#### Late Ku. Durga K. Banmeru Science College, Lonar Dist-Buldana Department of Computer Science

Teaching Plan Session-2017-18
B.Sc.-I<sup>st</sup> Semester-I<sup>st</sup>

### 1S : Computer Science or Computer Application or Information Technology Paper-I Computer Fundamentals and C Programming

Sr. No.	Month	Name of Unit	Topics Names	Required Lecture	
	July	UNIT-I:	Characteristics, classification of Computers, block	04	
		Introduction to	diagram of computer, memory and their types: Primary	03	
		Computers	and second ary memory . Peripheral devices :	03	15
			Keyboard, mouse, scanner, printers : Impact, Non-	02	
			impact, DMP, inkjet, Laser.	03	
2		UNIT-II:	DOS - Posting process formatting directory structure	04	
	July - Aug	Introduction to OS:	DOS: Booting process, formatting, directory structure, FAT. Internal DOS commands: REN, CD, MD,RD, DIR, DEL, COPY, TYPE, DATE, TIME, COPYCON, PROMPT External commands: FORMAT, XCOPY, CHKDSK, PATH, ATTRIB, AUTOEXEC. BAT, CONFIG.SYS Windows: Introduction, features, Windows Explorer Number system: Decimal, binary, octal, hexadecimal and their conversions, ASCII Code.	04 04 03 04	15
3		UNIT-III: Introduction to Internet:	Direct, Types of Internet connection: Direct dial-up, broadband, Internet protocol: TCP/IP, FTP, HTTP, Domain name e-mail address, WWW, web browser: Internet Explorer. Netscape navigator, search engines.	04 03 03 02 03	15
4		UNIT-IV: Programming Concept:	Algorithm flowcharting programming languages, assembler, interpreter, compiler programming process: program design, coding compilation, Execution, testing, debugging documentation structured programming:	04 04 03 04	15

		features and approaches		
5	UNIT-V:	: Introduction to C, History, features structure of C	04	15
	Elements of C	program, header file, character set, keywords,	03	
		identifiers, constants, variables, basic data types,	03	
		symbolic constants, typedef operators & Expressions:	02	
		Arithmetic, Relational, logical assignment, Increment	03	
		and decrement, precedence of operators.		
6	UNIT- VI : I/O Operations :	Formatted I/O: Printf(), Scanf(), Unformatted I/O: getch(), getche(), getchar(), putch(), putche(), putchar(), gets(), Puts(), Controal structure: if, if else, nested if, conditional operator, switch, goto, for, while, dowhile, nest ing of loops, break, continue.	04 04 03 04	15

#### Late Ku. Durga K. Banmeru Science College, Lonar Dist-Buldana **Department of Computer Science**

**Teaching Plan Session-2017-18** 

## B.Sc.-I<sup>st</sup> Semester-II<sup>nd</sup> Paper - Computer Application or Information Technology Data Structure and Advance C

Sr. No.	Month	Name of Unit	Topics Names	Required Lecture	
1	Dec- Jan-	UNIT-I:	Introduction to Data structure, type of data structures, list, array, stack and Queue; Algorithms of traversing, insertion	04 03	
			and deletion operation on it.	03	15
				02	
				03	
2	Jan	UNIT-II	: Linked list & its implementation, traversing, insertion, deletion algorithms, circular Queue.	04 04 03 04	15
3	Feb	UNIT-III	Tree: Binary, Binary search tree, tree Traversing: inorder, preorder and postorder, sorting and searching Techniques:  Bubble sort, insertion sort and selection sort, linear search, Binary search.	04 03 03 02 03	15
4	Feb March	UNIT-IV	Function: Definition, prototype, local & global variable, function parameter, function calling and return, return values and their types, function recursion Arrays:  Declaration and initialization of one and two dimensional arrays, function with array.	04 04 03 04	15
5	March	UNIT-V	String Handling: Declaring and initialization of string variable, operations on string: String copy comparison, concatenation. Pointers: Declaration and initialization, pointer and address arithmetic, Pointer comparison, Pointer and array.	04 03 03 02 03	15

6	April	UNIT-VI	:Structure : Definition and declaration , initialization, array of structure , nested structure Union File Handing : Definition and opening a file, closing a file , I/O Operations on file :	04 04 03 04	15

#### Late Ku. Durga K. Banmeru Science College, Lonar Dist- Buldana Department of computer science

## Department of computer science Teaching Plan Session-2017-18 B.Sc.-II<sup>nd</sup> Semester-III<sup>rd</sup> Paper-Object-Oriented Programming with C++ and Web Technology

Sr. No.	Month	Name of Unit	Topics Names	Requ. Lecture	Total Lects
1	July	Unit I:	Concept of OOP, Comparision with POP, features of OOP,	04	15
			advantages and applications of OOP, Introduction to C++, structure of C++ program, tokens, keywords, identifiers, basic	03	
			data types & user defined data types, Constants, variables,	03	
			declaration of variables, dynamic initialization of variables, types of symbolic constants	02	
			cypes of symbolic constants	03	
2	July Aug	Unit II :	Operators: Scope resolution operator, member dereferencing operator, implicit & explicit conversions. Control structures: if, switch, dowhile, while, for statements Functions: Function prototype, Function calling and returning, their types, inline functions, default arguments, constant arguments, function overloading	04 04 03 04	15
3	Aug	Unit III :	Classes and objects: Data abstraction and, Encapsulation, Data Hiding, class specification, defining objects, accessing class member, defining member functions, Nesting of member function, friend functions, passing objects as arguments, Returning objects from functions. Constructors: Defining constructor, parameterized constructor, multiple constructors in a class, constructor with default argument, copy constructor, destructor.	04 03 03 02 03	15
4	Sept	Unit-IV	Basic elements of communication system, Network concept, advantages, goals, network topologies: Star, ring, completely connected N/W, Hybrid N/W, multipoint n/w, LAN, WAN, OSI model	04 04 03 04	15
5	Sept	Unit V	HTML : Introduction, Need of HTML application of HTML,	04	15
			Basic structure of HTML, HTML tags and attributes : Adding	03	
			tags, include attributes < HTML >, < HEAD >, < TITLE >, < BODY >, < P >, < Br >, < HR >, Heading tags, table tags,, <	03	

			IMG>, , , < MARQUEE>,< BLOCKQUOTE >, < A >, < I >, < B >, list tag, Attributes : allign, background colour, text color	02 03	
6	Oct	Unit VI	Style sheet: advantages of style sheet & applications of style sheet, CSS: Introduction, CSS stylesheet properties: Units, classes and ID attributes. Properties: Text, font, colour, background, border, display, height, line, margin, width, CSS with HTML.	04 04 03 04	15

### Late Ku. Durga K. Banmeru Science College, Lonar Dist- Buldana Department of computer science

# Department of computer science Teaching Plan Session-2017-18 B.Sc.-II<sup>nd</sup> Semester-IV<sup>th</sup> Paper - Advanced C++ and Web Designing

Sr. No.	Month	Name of Unit	Topics Names	Requ. Lecture	Total Lects
1	Dec-17 Jan-18	Unit I :	Arrays and Pointers: one-dimentional, two-dimentional arrays, Defining Pointers, arrays of objects, Pointer to objects, this pointer operator overloading: Defining operator overloading, overloading arrays, Binary, and assignment operators, rules for overloading operators.	04 04 03 04	15
2	Jan	Unit II :	Inheritance: Introduction, derived classes, Single inheritance, multiple inheritance, Hierarchical and Hybrid inheritance. Templates: Function, class, members and Function templets.	04 03 03 02 03	15
3	Feb	Unit III :	: Virtual Functions and Polymorphism :- Introduction, Pointers to derived class, dynamic binding, defination of Virtual Function, pure Virtual Functions, Rules For Virtual Functions. Working with Files : Introduction, Hierarchy of File Stream Classes, opening and closing of Files, File modes, File pointers and their manipulations, File Input/Output with Fstream class	04 04 03 04	15
4	Feb March	Unit IV :	Introduction to XML: History of Markup languages, features of XML, Simple XML document, logical structure of XML elements, Components of XML documents: The document prolog and document instance. CSS with XML.	04 03 03 02 03	15
5	March	Unit V:	Document type Defination (DTD): Introduction, need of DTD, declaring elements, element content models, declaring attributes, attribute types : internal and external DTD, entities and their types	04 04 03 04	15
6	April	Unit VI:	XML Schemas : Introduction, features, Comparison with	04	15

	DTD, Schema elements, element type element attributes,	03	
	XML schema data types, converting DTD to schema,	03	
	Namespaces: Introduction, declaration, default & prefit namespaces, scope of namespaces collusion & Applications	02	
		03	

### Late Ku. Durga K. Banmeru Science College, Lonar Dist- Buldana Department of computer science

## Department of computer science Teaching Plan Session-2017-18 B.Sc.-III<sup>rd</sup> Semester-V<sup>th</sup> Paper- RDBMS AND VISUAL BASIC

No.	Month	Name of Unit	Topics Names	Requ. Lecture	Total Lects
1	July	<b>Unit-I</b> :	Fundamental of DBMS : Architecture of a database system,,	04	15
			data independence, database models; Relational Hierarchical, network; data dictionary	03	
			Relational Model: Relations, Domains and Attributes keys, E-R diagrams, Reducing E-R diagrams to tables, function	03	
			dependency, Normalization Process, Normal forms: 1NF, 2NF, 3NF, 4NF, BCNF.	02	
				0.5	
2	July	Unit-II:	Introduction to SQL : Components of SQL, data types,	04	15
	Aug		operators, DDL Commands : CREATE, ALTER, DROP, for tables		
			& views. DML Commands : SELECT, INSERT, DELETE & UPDATE;		
			Clauses : ORDER BY, GROUP BY and HAVING	04	
3	Sept	Unit III:	Introduction to SQL : Components of SQL, data types,	04	15
			operators, DDL Commands : CREATE, ALTER, DROP, for	04	
			tables & views. DML Commands : SELECT, INSERT, DELETE &	03	
			UPDATE; Clauses : ORDER BY, GROUP BY and HAVING;	04	
4		unit IV :	: Introduction to Visual Basic : Visual programming, event	04	
			driven programming, VB Environment : New Project	03	
			window, property window, Form layout window, toolbar,	03	15
			menu bar, tool box, form window; Managing Control : Form	02	
			properties, pointer tool, label control, text box, command	03	
			button, picture box, image		
5	Comt	T1:4 T7 -	Creating Manual Application with all for many and all the	0.4	15
3	Sept	Unit V:	Creating Menus: Application wizard for menu, menu editor, creating menu, adding code to menus, data types &	04 04	13
			variables. Operators : Conditional operators, logical	03	
			operators, control structures : If-else, Nested If—else, select	04	
			case, goto do loop, for loop, nested for loop		-

6	Oct	Unit VI:	Introduction to Internal Functions : Msgbox(), named	04	15
			constant, default buttons, specifying icons. Input box(), title,	03	
			caption; using check box and option butto	03	
				02	
				03	
			VB Programmes : Private and public procedure, passing data		
			by reference and value, passing control as arguments		

#### Late Ku. Durga K. Banmeru Science College, Lonar Dist- Buldana Department of computer science

## Department of computer science Teaching Plan Session-2017-18 B.Sc.-III<sup>rd</sup>Semester-VI<sup>th</sup> Paper -PL/SQL AND ADVANCED VISUAL BASIC

Sr. No.	Month	Name of Unit	Topics Names	Requ. Lecture	Total Lects
1	Dec-17	Unit- I:	: Data Integrity, types of integrity constants. Functions :	04	15
	Jan-18		Number Functions - AVG, MAX, MIN, SUM, COUNT, TO-	03	
			NUMBER, GREATEST, LEAST, ABS, MOD, FLOOR, CEIL,	03	
			TRUNC, SQRT, SIGN, SIN, COS, LOG, EXP. Character Function: INITCAP, LOWER, UPPER, INSTR LENGTH, LTRIM, RTRIM,	02	
			LPAD, RPAD, SOUNDEX, DECODE. Joins and Unions : Self,	03	
			equi and outer join, unions and intersection.		
				0.4	15
2	Jan	Unit- II :	: PL/SQL : Features and block structure, variables and constant, data types, control structure. Cursor : Concepts of cursor,	04 04	15
			types, declaring, opening, using cursors, fetching data, closing	03	
			a cursor, cursor attributes. Transaction: Rollback, commit and autocommit, save point, rollback segment	04	
3	Feb	Unit- III :	a) Securities of Database : Users, creating users, roles,	04	15
			creating roles, types of previleges, GRANT and REVOKE	03	
			command, data locks	03	
				02	
				03	
				US	

4	Feb March	Unit-IV:	Dialog Box Control: Need for dialog box control, adding the dialog box control, producing the color dialog box control, handling the cancel button, producing the font dialog box, producing the open dialog boxes, producing file save dialog boxes, producing the print dialog boxes. Mouse and Control: Mouse response, list box controls, combo box control, timer control, working with arrays, declaring arrays, multiple list boxes	04 04 03 04	15
5	March	Unit-V:	: Working with Forms : Form collections, accessing the form collection using the subscripts, the count property, uploading forms, placing text on forms, format with print, positioning the print method, multiple forms, placing tool bars on forms	04 03 03 02 03	15
6	April	Unit VI :	: Working with Files : Open statement, file modes, locking the file, close statement, working with sequential access file, print# statement, input# statement, write# statement, working with random access file, put statement, get statement, defining user defined data types, file control, file related commands	04 03 03 02 03	15

#### Late Ku. Durga K. Banmeru Science College, Lonar Dist-Buldana Department of Computer Science

### Teaching Plan Session-2018-19 B.Sc.-I<sup>st</sup> Semester-I<sup>st</sup>

### <u>Paper -:</u> Computer Science or Computer Application or Information Technology Paper-I Computer Fundamentals and C Programming

Sr. No.	Month	Name of Unit	Topics Names	Required Lecture	
	July	UNIT-I: Introduction to Computers	Characteristics, classification of Computers, block diagram of computer, memory and their types: Primary and secondary memory . Peripheral devices : Keyboard, mouse, scanner, printers : Impact, Non-impact, DMP, inkjet , Laser.	04 04 03 04	15
2	July - Aug	UNIT-II: Introduction to OS:	DOS: Booting process, formatting, directory structure, FAT. Internal DOS commands: REN, CD, MD,RD, DIR, DEL, COPY, TYPE, DATE, TIME, COPYCON, PROMPT External commands: FORMAT, XCOPY, CHKDSK, PATH, ATTRIB, AUTOEXEC. BAT, CONFIG.SYS Windows: Introduction, features, Windows Explorer Number system: Decimal, binary, octal, hexadecimal and their conversions, ASCII Code.	04 03 03 02 02	15
3		UNIT-III : Introduction to Internet :	Direct, Types of Internet connection: Direct dial-up, broadband, Internet protocol: TCP/IP, FTP, HTTP, Domain name e-mail address, WWW, web browser: Internet Explorer. Netscape navigator, search engines.	04 04 03 04	15
4		UNIT-IV:	Algorithm flowcharting programming languages,	04	15

	Programming	assembler, interpreter, compiler programming process :	03	
	Concept:	program design, coding compilation, Execution, testing,	03	
		debugging documentation structured programming:	02	
		features and approaches	02	
5	UNIT-V:	: Introduction to C, History, features structure of C	04	15
	Elements of C	program, header file, character set, keywords,	03	
		identifiers, constants, variables, basic data types,	03	
		symbolic constants, typedef operators & Expressions:	02	
		Arithmetic, Relational, logical assignment, Increment	02	
		and decrement, precedence of operators.		
6	UNIT- VI : I/O	Formatted I/O: Printf(), Scanf(), Unformatted I/O:	04	15
	Operations :	getch (), getche (), getchar (), putch (), putche (),	03	
		putchar (), gets (), Puts (), Controal structure: if, if	03	
		else, nested if, conditional operator, switch, goto, for,	02	
		while, dowhile, nesting of loops, break, continue.	02	

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## Teaching Plan Session-2018-19 B.Sc.-Ist Semester-IInd

#### Paper -Computer Application or Information Technology Data Structure and Advance C

Sr. No.	Month	Name of Unit	Topics Names	Required Lecture	
	Dec-	UNIT-I:	Introduction to Data structure, type of data structures, list,	04	
	Jan-		array, stack and Queue; Algorithms of traversing, insertion	03	
			and deletion operation on it.	03	15
				02	
				02	
	Jan	UNIT-II	. Linked list 9, its implementation traversing insertion	04	
2	Jan	UNIT-II	: Linked list & its implementation, traversing, insertion,	04	
			deletion algorithms, circular Queue.	03	15
				04	
3	Feb	UNIT-III	Tree : Binary, Binary search tree, tree Traversing : inorder,	04	
3	100	OINTT-III	preorder and postorder, sorting and searching Techniques :	03	
				03	15
			Bubble sort, insertion sort and selection sort, linear search,		15
			Binary search.	02	
				02	
4	Feb	UNIT-IV	Function : Definition, prototype, local & global variable,	04	
	March		function parameter, function calling and return, return	04	
			values and their types, function recursion Arrays :	03	15
			Declaration and initialization of one and two dimensional	04	
			arrays, function with array.		

5	March	UNIT-V	String Handling: Declaring and initialization of string variable	04	
			, operations on string : String copy comparison,	03	
			concatenation. Pointers : Declaration and initialization,	03	15
			pointer and address arithmetic, Pointer comparison, Pointer	02	
			and array.	02	
6	April	UNIT-VI	:Structure: Definition and declaration, initialization, array of structure, nested structure Union File Handing: Definition and opening a file, closing a file, I/O Operations on file:	04 04 03 04	15

### Late Ku. Durga K. Banmeru Science College, Lonar Dist- Buldana Department of computer science

Department of computer science
Teaching Plan Session-2018-19
B.Sc.-II<sup>nd</sup> Semester-III<sup>rd</sup>

#### Paper- Paper-Object-Oriented Programming with C++ and Web Technology

Sr. No.	Month	Name of Unit	Topics Names	Requ. Lecture	Total Lects
1	July	Unit I:	Concept of OOP, Comparision with POP, features of OOP,	04	15
			advantages and applications of OOP, Introduction to C++,	03	
			structure of C++ program, tokens, keywords, identifiers, basic data types & user defined data types, Constants, variables,	03	
			declaration of variables, dynamic initialization of variables,	02	
			types of symbolic constants	02	
2	July	Unit II :	Operators: Scope resolution operator, member dereferencing	04	15
2	Aug	Cint II.	operator, implicit & explicit conversions. Control structures: if,		13
	riug		switch, dowhile, while, for statements Functions: Function		
			prototype, Function calling and returning, their types, inline		
			functions, default arguments, constant arguments, function overloading	-	
3	Aug	Unit III:	Classes and objects: Data abstraction and, Encapsulation,	04	15
			Data Hiding, class specification, defining objects, accessing	03	
			class member, defining member functions, Nesting of member	03	
			function, friend functions, passing objects as arguments, Returning objects from functions. Constructors : Defining		
			constructor, parameterized constructor, multiple constructors		
			in a class, constructor with default argument, copy	02	
			constructor, destructor.		

4	Sept	Unit-IV	Basic elements of communication system, Network concept, advantages, goals, network topologies: Star, ring, completely connected N/W, Hybrid N/W, multipoint n/w, LAN, WAN, OSI model	04 04 03 04	15
5	Sept	Unit V	HTML: Introduction, Need of HTML application of HTML, Basic structure of HTML, HTML tags and attributes: Adding tags, include attributes < HTML >, < HEAD >, < TITLE >, < BODY >, < P >, < Br >, < HR >, Heading tags, table tags,, < IMG>, , , < MARQUEE>,< BLOCKQUOTE >, < A >, < I >, < B >, list tag, Attributes: allign, background colour, text color	04 03 03 02 02	15
6	Oct	Unit VI	Style sheet: advantages of style sheet & applications of style sheet, CSS: Introduction, CSS stylesheet properties: Units, classes and ID attributes. Properties: Text, font, colour, background, border, display, height, line, margin, width, CSS with HTML.	04 04 03 04	15

### Late Ku. Durga K. Banmeru Science College, Lonar Dist- Buldana

## Department of computer science Teaching Plan Session-2018-19 B.Sc.-II<sup>nd</sup> Semester-IV<sup>th</sup>

#### Paper - Advanced C++ and Web Designing

Sr. No.	Month	Name of Unit	Topics Names	Requ. Lecture	Total Lects
1	Dec-17	Unit I:	Arrays and Pointers : one-dimentional, two-dimentional	04	15
	Jan-18		arrays, Defining Pointers, arrays of objects, Pointer to objects,	03	
			this pointer operator overloading: Defining operator overloading, overloading arrays, Binary, and assignment	03	
			operators, rules for overloading operators.	02	
				02	
2	Jan	Unit II :	Inheritance: Introduction, derived classes, Single inheritance,	04	15
			multiple inheritance, Hierarchical and Hybrid inheritance.	03	
			Templates : Function, class, members and Function templets.	03	
				02	
				02	
				02	
3	Feb	Unit III :	: Virtual Functions and Polymorphism :- Introduction, Pointers to derived class, dynamic binding, defination of Virtual Function, pure Virtual Functions, Rules For Virtual Functions. Working with Files : Introduction, Hierarchy of File Stream Classes, opening and closing of Files, File modes, File pointers and their manipulations, File Input/Output with Fstream class		15
4	Feb	Unit IV :	Introduction to XML : History of Markup languages, features	04	
7	March	Cint I V .	of XML, Simple XML document, logical structure of XML	03	
			elements, Components of XML documents: The document	03	15
			prolog and document instance. CSS with XML.	02	
				02	

5	March	Unit V:	Document type Defination (DTD): Introduction, need of DTD, declaring elements, element content models, declaring attributes, attribute types : internal and external DTD, entities and their types	04 04 03 04	15
6	April	Unit VI :	XML Schemas: Introduction, features, Comparison with DTD, Schema elements, element type element attributes, XML schema data types, converting DTD to schema, Namespaces: Introduction, declaration, default & prefit namespaces, scope of namespaces collusion & Applications	04 03 03 02 02	15

#### Late Ku. Durga K. Banmeru Science College, Lonar Dist-Buldana Department of computer science

# Department of computer science Teaching Plan Session-2018-19 B.Sc.-III<sup>rd</sup> Semester-V<sup>th</sup> Paper- RDBMS AND VISUAL BASIC

Sr. No.	Month	Name of Unit	Topics Names	Requ. Lecture	Total Lects
1	July	Unit-I :	Fundamental of DBMS : Architecture of a database system,, data independence, database models; Relational Hierarchical, network; data dictionary	04 04 03	15
			Relational Model: Relations, Domains and Attributes keys, E-R diagrams, Reducing E-R diagrams to tables, function dependency, Normalization Process, Normal forms: 1NF, 2NF, 3NF, 4NF, BCNF.	04	
2	July	Unit-II:	Introduction to SQL : Components of SQL, data types,	04	15
	Aug		operators, DDL Commands: CREATE, ALTER, DROP, for tables & views. DML Commands: SELECT, INSERT, DELETE & UPDATE;	03	
			Clauses : ORDER BY, GROUP BY and HAVING	03	
				02	
				02	
3	Sept	Unit III :	Introduction to SQL : Components of SQL, data types,	04	15
			operators, DDL Commands : CREATE, ALTER, DROP, for	03	
			tables & views. DML Commands : SELECT, INSERT, DELETE &	03	
			UPDATE; Clauses : ORDER BY, GROUP BY and HAVING;	02	
				02	
4		unit IV :	: Introduction to Visual Basic : Visual programming, event driven programming, VB Environment : New Project window, property window, Form layout window, toolbar, menu bar, tool box, form window; Managing Control : Form properties, pointer tool, label control, text box, command button, picture box, image	04 04 03 04	15

5	Sept	Unit V:	Creating Menus : Application wizard for menu, menu editor,	04	15
			creating menu, adding code to menus, data types &	03	
			variables. Operators : Conditional operators, logical operators, control structures : If-else, Nested If—else, select	03	
			case, goto do loop, for loop, nested for loop	02	
				02	
6	Oct	Unit VI:	Introduction to Internal Functions : Msgbox(), named	04	15
			constant, default buttons, specifying icons. Input box(), title,	04	
			caption; using check box and option butto	03	
				04	
			VB Programmes : Private and public procedure, passing data		
			by reference and value, passing control as arguments		

### Late Ku. Durga K. Banmeru Science College, Lonar Dist-Buldana Department of computer science

## Department of computer science Teaching Plan Session-2018-19 B.Sc.-III<sup>rd</sup>Semester-VI<sup>th</sup> Paper -PL/SQL AND ADVANCED VISUAL BASIC

Sr. No.	Month	Name of Unit	Topics Names	Requ. Lecture	Total Lects
1	July	Unit-I :	: Data Integrity, types of integrity constants. Functions : Number Functions - AVG, MAX, MIN, SUM, COUNT, TO-NUMBER, GREATEST, LEAST, ABS, MOD, FLOOR, CEIL, TRUNC, SQRT, SIGN, SIN, COS, LOG, EXP	04 04 03 04	15
			. Character Function : INITCAP, LOWER, UPPER, INSTR LENGTH, LTRIM, RTRIM, LPAD, RPAD, SOUNDEX, DECODE. Joins and Unions : Self, equi and outer join, unions and intersection		
2	July Aug	Unit-II :	Introduction to SQL: Components of SQL, data types, operators, DDL Commands: CREATE, ALTER, DROP, for tables & views. DML Commands: SELECT, INSERT, DELETE & UPDATE; Clauses: ORDER BY, GROUP BY and HAVING	04 03 03 02 02	15
3	Sept	Unit III :	Securities of Database : Users, creating users, roles, creating roles, types of previleges, GRANT and REVOKE command, data locks	04 04 03 04	15
4		unit IV :	Dialog Box Control: Need for dialog box control, adding the dialog box control, producing the color dialog box control, handling the cancel button, producing the font dialog box,	04 03 03	15

			producing the open dialog boxes, producing file save dialog	02	
			boxes, producing the print dialog boxes. Mouse and Control	02	
			: Mouse response, list box controls, combo box control,		
			timer control, working with arrays, declaring arrays, multiple		
			list boxes		
5	Sept	Unit V :	: Working with Forms : Form collections, accessing the form collection using the subscripts, the count property, uploading forms, placing text on forms, format with print, positioning the print method, multiple forms, placing tool bars on forms	04 04 03 04	15
6	Oct	Unit VI :	: Working with Files : Open statement, file modes, locking the file, close statement, working with sequential access file, print# statement, input# statement, write# statement, working with random access file, put statement, get statement, defining user defined data types, file control, file related commands	04 03 03 02 02	15

#### Late Ku. Durga K. Banmeru Science College, Lonar Dist-Buldana **Department of Computer Science**

#### **Teaching Plan Session-2019-20**

### B.Sc.-I<sup>st</sup> Semester-I<sup>st</sup> 1S: Computer Science or Computer Application or Information Technology Paper-I Computer Fundamentals and C Programming

Sr. No.	Month	Name of Unit	Topics Names	Required Lecture	Total Lects.
1	July	UNIT-I: Introduction to Computers	Characteristics, classification of Computers, block diagram of computer, memory and their types: Primary and secondary memory . Peripheral devices : Keyboard,	04 04 03	15
		ounputte.	mouse, scanner, printers: Impact, Non-impact, DMP, inkjet, Laser.	04	
2		UNIT-II:	DOS: Booting process, formatting, directory structure,	04	
	July -	Introduction to OS	FAT. Internal DOS commands: REN, CD, MD,RD,	03	
	Aug	:	DIR, DEL, COPY, TYPE, DATE, TIME, COPYCON,	03	
			PROMPT External commands: FORMAT , XCOPY,	02	
			CHKDSK, PATH, ATTRIB, AUTOEXEC. BAT,	03	
			CONFIG.SYS Windows : Introduction, features,		
			Windows Explorer Number system : Decimal, binary,		15
			octal, hexadecimal and their conversions, ASCII Code.		
3		UNIT-III:	Direct, Types of Internet connection: Direct dial-up,	04	15
		Introduction to	broadband, Internet protocol: TCP/IP, FTP, HTTP,	04	
		Internet:	Domain name e-mail address, WWW, web browser:	03 04	
			Internet Explorer. Netscape navigator, search engines.	04	
4		UNIT-IV:	Algorithm flowcharting programming languages,	04	15
		Programming	assembler, interpreter, compiler programming process:	03	

	Concept:	program design, coding compilation, Execution, testing,	03	
		debugging documentation structured programming:	02	
		features and approaches	03	
5	UNIT-V:	: Introduction to C, History, features structure of C	04	15
	Elements of C	program, header file, character set, keywords,	04	
		identifiers, constants, variables, basic data types,	03 04	
		symbolic constants, typedef operators & Expressions:		
		Arithmetic, Relational, logical assignment, Increment		
		and decrement, precedence of operators.		
6	UNIT- VI : I/O	Formatted I/O: Printf(), Scanf(), Unformatted I/O:	04	15
	Operations:	getch (), getche (), getchar (), putch (), putche (),	03	
		putchar (), gets (), Puts (), Controal structure: if, if	03	
		else, nested if, conditional operator, switch, goto, for,	02	
		while, dowhile, nesting of loops, break, continue.	03	

#### Late Ku. Durga K. Banmeru Science College, Lonar Dist-Buldana Department of Computer Science

## Teaching Plan Session-2019-20 B.Sc.-Ist Semester-IInd

#### Computer Application or Information Technology Data Structure and Advance C

Sr. No.	Month	Name of Unit	Topics Names	Required Lecture	Total Lects.
1	Dec- Jan-	UNIT-I :	Introduction to Data structure, type of data structures, list, array, stack and Queue; Algorithms of traversing, insertion and deletion operation on it.	04 04 03 04	15
2	Jan	UNIT-II	: Linked list & its implementation, traversing, insertion, deletion algorithms, circular Queue.	04 03 03 02 03	15
3	Feb	UNIT-III	Tree: Binary, Binary search tree, tree Traversing: inorder, preorder and postorder, sorting and searching Techniques: Bubble sort, insertion sort and selection sort, linear search, Binary search.	04 03 03 02 03	15
4	Feb March	UNIT-IV	Function: Definition, prototype, local & global variable, function parameter, function calling and return, return values and their types, function recursion Arrays:  Declaration and initialization of one and two dimensional arrays, function with array.	04 04 03 04	15

5	March	UNIT-V	String Handling: Declaring and initialization of string variable	04	
			, operations on string : String copy comparison,	03	
			concatenation. Pointers : Declaration and initialization,	03	15
			pointer and address arithmetic , Pointer comparison, Pointer	02	
			and array.	03	
6	April	UNIT-VI	:Structure : Definition and declaration , initialization, array of structure , nested structure Union File Handing : Definition	04 04	
			and opening a file, closing a file, I/O Operations on file:	03 04	15

#### Late Ku. Durga K. Banmeru Science College, Lonar Dist-Buldana Department of computer science

## Department of computer science Teaching Plan Session-2019-20 B.Sc.-II<sup>nd</sup> Semester-III<sup>rd</sup> Paper -PL/SQL AND ADVANCED VISUAL BASIC

Sr. No.	Month	Name of Unit	Topics Names	Requ. Lecture	Total Lects
1	July	Unit I :	Concept of OOP, Comparision with POP, features of OOP, advantages and applications of OOP, Introduction to C++, structure of C++ program, tokens, keywords, identifiers, basic data types & user defined data types, Constants, variables, declaration of variables, dynamic initialization of variables, types of symbolic constants	04 04 03 04	15
2	July Aug	Unit II :	Operators: Scope resolution operator, member dereferencing operator, implicit & explicit conversions. Control structures: if, switch, dowhile, while, for statements Functions: Function prototype, Function calling and returning, their types, inline functions, default arguments, constant arguments, function overloading	04 03 03 02 03	15
3	Aug	Unit III :	Classes and objects: Data abstraction and, Encapsulation, Data Hiding, class specification, defining objects, accessing class member, defining member functions, Nesting of member function, friend functions, passing objects as arguments, Returning objects from functions. Constructors: Defining constructor, parameterized constructor, multiple constructors in a class, constructor with default argument, copy constructor, destructor.	04 04 03 04	15

4	Sept	Unit-IV	Basic elements of communication system, Network concept, advantages, goals, network topologies: Star, ring, completely connected N/W, Hybrid N/W, multipoint n/w, LAN, WAN, OSI model	04 03 03 02 03	15
5	Sept	Unit V	HTML: Introduction, Need of HTML application of HTML, Basic structure of HTML, HTML tags and attributes: Adding tags, include attributes < HTML >, < HEAD >, < TITLE >, < BODY >, < P >, < Br >, < HR >, Heading tags, table tags,, < IMG>, , , < MARQUEE>,< BLOCKQUOTE >, < A >, < I >, < B >, list tag, Attributes: allign, background colour, text color	04 04 03 04	15
6	Oct	Unit VI	Style sheet: advantages of style sheet & applications of style sheet, CSS: Introduction, CSS stylesheet properties: Units, classes and ID attributes. Properties: Text, font, colour, background, border, display, height, line, margin, width, CSS with HTML.	04 03 03 02 03	15

#### Late Ku. Durga K. Banmeru Science College, Lonar Dist-Buldana Department of computer science

## Department of computer science Teaching Plan Session-2019-20 B.Sc.-II<sup>nd</sup> Semester-IV<sup>th</sup> Paper -PL/SQL AND ADVANCED VISUAL BASIC

Sr. No.	Month	Name of Unit	Topics Names	Requ. Lecture	Total Lects
1	Dec-17	Unit I:	Arrays and Pointers : one-dimentional, two-dimentional	04	15
	Jan-18		arrays, Defining Pointers, arrays of objects, Pointer to objects,	04	
			this pointer operator overloading : Defining operator	03	
			overloading, overloading arrays, Binary, and assignment	04	
			operators, rules for overloading operators.		
2	Jan	Unit II :	Inheritance : Introduction, derived classes, Single inheritance,	04	15
			multiple inheritance, Hierarchical and Hybrid inheritance.	03	
			Templates: Function, class, members and Function templets.		
				03	
				02	
				03	
3	Feb	Unit III:	: Virtual Functions and Polymorphism :- Introduction, Pointers		15
			to derived class, dynamic binding, defination of Virtual	02	
			Function, pure Virtual Functions, Rules For Virtual Functions.	02	
			Working with Files: Introduction, Hierarchy of File Stream	04	
			Classes, opening and closing of Files, File modes, File pointers and their manipulations, File Input/Output with Fstream class	04	
4	Feb	Unit IV:	Introduction to XML : History of Markup languages, features	04	
	March		of XML, Simple XML document, logical structure of XML	04	
			elements, Components of XML documents : The document	03	15
			prolog and document instance. CSS with XML.	04	

5	March	Unit V:	Document type Defination (DTD): Introduction, need of DTD,	04	15
			declaring elements, element content models, declaring attributes, attribute types : internal and external DTD,	03	
			entities and their types	03	
				02	
				03	
6	April	Unit VI:	XML Schemas : Introduction, features, Comparison with	04	15
			DTD, Schema elements, element type element attributes,	04	
			XML schema data types, converting DTD to schema,	03	
			Namespaces : Introduction, declaration, default & prefit	04	
			namespaces, scope of namespaces collusion & Applications		

#### Amrut Sevabhavi Sanstha's Parbhani

#### Late Ku. Durga K. Banmeru Science College, Lonar Dist-Buldana Department of computer science

# Department of computer science Teaching Plan Session-2019-20 B.Sc.-III<sup>rd</sup> Semester-V<sup>th</sup> Paper- RDBMS AND VISUAL BASIC

Sr. No.	Month	Name of Unit	Topics Names	Requ. Lecture	Total Lects
1	July	Unit-I:	Fundamental of DBMS : Architecture of a database system,, data independence, database models; Relational Hierarchical, network; data dictionary	04 04 03	15
			Relational Model: Relations, Domains and Attributes keys, E-R diagrams, Reducing E-R diagrams to tables, function dependency, Normalization Process, Normal forms: 1NF, 2NF, 3NF, 4NF, BCNF.	03	
2	July	Unit-II:	Introduction to SQL : Components of SQL, data types,	04	15
	Aug		operators, DDL Commands : CREATE, ALTER, DROP, for tables & views. DML Commands : SELECT, INSERT, DELETE & UPDATE;	03	
			Clauses : ORDER BY, GROUP BY and HAVING	03	
				02	
				03	
3	Sept	Unit III :	Introduction to SQL : Components of SQL, data types,	04	15
			operators, DDL Commands : CREATE, ALTER, DROP, for	02	
			tables & views. DML Commands : SELECT, INSERT, DELETE &	02	
			UPDATE; Clauses : ORDER BY, GROUP BY and HAVING;	04 04	
4		unit IV :	: Introduction to Visual Basic : Visual programming, event driven programming, VB Environment : New Project window, property window, Form layout window, toolbar, menu bar, tool box, form window; Managing Control : Form	04 04 03 04	15

			properties, pointer tool, label control, text box, command button, picture box, image		
5	Sept	Unit V:	Creating Menus: Application wizard for menu, menu editor, creating menu, adding code to menus, data types & variables. Operators: Conditional operators, logical operators, control structures: If-else, Nested If—else, select case, goto do loop, for loop, nested for loop	04 03 03 02 03	15
6	Oct	Unit VI :	Introduction to Internal Functions : Msgbox(), named constant, default buttons, specifying icons. Input box(), title, caption; using check box and option butto	04 04 03 04	15
			VB Programmes: Private and public procedure, passing data by reference and value, passing control as arguments		

## Late Ku. Durga K. Banmeru Science College, Lonar Dist-Buldana Department of computer science Teaching Plan Session-2019-20

## Teaching Plan Session-2019-20 B.Sc.-III<sup>rd</sup>Semester-VI<sup>th</sup> Paper -PL/SQL AND ADVANCED VISUAL BASIC

Sr. No.	Month	Name of Unit	Topics Names	Requ. Lecture	Total Lects
1	July	Unit-I :	: Data Integrity, types of integrity constants. Functions : Number Functions - AVG, MAX, MIN, SUM, COUNT, TO-NUMBER, GREATEST, LEAST, ABS, MOD, FLOOR, CEIL, TRUNC, SQRT, SIGN, SIN, COS, LOG, EXP	04 04 03 04	15
			. Character Function : INITCAP, LOWER, UPPER, INSTR LENGTH, LTRIM, RTRIM, LPAD, RPAD, SOUNDEX, DECODE. Joins and Unions : Self, equi and outer join, unions and intersection		
2	July Aug	Unit-II :	Introduction to SQL: Components of SQL, data types, operators, DDL Commands: CREATE, ALTER, DROP, for tables & views. DML Commands: SELECT, INSERT, DELETE & UPDATE; Clauses: ORDER BY, GROUP BY and HAVING		15
3	Sept	Unit III :	Securities of Database : Users, creating users, roles, creating roles, types of previleges, GRANT and REVOKE command, data locks	04 04 03 04	15
4		unit IV :	Dialog Box Control: Need for dialog box control, adding the dialog box control, producing the color dialog box control, handling the cancel button, producing the font dialog box, producing the open dialog boxes, producing file save dialog	04 02 02 04 04	15

6	Oct	Unit VI :	: Working with Files : Open statement, file modes, locking the file, close statement, working with sequential access file, print# statement, input# statement, write# statement, working with random access file, put statement, get statement, defining user defined data types, file control, file related commands	04 03 03 02 03	15
5	Sept	Unit V :	: Working with Forms : Form collections, accessing the form collection using the subscripts, the count property, uploading forms, placing text on forms, format with print, positioning the print method, multiple forms, placing tool bars on forms	04 04 03 04	15
			boxes, producing the print dialog boxes. Mouse and Control : Mouse response, list box controls, combo box control, timer control, working with arrays, declaring arrays, multiple list boxes		

### Late Ku. Durga K. Banmeru Science College, Lonar Dist-Buldana Department of Computer Science Teaching Plan Session-2020-21

B.Sc.-Ist Semester-Ist

### 1S: Computer Science or Computer Application or Information Technology Paper-I Computer Fundamentals and C Programming

Sr. No.	Month	Name of Unit	Topics Names	Required Lecture	
	July	UNIT-I:	Characteristics, classification of Computers, block	04	Lects.
	our,	Introduction to Computers	diagram of computer, memory and their types: Primary and secondary memory . Peripheral devices : Keyboard,	03 02 02	15
			mouse, scanner, printers : Impact, Non-impact, DMP, inkjet , Laser.	04	
		LINUTE II		0.4	
2	July -	UNIT-II: Introduction to OS	DOS: Booting process, formatting, directory structure, FAT. Internal DOS commands: REN, CD, MD,RD,	04 03	
	Aug	:	DIR, DEL, COPY, TYPE, DATE, TIME, COPYCON,	03	
			PROMPT External commands: FORMAT , XCOPY,	02	
			CHKDSK, PATH, ATTRIB, AUTOEXEC. BAT,	03	
			CONFIG.SYS Windows : Introduction, features,		
			Windows Explorer Number system : Decimal, binary,		15
			octal, hexadecimal and their conversions, ASCII Code.		
3		UNIT-III:	Direct Trues of Internet connection, Direct diel un	04	15
3			Direct, Types of Internet connection: Direct dial-up,	03	15
		Introduction to	broadband, Internet protocol: TCP/IP, FTP, HTTP,	02	
		Internet:	Domain name e-mail address, WWW, web browser:	02	
			Internet Explorer. Netscape navigator, search engines.	04	
4		UNIT-IV:	Algorithm flowcharting programming languages,	04	15
		Programming	assembler, interpreter, compiler programming process :	03	

Concept:	program design, coding compilation, Execution, testing,	03	
	debugging documentation structured programming:	02	
	features and approaches	03	
UNIT-V: Elements of C	: Introduction to C, History, features structure of C program, header file, character set, keywords, identifiers, constants, variables, basic data types, symbolic constants, typedef operators & Expressions: Arithmetic, Relational, logical assignment, Increment and decrement, precedence of operators.	04 04 03 04	15
UNIT- VI : I/O Operations :	Formatted I/O: Printf(), Scanf(), Unformatted I/O: getch(), getche(), getchar(), putch(), putche(), putchar(), gets(), Puts(), Controal structure: if, if else, nested if, conditional operator, switch, goto, for, while, dowhile, nesting of loops, break, continue.	04 03 02 02 02 04	15
	UNIT-V: Elements of C  UNIT- VI: I/O	debugging documentation structured programming :     features and approaches  UNIT-V: : Introduction to C, History, features structure of C  Elements of C    program, header file, character set, keywords,     identifiers, constants, variables, basic data types,     symbolic constants, typedef operators & Expressions:     Arithmetic, Relational, logical assignment, Increment     and decrement, precedence of operators.  UNIT- VI: I/O    Formatted I/O: Printf(), Scanf(), Unformatted I/O:     operations:	debugging documentation structured programming:  features and approaches  UNIT-V:  Elements of C  introduction to C, History, features structure of C  program, header file, character set, keywords, identifiers, constants, variables, basic data types, symbolic constants, typedef operators & Expressions: Arithmetic, Relational, logical assignment, Increment and decrement, precedence of operators.  UNIT- VI: I/O  Operations:  Formatted I/O: Printf(), Scanf(), Unformatted I/O:  getch(), getche(), getchar(), putch(), putche(), putchar(), gets(), Puts(), Controal structure: if, if else, nested if, conditional operator, switch, goto, for,  02  03  04  05  06  07  08  09  09  09  09  09  09  09  09  09

### Late Ku. Durga K. Banmeru Science College, Lonar Dist-Buldana

# Department of Computer Science Teaching Plan Session-2020-21

# B.Sc.-I<sup>st</sup> Semester-II<sup>nd</sup> Computer Application or Information Technology Data Structure and Advance C

Sr. No.	Month	Name of Unit	Topics Names	Required Lecture	
	Dec-	UNIT-I:	Introduction to Data structure, type of data structures, list,	04	
	Jan-		array, stack and Queue; Algorithms of traversing, insertion	03	
			and deletion operation on it.	03	15
				02	
				03	
2	Jan	UNIT-II	: Linked list & its implementation, traversing, insertion,	04	
			deletion algorithms, circular Queue.	03	
				02	15
				02 04	
				04	
3	Feb	UNIT-III	Tree : Binary, Binary search tree, tree Traversing : inorder,	04	
			preorder and postorder, sorting and searching Techniques :	03	
			Bubble sort, insertion sort and selection sort, linear search,	03	15
			Binary search.	02	
				03	
4	Feb	UNIT-IV	Function : Definition, prototype, local & global variable,	04	
	March		function parameter, function calling and return, return	03	
			values and their types, function recursion Arrays :	02	15
			Declaration and initialization of one and two dimensional	02	
			arrays, function with array.	04	
5	March	UNIT-V	String Handling : Declaring and initialization of string variable	04	15

			, operations on string : String copy comparison, concatenation. Pointers : Declaration and initialization, pointer and address arithmetic , Pointer comparison, Pointer and array.	03 03 02 03	
6	April	UNIT-VI	:Structure: Definition and declaration, initialization, array of structure, nested structure Union File Handing: Definition and opening a file, closing a file, I/O Operations on file:	04 03 02 02 04	15

### Amrut Sevabhavi Sanstha's Parbhani

### Late Ku. Durga K. Banmeru Science College, Lonar Dist- Buldana Department of computer science

# Department of computer science Teaching Plan Session-2020-21 B.Sc.-II<sup>nd</sup> Semester-III<sup>rd</sup> Paper-Object-Oriented Programming with C++ and Web Technology

Sr. No.	Month	Name of Unit	Topics Names	Requ. Lecture	Total Lects
1	July	Unit I:	Concept of OOP, Comparision with POP, features of OOP,	04	15
			advantages and applications of OOP, Introduction to C++,	03	
			structure of C++ program, tokens, keywords, identifiers, basic data types & user defined data types, Constants, variables,	03	
			declaration of variables, dynamic initialization of variables,	02	
			types of symbolic constants	03	
2	Turler	Times TT	Operators - Scane resolution energies member dereferencing	04	15
2	•	Unit II :	Operators: Scope resolution operator, member dereferencing operator, implicit & explicit conversions. Control structures: if,	-	15
	Aug		switch, dowhile, while, for statements Functions: Function		
			prototype, Function calling and returning, their types, inline	02	
			functions, default arguments, constant arguments, function overloading		
3	Aug	Unit III:	Classes and objects : Data abstraction and, Encapsulation,	04	15
			Data Hiding, class specification, defining objects, accessing	03	
			class member, defining member functions, Nesting of member	03	
			function, friend functions, passing objects as arguments, Returning objects from functions. Constructors : Defining	02	
			constructor, parameterized constructor, multiple constructors		
			in a class, constructor with default argument, copy	03	
			constructor, destructor.		

4	Sept	Unit-IV	Basic elements of communication system, Network concept, advantages, goals, network topologies: Star, ring, completely connected N/W, Hybrid N/W, multipoint n/w, LAN, WAN, OSI model	04 03 02 02 04	15
5	Sept	Unit V	HTML: Introduction, Need of HTML application of HTML, Basic structure of HTML, HTML tags and attributes: Adding tags, include attributes < HTML >, < HEAD >, < TITLE >, < BODY >, < P >, < Br >, < HR >, Heading tags, table tags,, < IMG>, , , < MARQUEE>,< BLOCKQUOTE >, < A >, < I >, < B >, list tag, Attributes: allign, background colour, text color	04 03 03 02 03	15
6	Oct	Unit VI	Style sheet: advantages of style sheet & applications of style sheet, CSS: Introduction, CSS stylesheet properties: Units, classes and ID attributes. Properties: Text, font, colour, background, border, display, height, line, margin, width, CSS with HTML.	04 03 02 02 04	15

### Amrut Sevabhavi Sanstha's Parbhani

### Late Ku. Durga K. Banmeru Science College, Lonar Dist-Buldana

Department of computer science
Teaching Plan Session-2020-21
B.Sc.-II<sup>nd</sup> Semester-IV<sup>th</sup>

### Paper - Advanced C++ and Web Designing

Sr. No.	Month	Name of Unit	Topics Names	Requ. Lecture	Total Lects
1	Dec-17	Unit I:	Arrays and Pointers : one-dimentional, two-dimentional	04	15
	Jan-18		arrays, Defining Pointers, arrays of objects, Pointer to objects,	03	
			this pointer operator overloading : Defining operator overloading, overloading arrays, Binary, and assignment	03	
			operators, rules for overloading operators.	02	
				03	
2	Jan	Unit II :	Inheritance : Introduction, derived classes, Single inheritance,	04	15
			multiple inheritance, Hierarchical and Hybrid inheritance.	03	
			Templates: Function, class, members and Function templets.	02	
				02	
				04	
3	Feb	Unit III :	: Virtual Functions and Polymorphism :- Introduction, Pointers	04	15
			to derived class, dynamic binding, defination of Virtual	04	
			Function, pure Virtual Functions, Rules For Virtual Functions.	03	
			Working with Files : Introduction, Hierarchy of File Stream	04	
			Classes, opening and closing of Files, File modes, File pointers		
			and their manipulations, File Input/Output with Fstream class		

4	Feb	Unit IV:	Introduction to XML : History of Markup languages, features	04	
	March		of XML, Simple XML document, logical structure of XML	03	1.5
			elements, Components of XML documents: The document prolog and document instance. CSS with XML.	03	15
				02	
				03	
	Manak	Unit V :	Decrees the properties (DTD), between the properties	0.4	15
5	March	Unit V:	Document type Defination (DTD): Introduction, need of DTD, declaring elements, element content models, declaring	04 03	15
			attributes, attribute types : internal and external DTD,	02	
			entities and their types	02	
				04	
6	April	Unit VI :	XML Schemas : Introduction, features, Comparison with	04	15
			DTD, Schema elements, element type element attributes,	03	
			XML schema data types, converting DTD to schema,	03	
			Namespaces: Introduction, declaration, default & prefit namespaces, scope of namespaces collusion & Applications	02	
				03	
				05	

### Late Ku. Durga K. Banmeru Science College, Lonar Dist-Buldana

# Department of computer science Teaching Plan Session-2020-21 B.Sc.-III<sup>rd</sup> Semester-V<sup>th</sup> Paper- RDBMS AND VISUAL BASIC

Sr. No.	Month	Name of Unit	Topics Names	Requ. Lecture	Total Lects
1	July	Unit-I :	Fundamental of DBMS: Architecture of a database system,, data independence, database models; Relational Hierarchical, network; data dictionary  Relational Model: Relations, Domains and Attributes keys, E-R diagrams, Reducing E-R diagrams to tables, function dependency, Normalization Process, Normal forms: 1NF, 2NF, 3NF, 4NF, BCNF.	04 03 02 02 04	15
2	July Aug	Unit-II :	Introduction to SQL: Components of SQL, data types, operators, DDL Commands: CREATE, ALTER, DROP, for tables & views. DML Commands: SELECT, INSERT, DELETE & UPDATE; Clauses: ORDER BY, GROUP BY and HAVING	04	15
3	Sept	Unit III :	Introduction to SQL: Components of SQL, data types, operators, DDL Commands: CREATE, ALTER, DROP, for tables & views. DML Commands: SELECT, INSERT, DELETE & UPDATE; Clauses: ORDER BY, GROUP BY and HAVING;	04 03 03 02 03	15
4		unit IV :	: Introduction to Visual Basic : Visual programming, event driven programming, VB Environment : New Project window, property window, Form layout window, toolbar, menu bar, tool box, form window; Managing Control : Form properties, pointer tool, label control, text box, command button, picture box, image	04 03 02 02 04	15
5	Sept	Unit V :	Creating Menus : Application wizard for menu, menu editor,	04	15

			creating menu, adding code to menus, data types &	03	
			variables. Operators : Conditional operators, logical	03	
			operators, control structures: If-else, Nested If—else, select case, goto do loop, for loop, nested for loop	02	
				03	
6	Oct	Unit VI :	Introduction to Internal Functions : Msgbox(), named constant, default buttons, specifying icons. Input box(), title, caption; using check box and option butto	04 03 02 02 04	15
			VB Programmes: Private and public procedure, passing data by reference and value, passing control as arguments		

## Late Ku. Durga K. Banmeru Science College, Lonar Dist- Buldana Department of computer science

# Department of computer science Teaching Plan Session-2020-21 B.Sc.-III<sup>rd</sup>Semester-VI<sup>th</sup> Paper -PL/SQL AND ADVANCED VISUAL BASIC

Sr. No.	Month	Name of Unit	Topics Names	Requ. Lecture	Total Lects
1	July	Unit-I:	: Data Integrity, types of integrity constants. Functions :	04	15
			Number Functions - AVG, MAX, MIN, SUM, COUNT, TO- NUMBER, GREATEST, LEAST, ABS, MOD, FLOOR, CEIL,	03	
			TRUNC, SQRT, SIGN, SIN, COS, LOG, EXP	03	
				02	
				03	
			. Character Function : INITCAP, LOWER, UPPER, INSTR LENGTH, LTRIM, RTRIM, LPAD, RPAD, SOUNDEX, DECODE. Joins and Unions : Self, equi and outer join, unions and intersection		
				0.4	
2	July Aug	Unit-II:	Introduction to SQL : Components of SQL, data types, operators, DDL Commands : CREATE, ALTER, DROP, for tables	04 03	15
	Aug		& views. DML Commands : SELECT, INSERT, DELETE & UPDATE;		
			Clauses : ORDER BY, GROUP BY and HAVING	02	
				04	
3	Sept	Unit III :	Securities of Database: Users, creating users, roles, creating	04	15
			roles, types of previleges, GRANT and REVOKE command,	04	
			data locks	03	
				04	
4		unit IV :	Dialog Box Control : Need for dialog box control, adding the	04	
			dialog box control, producing the color dialog box control,	03	
			handling the cancel button, producing the font dialog box,	03	15
			producing the open dialog boxes, producing file save dialog	02	
			boxes, producing the print dialog boxes. Mouse and Control	03	

			: Mouse response, list box controls, combo box control, timer control, working with arrays, declaring arrays, multiple list boxes		
5	Sept	Unit V:	: Working with Forms : Form collections, accessing the form collection using the subscripts, the count property, uploading forms, placing text on forms, format with print, positioning the print method, multiple forms, placing tool bars on forms	04 03 03 02 03	15
6	Oct	Unit VI :	: Working with Files : Open statement, file modes, locking the file, close statement, working with sequential access file, print# statement, input# statement, write# statement, working with random access file, put statement, get statement, defining user defined data types, file control, file related commands	04 03 02 02 04	15

### Late Ku. Durga K. Banmeru Science College, Lonar Dist-Buldana Department of Computer Science Teaching Plan Session-2021-22

B.Sc.-Ist Semester-Ist

### 1S: Computer Science or Computer Application or Information Technology Paper-I Computer Fundamentals and C Programming

Sr. No.	Month	Name of Unit	Topics Names	Required Lecture	
	July	UNIT-I:	Characteristics, classification of Computers, block	04	Lecis.
		Introduction to	diagram of computer, memory and their types: Primary	03	
		Computers	and secondary memory . Peripheral devices : Keyboard,	03	15
			mouse, scanner, printers : Impact, Non-impact, DMP,	02	
			inkjet, Laser.	03	
2		UNIT-II:	DOS: Booting process, formatting, directory structure,	04	
	July -	Introduction to OS	FAT. Internal DOS commands: REN, CD, MD,RD,	04	
	Aug	:	DIR, DEL, COPY, TYPE, DATE, TIME, COPYCON,	03	
			PROMPT External commands: FORMAT , XCOPY,	04	
			CHKDSK, PATH, ATTRIB, AUTOEXEC. BAT,		
			CONFIG.SYS Windows : Introduction, features,		
			Windows Explorer Number system : Decimal, binary,		15
			octal, hexadecimal and their conversions, ASCII Code.		
3		UNIT-III:	Direct, Types of Internet connection: Direct dial-up,	04	15
		Introduction to	broadband, Internet protocol: TCP/IP, FTP, HTTP,	03	
		Internet:	Domain name e-mail address, WWW, web browser:	03	
			Internet Explorer. Netscape navigator, search engines.	02	
				03	

4	UNIT-IV:	Algorithm flowcharting programming languages,	04	15
	Programming	assembler, interpreter, compiler programming process :	03	
	Concept:	program design, coding compilation, Execution, testing,	03	
		debugging documentation structured programming:	02	
		features and approaches	02	
5	UNIT-V:	: Introduction to C, History, features structure of C	04	15
	Elements of C	program, header file, character set, keywords,	03	
		identifiers, constants, variables, basic data types,	04	
		symbolic constants, typedef operators & Expressions:	04	
		Arithmetic, Relational, logical assignment, Increment		
		and decrement, precedence of operators.		
6	UNIT- VI : I/O	Formatted I/O: Printf(), Scanf(), Unformatted I/O:	04	15
	Operations:	getch (), getche (), getchar (), putch (), putche (),	03	
		putchar (), gets (), Puts (), Controal structure: if, if	03	
		else, nested if, conditional operator, switch, goto, for,	02	
		while, dowhile, nesting of loops, break, continue.	03	

### Late Ku. Durga K. Banmeru Science College, Lonar Dist-Buldana Department of Computer Science Teaching Plan Session-2021-22

# B.Sc.-I<sup>st</sup> Semester-II<sup>nd</sup> Paper - Computer Application or Information Technology Data Structure and Advance C

No.	Month	Name of Unit	Topics Names	Required Lecture	
	Dec-	UNIT-I:	Introduction to Data structure, type of data structures, list,	04	20000
	Jan-		array, stack and Queue; Algorithms of traversing, insertion	03	
			and deletion operation on it.	03	15
				02	
				03	
2	Jan	UNIT-II	: Linked list & its implementation, traversing, insertion,	04	
			deletion algorithms, circular Queue.	04	
				03	15
				02	
				02	
3	Feb	UNIT-III	Tree : Binary, Binary search tree, tree Traversing : inorder,	04	
			preorder and postorder, sorting and searching Techniques :	03	
			Bubble sort, insertion sort and selection sort, linear search,	03	15
			Binary search.	02	
				03	
4	Feb	UNIT-IV	Function : Definition, prototype, local & global variable,	04	
	March		function parameter, function calling and return, return	04	
			values and their types, function recursion Arrays :	03	15
			Declaration and initialization of one and two dimensional	02	
			arrays, function with array.	02	

5	March	UNIT-V	String Handling: Declaring and initialization of string variable , operations on string: String copy comparison, concatenation. Pointers: Declaration and initialization, pointer and address arithmetic, Pointer comparison, Pointer and array.	04 03 03 02 03	15
6	April	UNIT-VI	:Structure : Definition and declaration , initialization, array of structure , nested structure Union File Handing : Definition and opening a file, closing a file , I/O Operations on file :	04 03 03 02 03	15

### Late Ku. Durga K. Banmeru Science College, Lonar Dist-Buldana Department of computer science

# Teaching Plan Session-2021-22 B.Sc.-II<sup>nd</sup> Semester-III<sup>rd</sup> Paper-Object-Oriented Programming with C++ and Web Technology

Sr. No.	Month	Name of Unit	Topics Names	Requ. Lecture	Total Lects
1	July	Unit I:	Concept of OOP, Comparision with POP, features of OOP,	04	15
			advantages and applications of OOP, Introduction to C++,	03	
			structure of C++ program, tokens, keywords, identifiers, basic	04	
			data types & user defined data types, Constants, variables,	02	
			declaration of variables, dynamic initialization of variables, types of symbolic constants	02	
2	July	Unit II :	Operators : Scope resolution operator, member dereferencing	04	15
	Aug		operator, implicit & explicit conversions. Control structures: if,	03	
	1145		switch, dowhile, while, for statements Functions: Function	03	
			prototype, Function calling and returning, their types, inline	02	
			functions, default arguments, constant arguments, function overloading	03	
3	Aug	Unit III :	Classes and objects: Data abstraction and, Encapsulation,	04	15
3	Aug	Unit III:	Data Hiding, class specification, defining objects, accessing	03	15
			class member, defining member functions, Nesting of member	03	
			function, friend functions, passing objects as arguments,	02	
			Returning objects from functions. Constructors : Defining	03	
			constructor, parameterized constructor, multiple constructors	03	
			in a class, constructor with default argument, copy		
			constructor, destructor.		

4	Sept	Unit-IV	Basic elements of communication system, Network concept, advantages, goals, network topologies: Star, ring, completely connected N/W, Hybrid N/W, multipoint n/w, LAN, WAN, OSI model	04 03 04 02 02	15
5	Sept	Unit V	HTML : Introduction, Need of HTML application of HTML,	04	15
			Basic structure of HTML, HTML tags and attributes : Adding	04	
			tags, include attributes < HTML >, < HEAD >, < TITLE >, <	03	
			BODY >, < P >, < Br >, < HR >, Heading tags, table tags,, <	02	
			IMG>, , , < MARQUEE>,< BLOCKQUOTE >, < A >, < I >, < B >,	02	
			list tag, Attributes : allign, background colour, text color		
6	Oct	Unit VI	Style sheet : advantages of style sheet & applications of style	04	15
			sheet, CSS: Introduction, CSS stylesheet properties: Units,	03	
			classes and ID attributes. Properties : Text, font, colour,	02	
			background, border, display, height, line, margin, width, CSS	04	
			with HTML.	02	

## Late Ku. Durga K. Banmeru Science College, Lonar Dist- Buldana Department of computer science

Department of computer science
Teaching Plan Session-2021-22
B.Sc.-II<sup>nd</sup> Semester-IV<sup>th</sup>

### Paper - Advanced C++ and Web Designing

Sr. No.	Month	Name of Unit	Topics Names	Requ. Lecture	Total Lects
1	Dec-17	Unit I:	Arrays and Pointers : one-dimentional, two-dimentional	04	15
	Jan-18		arrays, Defining Pointers, arrays of objects, Pointer to objects,	03	
			this pointer operator overloading : Defining operator	03	
			overloading, overloading arrays, Binary, and assignment	02	
			operators, rules for overloading operators.	03	
2	Jan	Unit II :	Inheritance : Introduction, derived classes, Single inheritance,	04	15
			multiple inheritance, Hierarchical and Hybrid inheritance.	03	
			Templates: Function, class, members and Function templets.	03	
				02	
				03	
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3	Feb	Unit III :	: Virtual Functions and Polymorphism :- Introduction, Pointers	04	15
			to derived class, dynamic binding, defination of Virtual	03	
			Function, pure Virtual Functions, Rules For Virtual Functions.	02	
			Working with Files: Introduction, Hierarchy of File Stream Classes, opening and closing of Files, File modes, File pointers	02	
			and their manipulations, File Input/Output with Fstream class	04	
	Feb	Unit IV:	Introduction to XML : History of Markup languages, features	04	
	March		of XML, Simple XML document, logical structure of XML	03	
			elements, Components of XML documents: The document	03	15
			prolog and document instance. CSS with XML.	02	
				03	
5	March	Unit V:	Document type Defination (DTD): Introduction, need of DTD,	04	15
			declaring elements, element content models, declaring attributes, attribute types : internal and external DTD,	04	

			entities and their types	03	
				04	
6	Annil	Unit VI :	VMI Schomas : Introduction features Comparison with	04	15
0	April	Unit VI:	XML Schemas : Introduction, features, Comparison with DTD, Schema elements, element type element attributes,	04 03	15
			XML schema data types, converting DTD to schema,	03	
			Namespaces : Introduction, declaration, default & prefit	02	
			namespaces, scope of namespaces collusion & Applications	03	

### Late Ku. Durga K. Banmeru Science College, Lonar Dist-Buldana

# Department of computer science Teaching Plan Session-2021-22 B.Sc.-III<sup>rd</sup> Semester-V<sup>th</sup> Paper- RDBMS AND VISUAL BASIC

	Month	Name of Unit	Topics Names		Total
No.				Lecture	
1	July	Unit-I:	Fundamental of DBMS : Architecture of a database system,, data independence, database models; Relational	04	15
	_		Hierarchical, network; data dictionary		
			Relational Model: Relations, Domains and Attributes keys, E-R diagrams, Reducing E-R diagrams to tables, function	03	
			dependency, Normalization Process, Normal forms : 1NF, 2NF, 3NF, 4NF, BCNF.	04	
2	July	Unit-II:	Introduction to SQL : Components of SQL, data types,	04	15
	Aug		operators, DDL Commands : CREATE, ALTER, DROP, for tables	03	
			& views. DML Commands : SELECT, INSERT, DELETE & UPDATE;	03	
			Clauses : ORDER BY, GROUP BY and HAVING	02	
				03	
3	Sept	Unit III:	Introduction to SQL : Components of SQL, data types,	04	15
			operators, DDL Commands : CREATE, ALTER, DROP, for	03	
				02	
			tables & views. DML Commands : SELECT, INSERT, DELETE &	02	
			UPDATE; Clauses : ORDER BY, GROUP BY and HAVING;	04	
4		unit IV :	: Introduction to Visual Basic : Visual programming, event	04	
		unt I v .	driven programming, VB Environment : New Project	04	
			window, property window, Form layout window, toolbar,	03	15
			menu bar, tool box, form window; Managing Control : Form	04	
			properties, pointer tool, label control, text box, command		
			button, picture box, image		
5	Cont	Unit V :	Creating Manus : Application wizard for many many aditor	04	15
5	Sept	Umit v:	Creating Menus: Application wizard for menu, menu editor, creating menu, adding code to menus, data types &	03	13
			creating menu, adding code to menus, data types &	03	

			variables. Operators : Conditional operators, logical	03	
			operators, control structures : If-else, Nested If—else, select	02	
			case, goto do loop, for loop, nested for loop	03	
6	Oct	Unit VI:	Introduction to Internal Functions : Msgbox(), named	04	15
			constant, default buttons, specifying icons. Input box(), title, caption; using check box and option butto	04	
				03	
				04	
			VB Programmes: Private and public procedure, passing data		
			by reference and value, passing control as arguments		

## Late Ku. Durga K. Banmeru Science College, Lonar Dist- Buldana Department of computer science

# Department of computer science Teaching Plan Session-2021-22 B.Sc.-III<sup>rd</sup>Semester-VI<sup>th</sup> Paper -PL/SQL AND ADVANCED VISUAL BASIC

Sr. No.	Month	Name of Unit	me of Unit Topics Names		Total Lects
1	July	Unit-I:	: Data Integrity, types of integrity constants. Functions :	04	15
			Number Functions - AVG, MAX, MIN, SUM, COUNT, TO-	03	
			NUMBER, GREATEST, LEAST, ABS, MOD, FLOOR, CEIL,	03	
			TRUNC, SQRT, SIGN, SIN, COS, LOG, EXP	02	
				03	
			. Character Function : INITCAP, LOWER, UPPER, INSTR		
			LENGTH, LTRIM, RTRIM, LPAD, RPAD, SOUNDEX, DECODE.		
			Joins and Unions : Self, equi and outer join, unions and intersection		
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2	July	Unit-II:	Introduction to SQL : Components of SQL, data types,		15
	Aug		operators, DDL Commands : CREATE, ALTER, DROP, for tables	U <del>4</del>	
			& views. DML Commands : SELECT, INSERT, DELETE & UPDATE; Clauses : ORDER BY, GROUP BY and HAVING	03	
				04	
3	Sept	Unit III :	Securities of Database : Users, creating users, roles, creating	04	15
3	Зері	Cint III:		03	15
			roles, types of previleges, GRANT and REVOKE command,	03	
			data locks	02	
				03	
4		unit IV :	Dialog Box Control : Need for dialog box control, adding the	04	
			dialog box control, producing the color dialog box control,	04	
			handling the cancel button, producing the font dialog box,	03	15
			producing the open dialog boxes, producing file save dialog	04	
			boxes, producing the print dialog boxes. Mouse and Control		

			: Mouse response, list box controls, combo box control, timer control, working with arrays, declaring arrays, multiple list boxes		
5	Sept	Unit V :	: Working with Forms : Form collections, accessing the form collection using the subscripts, the count property, uploading forms, placing text on forms, format with print, positioning the print method, multiple forms, placing tool bars on forms	04 03 03 02 03	15
6	Oct	Unit VI :	: Working with Files : Open statement, file modes, locking the file, close statement, working with sequential access file, print# statement, input# statement, write# statement, working with random access file, put statement, get statement, defining user defined data types, file control, file related commands	04 04 03 04	15