structure3.3 Common HTML Tags

- 3.8 HTML form and form elements
- 3.9 Introduction to HTML Front Page

3.5 Types of Images, client side and server-side Image mapping

# **4. Style sheets** 4.1 Need for CSS

4.2 Introduction to CSS

- 4.3 Basic syntax and structure
  4.4 Using CSS4.4.1 background images, colors and properties,
  4.4.2 manipulating texts, using fonts, borders and
  boxes, margins, padding lists, positioning
  using CSS
  4.5 Overview and features of CSS2 and CSS3

  5. Intro to JavaScript
  5.1 Introduction to Javascript
- 5.2 Identifier & operator, control structure, functions
- 5.3 Document object model(DOM),
- 5.4 DOM Objects (window, navigator, history, location)

### 6. JS Function And Array

- 6.1 Predefined functions, math & string functions
- 6.2 Array in Java scripts
- 6.3 Event handling in Javascript
- 6.4 Different framework in JS.

### **Suggested Readings:**

- 1. Business Mathematics by Dr. AmarnathDikshit and Dr. Jinendrakumar Jain.
- 2. Business Mathematics by V. K. Kapoor Sultan, Chand and sons. Delhi.
- 3. Business Mathematics by Bari New Literature publishing company, Mumbai.
- 4. Operation Research by S. D. Sharma Sultan, Chand and sons.
- 5. Operation Research by J. K. Sharma Sultan, Chand and sons

Title of	Title of the Course: Practical( DBMS)							
Year: I Semester: I								
Course Type	Course Code	Credit Distribution Theory Practical		Credits	Allotte d	Allotted Marks		larks
					Hours	CI E	ES E	Total
SEC-2	BBACA123P	00	02	02	50	15	35	50

### **Course Outcomes (Cos)**

Practical Implementation of DBMS.

### **Detailed Syllabus:**

Assn	WEEK	ASSIGNMENT
NO		
1.	First	DDL COMMANDS
		CREATE TABLE (Create table and insert record in the table)
2.	Second	Alter table command
		With ADD and MODI options
3.	Third	Drop Command
		Rename Command
		Truncate Command
4.	Fourth	DML COMMAND
		Select Command
		Insert Command
5.	Fifth	Update Command
		Delete Command
6.	Sixth	TCL Command
		Grant, Revoke, Commit, Rollback
7.	Seventh	Functions :
		Aggregate Function
		String Function

		Date Function				
8.	Eight	Group by and having clause				
	-	Order by clause				
9.	Ninth	Operators				
		AND, OR, NOT, IN, NOT IN, BETWEEN, LIKE, DISTINCT,				
		ALIAS				
10.	Tenth	CONSTRAINTS				
		Primary Key, check, not null, Foreign Key				
11.	Eleventh	JOIN QUERY, SUBQUERY				
12.	Twelve	1 – 1 Relationship Assignment				
13.	Thirteenth	1 – M Relationship Assignment				
14.	Fourteenth	M – 1 Relationship Assignment				
15.	Fifteenth	M – M Relationship Assignment				

Title of the Course: Practical (Web Technology)											
Year: I S				mester: I							
Course	Course Code	Credit Distribution		Credits	Allotte	Allotted Marks					
Туре		Theory	Practical		d						
					Hours	CI	TO				
						CI	ES	Total			
						E	E				
VSC-1	BBACA124P	00	02	02	50	15	35	50			

### **Course Outcomes (Cos)**

Practical Implementation of Web Development with HTML, CSS, Java Script.

### **Detailed Syllabus: Example**

WEEK-1

- 1. Print Simple "Hi" using HTML.
- 2. Print "Hello world" to make it bold.
- 3. Print "Hello world" and make it italic.
- 4. Print 'Jay Maharashtra' word and make it underline.
- 5. List kings of India on separate lines give horizontal lines after each king.
- 6. Write an essay on 'Chhatrapati Shivaji Maharaj' using paragraph, bold, italic, underline, break row tags.
- 7. Make a list of top 5 cricketers in India print all their names in different sizes using H1 to H6.
- 8. Make a list of 5 programming languages and link them to their official website using hyper reference and anchor tags.
- 9. Take image of good Vithal and show it on HTML page also give details bellow image
- 10. Make a complete web page orange with bg property

#### WEEK 2

- 11. Change font of text
- 12. Change text color.
- 13. Write a mathematical formula in the html page.
- 14. Change the font size of any word.
- 15. Make the news of India win the match with pakistan and virat kohli scores 150. In html
- 16. Link image to website. Take image of lord Vithal and link it to official website of pandharpur devasthan
- 17. Make a table to show your subject and marks of 12th
- 18. Merge row in table.
- 19. Merge column in table.
- 20. Make a list of all Indian cricketers there score in one match in table.
- 21. Html form assignment for simple label
- 22. Html form assignment for simple text box
- 23. Html form assignment for radio button
- 24. Html form assignment for simple drop down
- 25. Html form assignment for button
- 26. Html form assignment for simple contact form
- 27. Html form assignment for college admission form in html
- 28. Html form assignment for event registration
- 29. Make a complete web page using html for flower shop
- 30. Make a complete web page for information of chatrapati shivaji maharaj

- 31. Use inline CSS change font size
- 32. Use inline CSS change font color
- 33. Use inline CSS change font family
- 34. Use inline CSS change background color
- 35. Use inline CSS set border
- 36. Use internal CSS change font size
- 37. Use internal CSS change font color
- 38. Use internal CSS change font family
- 39. Use internal CSS change background color
- 40. Use internal CSS set border
- 41. Use external CSS change font size
- 42. Use external CSS change font color
- 43. Use external CSS change font family
- 44. Use external CSS change background color
- 45. Use external CSS set border

#### WEEK 4

- 46. Use bg border and color property in single program
- 47. Use all property of CSS in internal CSS single program
- 48. Use all property of CSS in External CSS single program
- 49. Using CSS and HTML design a website of our our college make 4 web pages
- 50. Using CSS and HTML design a website of our our BBA(CA) make 4 web pages

#### WEEK 5

- 51. JavaScript Program To Print Hello World
- 52. JavaScript Program to Add Two Numbers
- 53. JavaScript Program to Find the Square Root
- 54. JavaScript Program to Calculate the Area of a Triangle
- 55. JavaScript Program to Swap Two Variables
- 56. Javascript Program to Solve Quadratic Equation
- 57. JavaScript Program to Convert Kilometers to Miles

#### WEEK 6

- 58. Javascript Program to Convert Celsius to Fahrenheit
- 59. Javascript Program to Generate a Random Number
- 60. Javascript Program to Check if a number is Positive, Negative, or Zero
- 61. Javascript Program to Check if a Number is Odd or Even
- 62. JavaScript Program to Find the Largest Among Three Numbers
- 63. JavaScript Program to Check Prime Number
- 64. JavaScript Program to Print All Prime Numbers in an Interval

#### WEEK 7

- 65. JavaScript Program to Find the Factorial of a Number
- 66. JavaScript Program to Display the Multiplication Table
- 67. JavaScript Program to Print the Fibonacci Sequence
- 68. JavaScript Program to Check Armstrong Number
- 69. JavaScript Program to Find Armstrong Number in an Interval
- 70. JavaScript Program to Make a Simple Calculator
- 71. JavaScript Program to Find the Sum of Natural Numbers

- 72. JavaScript Program to Check if the Numbers Have Same Last Digit
- 73. JavaScript Program to Find HCF or GCD
- 74. JavaScript Program to Find LCM
- 75. JavaScript Program to Find the Factors of a Number
- 76. JavaScript Program to Find Sum of Natural Numbers
- 77. JavaScript Program to Guess a Random Number

78. JavaScript Program to Display Fibonacci Sequence

#### WEEK 9

- 79. JavaScript Program to Find Factorial of Number
- 80. JavaScript Program to Convert Decimal to Binary
- 81. JavaScript Program to Find ASCII Value of Character
- 82. JavaScript Program to Check Whether a String is Palindrome or Not
- 83. JavaScript Program to Sort Words in Alphabetical Order
- 84. JavaScript Program to Replace Characters of a String
- 85. JavaScript Program to Reverse a String

#### **WEEK 10**

- 86. JavaScript Program to Check the Number of Occurrences of a Character in the String
- 87. JavaScript Program to Convert the First Letter of a String into UpperCase
- 88. JavaScript Program to Count the Number of Vowels in a String
- 89. JavaScript Program to Check Whether a String Starts and Ends With Certain Characters
- 90. tJavaScript Program to Replace All Occurrences of a String
- 91. JavaScript Program to Create Multiline Strings

#### **WEEK 11**

- 92. JavaScript Program to Format Numbers as Currency Strings
- 93. JavaScript Program to Generate Random String
- 94. JavaScript Program to Check if a String Starts With Another String
- 95. JavaScript Program to Trim a String
- 96. JavaScript Program to Convert Objects to Strings
- 97. JavaScript Program to Check Whether a String Contains a Substring
- 98. JavaScript Program to Perform Case Insensitive String Comparison

#### **WEEK 12**

- 99. JavaScript Program to Replace all Instances of a Character in a String
- 100. JavaScript Program to Display Date and Time
- 101. JavaScript Program to Check Leap Year
- 102. JavaScript Program to Format the Date
- 103. Javascript Program to Display Current Date
- 104. JavaScript Program to Compare The Value of Two Dates
- 105. JavaScript Program to Create Countdown Timer

- 106. JavaScript Program to Remove Specific Item From an Array
- 107. JavaScript Program to Check if An Array Contains a Specified Value
- 108. JavaScript Program to Insert Item in an Array
- 109. JavaScript Program to Append an Object to An Array
- 110. JavaScript Program to Check if An Object is An Array
- 111. JavaScript Program to Empty an Array
- 112. JavaScript Program to Add Element to Start of an Array

### **WEEK 14**

- 113. JavaScript Program to Remove Duplicates From Array
- 114. JavaScript Program to Merge Two Arrays and Remove Duplicate Items
- 115. JavaScript Program to Sort Array of Objects by Property Values
- 116. JavaScript Program to Create Two Dimensional Array
- 117. JavaScript Program to Extract Given Property Values from Objects as Array
- 118. JavaScript Program to Compare Elements of Two Arrays

- 119. JavaScript Program to Get Random Item From an Array
- 120. JavaScript Program To Perform Intersection Between Two Arrays
- 121. JavaScript Program to Set a Default Parameter Value For a Function
- 122. JavaScript Program to Illustrate Different Set Operations
- 123. Javascript Program to Generate a Random Number Between Two Numbers