

Vivekananda Degree College  
Rajajinagar, Bangalore-55

## Lesson Plan, July 2020

**Taught Course:** Paper V CS5T2: Visual Programming : Bsc, V Semester

**Faculty Member:** Prof. Saumya Rao

**Objectives of the Course:**

To equip the students to have the glimpses of Event driven programming and object oriented programming. To make students understand the standard way of Writing VB program and programming in VC++. Giving basic training in Visual studio.

Module	Course Description	Duration From To	Taught Hours	Teaching Methods
	<b>UNIT I</b>		<b>Thirteen</b>	
<b>1</b>	Introduction to Visual Programming: The integrated Development Environment – menu bar, tool bar, form designer, project explorer, properties window, from layout window,	8-July-20 to 11-July-20	TWO	Lecture
<b>1.1</b>	The form object: Properties, events and methods of forms; Properties – Name, Caption, Backcolor, Borderstyle, controlbox, maxbutton, minbutton, moveable, startup position, height, width, left, top, scalemode, window, state;.	13-July-20 to 16-July-20	THREE	Lecture & Practical Demo
<b>1.2</b>	Events –load, unload, Click, Activate, Deactivate, Resize, methods – Show, hide, cls, Unload, print, Controls – Properties and events of different controls such as command buttons, labels, textboxes image controls, timer, horizontal and vertical scroll bars, option buttons, check boxes, frames lists and combo boxes	18-July-20 to 21-July-20	FIVE	Lecture & Practical Demo
<b>1.3</b>	Predefined Dialog Boxes – MsgBox and InputBO	22-July-20 to 29-July-20	THREE	Lecture & Practical Demo
<b>2</b>	<b>UNIT II</b>		<b>THIRTEEN</b>	

2.1	Programming: Data types, variables; declaration and scope arithmetic operations	30-July-20 to 01-Aug-20	TWO	Lecture
2.2	Study of form and code modules, private and public procedures, Main procedure, Sub and Functions	02-Aug-20 to 10-Aug-20	TWO	Lecture & Practical Demo
2.3	Mathematical and string Functions;	13-Aug-20 to 18-Aug-20	TWO	Lecture & Practical Demo
2.4	Branching and Looping Statement; If – Then, if –Then –Else and Nested If Statements; Select Case –different forms; For – Next, While – Wend and Do – Loops statements;	18-Aug-20 To 20-Aug-20	THREE	Lecture & Practical Demo
2.5	Arrays- declaration. Static and dynamic arrays. Array Function, menus and toolbars-Creating menus and toolbars	21-Aug-20 To 22-Aug-20	TWO	Lecture & Practical Demo
2.5	Working with the menu editor, Designing Multiple Document interface forms. Microsoft common controls	23-Aug-20 To 25-Aug-20	TWO	Lecture & Practical Demo
<b>3</b>	<b>UNIT III</b>		<b>THIRTEEN</b>	
3.1	OOP methods and properties of an object, class Modules, Encapsulation and Inheritance characteristics	26-Aug-20 to 27-Aug-20	THREE	Lecture & Practical Demo
3.2	Dynamic Link Libraries (DLLs) and Windows API. Designing Help files;	29-Aug-20 to 09-Sept-20	THREE	Lecture & Practical Demo
3.3	File handling – Sequential ,Random access and Binary files	10-Sept-20 to 17-Sept-20	THREE	Lecture & Practical Demo
3.4	Database connectivity – DAO and ADO Tables and Queries, ActiveX Data objects.	18-Sept-20 to 19-Sept-20		Lecture & Practical Demo
<b>4</b>	<b>UNIT IV</b>		<b>THIRTEEN</b>	
4.1	Visual C++ Programming: Objects-Classes-VC++Components – R	19-Sept-20 to 23-Sept-20	TWO	Lecture

4.2	Resources-Event Handling – Menus – Dialog Boxes – Importing VBX Controls –	24-Sept-20 to 14-Oct-20	THREE	Lecture PROBLEM SOLVING
4.3	Files – MFC File Handling	15-Oct-20 to 17- Oct – 20	TWO	
4.4	Document View Architecture – Serialization. Interfacing Other Applications	18-Oct-20 to 20- Oct – 20	THREE	
4.5	Multiple Document Interface (MDI) – Splitter Windows – Exception Handling – Debugging – Object Linking and Embedding (OLE) – Database Application – DLL- ODBC	21-Oct-20 to 27- Oct – 20	FIVE	
5.1	Visual Programming Lab			PRACTICAL LAB

**NB. The Lesson plan is subject to deviation owing to uncertain holidays etc.**

**Date of Submission: July 2020**

**Signature of the Faculty Member**



**Signature of the Principal**

**PRINCIPAL  
VIVEKANANDA DEGREE COLLEGE  
BENGALURU-55**

**Vivekananda Degree College**  
**Department of Computer Science**  
**Lesson Plan, 2020**

**Course: CS I: C PROGRAMMING**

**Total Teaching Hours : 60**

**No of Hours / Week : 04**

**Faculty Member: Prof.Aruna Nagarajan**

**Objectives of the Course:**

To equip the students to code programs, The course describes history of C, C programming concepts.

Module	Course Description	Duration From To	Taught Hours	Teaching Methods
1	<b>Unit – I: Fundamentals of C</b>	14/07/2020 to 31/07/2020	TWELVE	
1.1	Introduction to Programming Concepts: Software, Classification of Software, Modular Programming, Structured Programming, ..	14/07/2020 to 18/07/2020	THREE	
1.2	Algorithms and Flowcharts with examples.	19/07/2020 to 21/07/2020	TWO	Demo on Algorithms
1.3	Overview of C Language: History of C, Character set, C tokens, Identifiers, Keywords, Data types, Variables, Constants, Symbolic Constants	22/07/2020 to 24/07/2020	THREE	Assignment on data types
1.4	Operators in C, Hierarchy of Operators, Expressions, Type Conversions and Library Functions	25/07/2020 to 30/07/2020	FOUR	Assignment on Expressions
2	<b>Unit –II: INPUT - OUTPUT</b>	1/08/2020 to 14/08/2020	TWELVE	
2.1	Managing Input and Output Operation: Formatted and Unformatted I/O Functions Decision making, branching and looping: Decision Making Statements - if Statement, if-else statement, nesting of if-else statements.	1/08/2020 to 5/08/2020	FOUR	Examples
2.2	Else-if ladder, switch statement, ?: operator, Looping - while, do-while, for loop, Nested loop, break, continue, and goto statements	6/08/2020 to 11/08/2020	FOUR	Demonstration on Decision statements

2.3	Functions: Function Definition, prototyping, types of functions, passing arguments to functions, Nested Functions, Recursive functions	12/08/2020 to 14/08/2020	FOUR	Demonstration on for loops.
3	<b>Unit – III : Arrays</b>	<b>17/08/2020 to 30/08/2020</b>	<b>TWELVE</b>	
3.1	Arrays: Declaring and Initializing, One Dimensional Arrays, Two Dimensional Arrays, Multi Dimensional Arrays - Passing arrays to functions.	17/08/2020 to 21/08/2020	FOUR	LECTURE.
3.2	Strings: Declaring and Initializing strings, Operations on strings, Arrays of strings, passing strings to functions	22/08/2020 to 26/08/2020	FOUR	Demonstration on control statements.
3.3	Storage Classes - Automatic, External, Static and Register Variables.	27/08/2020 to 30/08/2020	FOUR	LECTURE
4	<b>Unit – IV: STRUCTURES AND UNIONS</b>	<b>31/08/2020 to 14/09/2020</b>	<b>TWELVE</b>	
4.1	Structures - Declaring and Initializing, Nested structure, Array of Structure, Passing structures to functions, Unions, typedef, enum, Bit fields.	31/08/2020 to 4/09/2020	FOUR	LECTURE
4.2	Pointers – Declarations, Pointer arithmetic, Pointers and functions, Call by value, Call by reference, Pointers and Arrays, Arrays of Pointers	06/09/2020 to 10/09/2020	FOUR	Demonstration on POINTERS.
4.3	Pointers and Structures. Meaning of static and dynamic memory allocation, Memory allocation functions.	11/09/2020 to 14/09/2020	FOUR	Demonstration on MALLOC,CALLOC
5	<b>Unit – V: FILES</b>	<b>17/09/2020 to 05/10/2020</b>	<b>TWELVE</b>	
5.1	Files - File modes, File functions, and File operations, Text and Binary files	17/09/2020 to 21/09/2020	FOUR	LECTURE
5.2	Command Line arguments. C Preprocessor directives	22/09/2020 to 28/09/2020	FOUR	ASSIGNMENT
5.3	Macros – Definition, types of Macros, Creating and implementing user defined header files	29/09/2020 to 05/10/2020	FOUR	Case Study

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**Lesson Plan, 2020**

**Taught Course:** Data Structures Using C

**Semester:** II Sem BSc

**Faculty Member:** Megha D R

**Objectives of the Course:**

To equip the students to have the glimpses of various skills in implementations and applications of data structures. Studying data structures helps students to deal with different ways of arranging, processing and storing data.

Module	Course Description	Duration From To	Taught Hours	Teaching Methods
<b>1</b>	<b>INTRODUCTION AND OVERVIEW</b>		<b>TWELVE</b>	
1.1	Definition, Elementary data organization, Data Structures, data structures operations, Abstract data types, algorithms complexity, time-space tradeoff.	9/1/2020 to 12/1/2020	THREE	Lecture Literature Review
1.2	Preliminaries: Mathematical notations and functions, Algorithmic notations, control structures, Complexity of algorithms, asymptotic notations for complexity of algorithms.	14/1/2020 To 25/1/2020	FIVE	Lecture Assignment Problems on Asymptotic notation
1.3	String Processing: Definition, Storing Strings, String as ADT, String operations, word/text processing, Pattern Matching algorithms.	28/1/2020 To 1/2/2020	FOUR	Lecture Assignment Programs
<b>2</b>	<b>ARRAYS</b>		<b>TEN</b>	
2.1	Definition, Linear arrays, arrays as ADT, Representation of Linear Arrays in Memory, Traversing Linear arrays, Inserting and deleting.	2/2/2020 To 11/2/2020	FIVE	Lecture Assignment Programs
2.2	Sorting: Bubble sort, Insertion sort, Selection sort, Searching: Linear Search, Binary search, Multidimensional arrays, Matrices and Sparse matrices.	12/2/2020 To 27/2/2020	FIVE	Lecture Assignment quiz Programs
<b>3</b>	<b>LINKED LIST</b>		<b>TEN</b>	
3.1	Linked list: Definition, Representation of Singly linked list in memory, Traversing a Singly linked list, Searching a Singly linked list, Memory allocation, Garbage collection, Insertion into a singly linked list, Deletion from a singly linked list.	28/2/2020 To 11/3/2020	FIVE	Lecture Assignment Programs

3.2	Doubly linked list, Header linked list, Circular linked list.	12/3/2020 To 25/3/2020	FIVE	Lecture Assignment Programs quiz
<b>4</b>	<b>STACKS AND QUEUE</b>		<b>TEN</b>	
4.1	Definition, Array representation of stacks, Linked representation of stacks, Stack as ADT, Arithmetic Expressions: Polish Notation, Application of Stacks, Recursion, Towers of Hanoi, Implementation of recursive procedures by stack.	26/3/2020 To 2/4/2020	FIVE	Lecture Assignment Problems on polish notation, Infix to postfix, postfix to infix and evaluation of postfix expression.
4.2	Queues - Definition, Array representation of queue, Linked list representation of queues Types of queue: Simple queue, Circular queue, Double ended queue, Priority queue, Operations on Queues, Applications of queues.	3/4/2020 To 9/4/2020	FIVE	Assignment Lecture Programs Discussion
<b>5</b>	<b>GRAPHS AND TREES</b>		<b>TEN</b>	
5.1	Graphs: Graph theory terminology, Sequential representation of Graphs: Adjacency matrix, traversing a Graph.	10/4/2020 To 16/4/2020	FIVE	Lecture Programs Problems
5.2	Tree - Definitions, Binary trees, Representing binary trees in memory, Traversing Binary Trees, Binary Search Trees, Searching, Inserting and Deleting in a Binary Search Tree.	17/4/2020 To 23/4/2020	FIVE	lecture Assignment Programs Theory and Practical test

NB. The Lesson plan is subject to deviation owing to uncertain holidays etc.

Date of Submission: 9<sup>th</sup> January 2020

  
Signature of the Faculty Member



Signature of the Principal

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**BENGALURU-55**

**Vivekananda Degree College  
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**Lesson Plan, 2021**

**Taught Course:** Data Structures Using C  
**Faculty Member:** Megha D R

**Semester:** II Sem BSc

**Objectives of the Course:**

To equip the students to have the glimpses of various skills in implementations and applications of data structures. Studying data structures helps students to deal with different ways of arranging, processing and storing data.

Module	Course Description	Duration From To	Taught Hours	Teaching Methods
<b>1</b>	<b>INTRODUCTION AND OVERVIEW</b>		<b>TWELVE</b>	
1.1	Definition, Elementary data organization, Data Structures, data structures operations, Abstract data types, algorithms complexity, time-space tradeoff.	4/5/2021 to 14/5/2021	THREE	Lecture Literature Review
1.2	Preliminaries: Mathematical notations and functions, Algorithmic notations, control structures, Complexity of algorithms, asymptotic notations for complexity of algorithms.	15/5/2021 To 22/5/2021	FIVE	Lecture Assignment Problems on Asymptotic notation
1.3	String Processing: Definition, Storing Strings, String as ADT, String operations, word/text processing, Pattern Matching algorithms.	24/5/2021 To 31/5/2021	FOUR	Lecture Assignment Programs
<b>2</b>	<b>ARRAYS</b>		<b>TEN</b>	
2.1	Definition, Linear arrays, arrays as ADT, Representation of Linear Arrays in Memory, Traversing Linear arrays, Inserting and deleting.	1/6/2021 To 11/6/2021	FIVE	Lecture Assignment Programs
2.2	Sorting: Bubble sort, Insertion sort, Selection sort, Searching: Linear Search, Binary search, Multidimensional arrays, Matrices and Sparse matrices.	12/6/2021 To 19/6/2021	FIVE	Lecture Assignment quiz Programs
<b>3</b>	<b>LINKED LIST</b>		<b>TEN</b>	
3.1	Linked list: Definition, Representation of Singly linked list in memory, Traversing a Singly linked list, Searching a Singly linked list, Memory allocation, Garbage collection, Insertion into a singly linked list, Deletion from a singly linked list.	21/6/2021 To 29/6/2021	FIVE	Lecture Assignment Programs

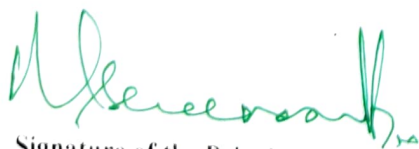


3.2	Doubly linked list, Header linked list, Circular linked list.	30/6/2021 To 8/7/2021	FIVE	Lecture Assignment Programs quiz
4	<b>STACKS AND QUEUE</b>		<b>TEN</b>	
4.1	Definition, Array representation of stacks, Linked representation of stacks, Stack as ADT, Arithmetic Expressions: Polish Notation, Application of Stacks, Recursion, Towers of Hanoi, Implementation of recursive procedures by stack.	9/7/2021 To 15/7/2021	FIVE	Lecture Assignment Problems on polish notation, Infix to postfix, postfix to infix and evaluation of postfix expression.
4.2	Queues - Definition, Array representation of queue, Linked list representation of queues Types of queue: Simple queue, Circular queue, Double ended queue, Priority queue, Operations on Queues, Applications of queues.	16/7/2021 To 21/7/2021	FIVE	Assignment Lecture Programs Discussion
5	<b>GRAPHS AND TREES</b>		<b>TEN</b>	
5.1	Graphs: Graph theory terminology, Sequential representation of Graphs: Adjacency matrix, traversing a Graph.	22/7/2021 To 28/7/2021	FIVE	Lecture Programs Problems
5.2	Tree - Definitions, Binary trees, Representing binary trees in memory, Traversing Binary Trees, Binary Search Trees, Searching, Inserting and Deleting in a Binary Search Tree.	29/7/2021 To 12/8/2021	FIVE	lecture Assignment Programs Theory and Practical test

NB. The Lesson plan is subject to deviation owing to uncertain holidays etc.

Date of Submission: 4<sup>th</sup> May 2021

  
Signature of the Faculty Member



Signature of the Principal  
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**BENGALURU-55**

## Lesson Plan, October 2021

**Taught Course:** Paper V CS5T2: Visual Programming : Bsc, V Semester

**Faculty Member:** Prof. Saumya Rao

### Objectives of the Course:

To equip the students to have the glimpses of Event driven programming and object oriented programming. To make students understand the standard way of Writing VB program and programming in VC++. Giving basic training in Visual studio.

Module	Course Description	Duration From To	Taught Hours	Teaching Methods
	<b>UNIT I</b>		<b>Thirteen</b>	
1	Introduction to Visual Programming: The integrated Development Environment – menu bar, tool bar, form designer, project explorer, properties window, from layout window,	12-Oct-21 to 15-Oct-21	TWO	Lecture
1.1	The form object: Properties, events and methods of forms; Properties – Name, Caption, Backcolor, Borderstyle, controlbox, maxbutton, minbutton, moveable, startup position, height, width, left, top, scalemode, window, state;	16-Oct-21 to 20-Oct-21	THREE	Lecture & Practical Demo
1.2	Events –load, unload, Clerk, Activate, Deactivate, Resize, methods – Show, hide, cls, Unload, print, Controls – Properties and events of different controls such as command buttons, labels, textboxes image controls, timer, horizontal and vertical scroll bars, option buttons, check boxes, frames lists and combo boxes	21-Oct-21 to 23-Oct-21	FIVE	Lecture & Practical Demo
1.3	Predefined Dialog Boxes – MsgBox and InputBO	24-Oct-21 to 29-Oct-21	THREE	Lecture & Practical Demo
2	<b>UNIT II</b>		<b>THIRTEEN</b>	
2.1	Programming: Data types, variables; declaration and scope arithmetic operations	30-Oct-21 to 5-Nov-21	TWO	Lecture

2.2	Study of form and code modules, private and public procedures, Main procedure, Sub and Functions	06-Nov-21 to 11-Nov-21	TWO	Lecture & Practical Demo
2.3	Mathematical and string Functions;	12-Nov-21 to 15-Nov-21	TWO	Lecture & Practical Demo
2.4	Branching and Looping Statement; If – Then, if –Then –Else and Nested If Statements; Select Case –different forms; For – Next, While – Wend and Do – Loops statements;	16-Nov-21 to 21-Nov-21	THREE	Lecture & Practical Demo
2.5	Arrays- declaration. Static and dynamic arrays. Array Function, menus and toolbars-Creating menus and toolbars	22-Nov-21 to 27-Nov-21	TWO	Lecture & Practical Demo
2.5	Working with the menu editor, Designing Multiple Document interface forms. Microsoft common controls	28-Nov-21 to 30-Nov-21	TWO	Lecture & Practical Demo
<b>3</b>	<b>UNIT III</b>		<b>THIRTEEN</b>	
3.1	OOP methods and properties of an object, class Modules, Encapsulation and Inheritance characteristics	01-Dec-21 to 05 – Dec- 21	THREE	Lecture & Practical Demo
3.2	Dynamic Link Libraries (DLLs) and Windows API. Designing Help files;	06-Dec-21 to 11 – Dec- 21	THREE	Lecture & Practical Demo
3.3	File handling – Sequential ,Random access and Binary files	12-Dec-21 to 20 – Dec- 21	THREE	Lecture & Practical Demo
3.4	Database connectivity – DAO and ADO Tables and Queries, ActiveX Data objects.	21-Dec-21 to 31 – Dec- 21	FOUR	Lecture & Practical Demo
<b>4</b>	<b>UNIT IV</b>		<b>THIRTEEN</b>	
4.1	Visual C++ Programming: Objects-Classes-VC++Components – R	02-Jan-22 to 08-Jan-22	TWO	Lecture
4.2	Resources-Event Handling – Menus – Dialog Boxes – Importing VBX Controls –	09-Jan-22 to 15-Jan-22	THREE	Lecture PROBLEM SOLVING

4.3	Files – MFC File Handling	16-Jan-22 to 22-Jan-22	TWO	
4.4	Document View Architecture – Serialization. Interfacing Other Applications	23-Jan-22 to 29-Jan-22	THREE	
4.5	Multiple Document Interface (MDI) – Splitter Windows – Exception Handling – Debugging – Object Linking and Embedding (OLE) – Database Application – DLL- ODBC	30-Jan-22 to 10-Feb-22	FIVE	
5.1	Visual Programming Lab	Feb-Mar		PRACTICAL LAB

**NB. The Lesson plan is subject to deviation owing to uncertain holidays etc.**

**Date of Submission: Oct 2021**

**Signature of the Faculty Member**



**Signature of the Principal**

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RAJANINAGAR, BANGALORE-55**

**Department of Computer Science  
Lesson Plan 2021**

**Course: CS III: SOFTWARE ENGINEERING AND DBMS**

**Total Teaching Hours : 60**

**No of Hours / Week : 04**

**Faculty Member: Prof. Aruna Nagarajan**

**Objectives of the Course:**

To equip the students to have the glimpses of fundamentals of SQL (DBMS) programming.

To Understand the basic concepts and the applications of database systems

To Master the basics of SQL and construct queries using SQL

To understand the relational database design principles

The course starts with basics and then discusses every keyword in DBMS. It concludes with some of SoftwareEngineering Concepts.

The term software engineering is composed of two words, software and engineering.

Software is more than just a program code.

A program is an executable code, which serves some computational purpose.

Software is considered to be a collection of executable programming code, associated libraries and documentations.

Software, when made for a specific requirement is called software product.

Engineering on the other hand, is all about developing products, using well-defined, scientific principles and methods.

So, we can define software engineering as a branch associated with the development of software product using well-defined scientific principles, methods and procedures. The outcome of software engineering is an efficient and reliable software product. IEEE defines software engineering as: The application of a systematic, disciplined, quantifiable approach to the development, operation and maintenance of software. We can alternatively view it as a systematic collection of past experience. The experience is arranged in the form of methodologies and guidelines. A small program can be written without using software engineering principles. But if one wants to develop a large software product, then software engineering principles are absolutely necessary to achieve a good quality software cost effectively.

Module	Course Description	Duration From To	Taught Hours	Teaching Methods
1	Unit – I: INTRODUCTION:	12/10/2021 to 5/11/2021	TWELVE	

1.1	Introduction: Data, Database, DBMS, Characteristics of Database Approach, Database Users, Advantages of DBMS. Database System Concepts and Architecture: Data Models, Schemas, and Instances.	12/10/2021 to 15/10/2021	THREE	Lecture.
1.2	DBMS Architecture and Data Independence, Database languages and interfaces, The Database system Environment, Classification of Database Management Systems.	16/10/2021 to 20/10/2021	THREE	Case study
1.3	Data Modeling Using the Entity-Relationship Model: High level Conceptual Data Models for Database Design with an example	23/10/2021 to 28/10/2021	THREE	Lecture
1.4	Entity types, Entity sets, Attributes, and Keys, ER Model Concepts, Notation for ER Diagrams, Proper naming of Schema Constructs	30/10/2021 to 5/11/2021	THREE	Assignment on E-R Diagrams
2	<b>Unit –II: RDBMS</b>	<b>6/11/2021 to 20/11/2021</b>	<b>TWELVE</b>	
2.1	RDBMS: Relational database concepts – attribute, tuple, types of attributes – single, multi-valued, stored, derived etc., keys – primary, index, candidate, alternate, foreign, Relationships	6/11/2021 to 11/11/2021	FOUR	Lecture case study Assignment
2.2	Relational algebra operations– UNION, INTERSECTION, DIFFERENCE, CARTESIAN PRODUCT, SELECTION, PROJECTION, JOIN, DIVISION, relational calculus, Domain, Domain integrity	12/11/2021 to 15/11/2021	FOUR	Lecture case study Assignment Quiz
2.3	Integrity rules – Entity integrity, referential integrity, Normalization and its properties, I, II and III Normal forms.	16/11/2021 to 20/11/2021	FOUR	Examples on Normalization
3	<b>Unit – III : SQL</b>	<b>22/11/2021 to 11/12/2021</b>	<b>TWELVE</b>	
3.1	DDL and DML in SQL: DDL commands - create table/views/index, drop, alter, DML commands – select, insert, delete, update, etc	23/11/2021 to 29/11/2021	FOUR	Lecture With examples

3.2	DCL commands – grant, revoke, commit, TCL commands, SQL – query, sub-query, nested query, Joins – natural, inner, outer join	01/12/2021 to 6/12/2021	FOUR	Lecture with Examples
3.3	Aggregate functions in SQL. PL / SQL: Introduction, Exceptions & Cursor Management, Database Triggers, Functions,	7/12/2021 to 11/12/2021	FOUR	Lab set Demo.
4	<b>Unit-IV:SOFTWARE ENGINEERING</b>	<b>12/12/2021 to 26/12/2021</b>	<b>TWELVE</b>	
4.1	Software and Software Engineering: Defining Software, Software Application Domains, Software Engineering, Software Process, Software Engineering Practice, Software Myths Understanding	12/12/2021 to 15/12/2021	FOUR	Lecture case study
4.2	Process Models: A Generic Process Model, Process Assessment and Improvement, Prescriptive Process Models, Specialized Process Models, Agile Development: Agility, Agility and the cost of change, Agile Process, Extreme Programming, Other Agile Process Models	16/12/2021 to 19/12/2021	FOUR	Lecture case study
4.3	Requirements: Requirements Engineering, Establishing the Groundwork, Eliciting Requirements, Developing the use cases, Building the Requirements Model, Negotiating Requirements, Validating Requirements.	20/12/2021 to 26/12/2021	FOUR	Lecture
4.4	DBMS LAB			Practical Lab

**NB. The Lesson plan is subject to deviation owing to uncertain holidays etc.**

**Date of Submission: October 2021**

**Signature of HOD**

**Signature of Faculty Member**

**Signature of Principal**

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BENGALURU-55**

**Vivekananda Degree College**  
**Department of Computer Science**  
**Lesson Plan 2020**

**Course: CS VIII: COMPUTER NETWORKS**

**Total Teaching Hours : 52**

**No of Hours / Week : 03**

**Faculty Member: Prof. Aruna Nagarajan**

**Objectives of the Course:**

Technology is fast evolving. Many services and applications of data communications and networking have profound impact on business, manufacturing, commerce, medicine and government. Students will be able to understand the fundamental network architecture concepts and their application in existing and emerging network architecture and will have balanced view of all important concepts of networking

Module	Course Description	Duration From To	Taught Hours	Teaching Methods
1	<b>Unit – I: INTRODUCTION</b>	27/12/2019 to 13/01/2020	THIRTEEN	
1.1	Introduction: Growth of computer networking, Complexity in network system, Motivation and Tools: Resource sharing, Growth of the internet, probing the internet, interpreting the ping response, tracing a route.	27/12/2019 to 29/12/2019	THREE	Lecture
1.2	Transmission Media: Copper wires, glass fibers, radio, satellite, Geosynchronous satellites, low earth orbit satellites, Low earth orbit satellite arrays, Microwave, Infrared, Light from a laser	30/12/2019 to 03/01/2020	THREE	Lecture
1.3	Local Asynchronous Communications: Introduction, the need for asynchronous communications, using electric current to send bits, standards for communication, baud rate, Framing and errors, Half and Full duplex asynchronous communication, the effect of noise on communication.	04/01/2020 to 08/01/2020	THREE	Lecture



1.4	Long distance Communication: Sending signals across long distances, Modem hardware used for Modulations and Demodulation, Leased analog data circuits, optical, radio frequency and dialup Modems, carrier frequencies and Multiplexing, baseband and bradband technologies, wave length division multiplexing, spread spectrum, time division multiplexing	09/01/2020 to 13/01/2020	FOUR	Lecture & Assignment
2	<b>Unit –II: PACKETS, FRAMES</b>	16/01/2020 to 31/01/2020	THIRTEEN	
2.1	Packets, Frames and Error Detection: Concept of Packets, packets and Time-division Multiplexing, Packets and Hardware Frames, byte Stuffing, transmission errors	16/01/2020 to 18/01/2020	TWO	Lecture
2.2	Parity bits and Parity checking, error detection, Detecting errors with checksums, detecting errors with CRC, Burst errors, frame formats and error detection mechanism.	19/01/2020 to 20/01/2020	TWO	Lecture

2.3	LAN Technologies and Network Topologies: Direct point-to-point communications, Shared Communications channels, LAN Topologies, Ethernet, Carries sense on CSMA, Collision Detection and Backoff with CSMA/CD, Ring Topology and Token Passing, Self-Healing Token Passing Networks, ATM	21/01/2020 to 24/01/2020	THREE	Lecture
2.4	Hardware addressing and Frame Type Identification: specifying a recipient, How LAN hardware uses addresses to filter packets, format of a physical addresses, broadcasting, Multicast addressing, identifying packet contents, frame headers and frame format	25/01/2020 To 27/01/2020	THREE	Lecture
2.5	LAN Wiring, Physical Topology and Interface Hardware: speeds of LANs and computers, Network Interface Hardware, The connection between a NIC and a network, original thick Ethernet wiring, connection multiplexing, thin Ethernet wiring, twisted pair Ethernet, Network interface cards and wiring schemes, categories of wires.	28/01/2020 TO 31/01/2020	THREE	Lecture
<b>3</b>	<b>Unit – III : EXTENDING LAN</b>	<b>2/02/2020 to 21/02/2020</b>	<b>THIRTEEN</b>	
3.1	Extending LANs: Fiber Optic Extensions, Repeaters, bridges, frame filtering, switching,	2/02/2020 to 4/02/2020	ONE	
3.2	Long-distance and Local Loop Digital Technologies: Digital telephony, Synchronous communication, SONET, ISDN, Asymmetric Digital Subscriber	4/02/2020 to 6/02/2020	TWO	

3.3	Line Technology, other DSL technologies, cable modem technology, upstream communication, Broadcast Satellite systems.	7/02/2020 to 10/02/2020	TWO	
3.4	WAN technologies and Routing: Large Networks and Wide Areas, Packet switches, forming a WAN, store and forward, Physical addressing in a WAN, Next-Hop forwarding, Source independence, Routing Table Computation, Shortest path computation in a Graph, distance vector routing, like-state routing, Example of WAN technologies	11/02/2020 TO 15/02/2020	FOUR	
3.5	Network Characteristics: Network ownership, Network performance characteristics, Jitter.	16/02/2020 TO 18/02/2020	TWO	
3.6	Protocols and Layering: the need for protocols, the seven layers, Stacks: Layered Software.	19/02/2020 TO 21/02/2020	TWO	
4	<b>Unit – IV: INTERNETWORKING</b>	23/02/2020 to 13/03/2020	THIRTEEN	
4.1	Internetworking: internet architecture, A virtual Network, Layering and TCP/IP protocols	23/02/2020 to 25/02/2020	THREE	

4.2	Internet Protocol Addresses, APR	26/02/2020 to 27/02/2020	TWO	
4.3	IP Datagram's and Datagram Forwarding, IP Encapsulation, Fragmentation, and Reassembly, IPv6	28/02/2020 to 04/03/2019	FOUR	
4.4	ICMP, UDP, TCP, Internet routing	05/03/2020 TO 07/03/2020	TWO	
4.5	DNS, WWW, MAIL.	08/03/2020 TO 11/03/2020	TWO	

**NB. The Lesson plan is subject to deviation owing to uncertain holidays etc.**

**Date of Submission: 27<sup>th</sup> DECEMBER 2019**

**Signature of HOD**

**Signature of Faculty Member**



**Signature of Principal**

**PRINCIPAL**  
**VIVEKANANDA DEGREE COLLEGE**  
**BENGAURU**

**VIVEKANANDA DEGREE COLLEGE, RAJAJINAGAR**  
**TEACHING PLAN FOR THE ACADEMIC YEAR 2020-21**

NAME OF THE FACULTY : Shantha K M  
 Associate Professor

DEPARTMENT : Computer Science

CLASS & SECTION : 2<sup>nd</sup> year B.Sc

SUBJECT : UNIX & OS

**Portions to be covered**

Month	Unit	Topic	Hours to be Engaged	Pedagogy
Sep	01	<b>Introduction to UNIX:</b> <ul style="list-style-type: none"> <li>➤ Introduction and Meaning</li> <li>➤ Features of UNIX</li> <li>➤ Unix Structure</li> </ul>	10	Chalk -Talk PPT
Oct	02	<b>Commands:</b> <ul style="list-style-type: none"> <li>➤ Introduction, Meaning and Definition</li> <li>➤ Conditional statements</li> <li>➤ Commands</li> <li>➤ Ls</li> <li>➤ Dir</li> <li>➤ mkdir</li> </ul>	10	Chalk -Talk Practice of Problems
Nov	03	<b>Decision statements:</b> <ul style="list-style-type: none"> <li>➤ if statement</li> <li>➤ if else statement</li> <li>➤ for</li> <li>➤ while</li> <li>➤ do-while</li> </ul>	10	Chalk and Talk Problems and Solutions

Dec	03	<b>Decisions:</b> <ul style="list-style-type: none"> <li>➤ Examples</li> <li>➤ Factorial ,prime etc</li> <li>➤ Communication</li> <li>➤ Commands</li> <li>➤ Break</li> <li>➤ Continue <b>stmt</b></li> <li>➤ Write and ps commands</li> </ul>	10	Chalk and Talk  Problems and Solutions
Jan	04	<b>Operating system:</b> <ul style="list-style-type: none"> <li>➤ Introduction, Meaning, Definition</li> <li>➤ Types of OS features</li>   <li>➤ Concept of Working</li> <li>➤ Significance of OS</li> </ul>	10	Chalk Talk  Problems and Solutions
Feb	05	<b>Paging and segmentation:</b> <ul style="list-style-type: none"> <li>➤ Advantages</li> <li>➤ Disadvantages</li> <li>➤ Examples of paging</li> <li>➤ Examples of segmentation</li> <li>➤ Types of scheduling</li> <li>➤ FIFO,round robin</li> <li>➤ problems</li> </ul>	06	Chalk and Talk  PPT

*Shaw*