

Department Computer Science

PROGRAMME OUTCOMES OF B.SC. PROGRAMMES

- Apply the broaden and in-depth knowledge of science and computing to analyse, think creatively and generate solutions to face the global challenges.
- Foster intellectual curiosity, critical thinking and logical reasoning.
- Adapt to different roles and responsibilities and develop leadership qualities in multicultural working environment by relating to diversity and ethical practices.
- Update the techniques and acquire skills to develop systems and methods to solve current problems.

PROGRAMME SPECIFIC OUTCOMES

	Upon completion of B.Sc. Degree programme, the graduates will be able to :
PSO - 1	Implementing the knowledge of computing in communication and ICT skills.
PSO - 2	Apply the broaden and in-depth knowledge of Mathematics, Science and computing to analyze, think creatively and generate innovative solutions to face the global challenges.
PSO - 3	Acquire current techniques and skills using modern tools to face day-to-day challenges.

Semester: I

Name of the Course: Programming in C

Subject Code: SC1711

No. of hours per week	No. of credits	Total no. of hours	Total marks
4	4	60	100

Course Outcomes

CO	Upon completion of this course the students will be able to :	PSO addressed	CL
CO-1	Recall the basic structure and key elements.	PSO-1	R
CO-2	Understand the fundamentals of C programming	PSO-2	U
CO-3	Analyze the various programming constructs and implement it to perform specific task.	PSO-3	AN, AP
CO-4	Design and develop modular programming skills	PSO-3	C

Teaching Plan

Total contact hours: 60 (Incl. lectures, assignments and test)

Unit	Module	Topics	Lecture hours	Learning Outcome	Pedagogy	Assessment/ Evaluation
I	Introduction to C programming					
	1.	History of C & Importance of C	1	To understand how C language comes into existence and the reasons for learning C	Lecture with PPT	Evaluation through: short test
	2.	Basic Structure of C Programs	1	To understand an overview of a C program	Lecture with PPT Illustration	Multiple choice questions
	3.	Character Set, Tokens, Keywords, Identifiers and Constants	3	To understand the basic program elements of C	Lecture	Formative Assessment
	4.	Data Types and Variables, Declaration of variables & Assigning values to variables	3	To understand the various data types in C To be able to declare and assign values to variables in program	Lecture with PPT Illustration	
	5.	Operators	2	To identify the various built-in operators	Lecture with PPT	
	6.	Expressions	2	To be able to evaluate the expressions	Lecture with PPT Illustration	
II	Decision Making, Branching and Loop Statements					
	1.	Formatted Input, Formatted Output	5	To understand the format for giving input in the program To understand the format for displaying the output	Lecture with PPT Illustration	Short test Quiz Formative Assessment
	2.	Decision Making Using 'if' Statement	2	To develop programs using decision making statements	Lecture, Illustration	
	3.	Switch statement, goto Statement	2	To analyze the various programming constructs and implement it to	Lecture, Illustration	

				perform specific task		
	4.	While, do statement, For statement	3	To develop programs using loop structures	Lecture, Illustration	
	5.	Jumps in loops	2	To distinguish the difference between break, continue, exit instructions	Lecture with PPT Illustration	
III	Arrays and Strings					
	1.	One-Dimensional array	2	To declare array variables and able to write programs using array concept	Lecture, Illustration	Short test Formative Assessment
	2.	Two-Dimensional arrays	1	To declare array variables and able to write programs using array concept	Lecture, Illustration	
	3.	Reading Strings from Terminal	1	To be able to read strings from terminal	Lecture	
	4.	Writing Strings to Screen	1	To be able to display strings to the screen	Lecture	
	5.	String Handling Functions	2	To understand the string functions that are supported by C library	Lecture with PPT Illustration	
IV	User-Defined Functions					
	1.	Definition, Need and Function Calls, Function Declaration	2	To be able to differentiate calling function and called function To understand the reasons for using functions in a program	Lecture	Short test Assignment on category of functions Formative Assessment
	2.	No Arguments and No Return Values Arguments But No Return Values	2	To acquire the skills to identify whether a function has arguments or not, whether it return values or not	Lecture with PPT Illustration Discussion	
	3.	Arguments with Return Values	2	To acquire the skills to identify	Lecture with PPT	

		No Argument But Returns a Value		whether a function has arguments or not, whether it return values or not	Illustration Discussion	
	4.	Recursion	1	To develop programs using recursion concept	Lecture with PPT Illustration	
	5.	Passing Arrays to Functions	1	To create programs by passing array values inside a function	Lecture	
V	Structures, Unions and Pointers					
	1.	Definition of Structure, Declaring structure variables, Accessing structure members & structure Initialization	2	To be able to define declare, access and initialize variables using structure To distinguish the difference between arrays and structures	Lecture, Illustration, Discussion	Short test Formative Assessment
	2.	Arrays of Structures	1	To be able to use arrays of structures in C program	Lecture with PPT Illustration	
	3.	Unions	1	To analyze how structures and unions differ in terms of their storage technique	Lecture, Discussion	
	4.	Pointers	2	To be able to define, declare, access the address of variable using pointer	Lecture, Discussion	

Course Instructor: J. Anto Hepzie Bai

HOD: J. Anto Hepzie Bai

Digital Computer Fundamentals

Subject Code: SA1711

Number of Hours/Week	Credits	Total number of hours	Marks
4	4	60	100

Course Outcomes

CO	Upon completion of this course the students will be able to :	PSO addressed	CL
CO-1	Understand the basic architecture of Computer system	PSO-1	U
CO-2	Understand the various Input, Output Devices	PSO-1	U
CO-3	Perform conversions among different number systems	PSO-1	AP
CO-4	Became familiar with basic logic gates and understand Boolean algebra and simplify simple Boolean functions by using basic Boolean properties	PSO-3	AN,U
CO-5	Design of sequential Circuits such as Flip-Flops, Registers, and Counters.	PSO-3	C
CO-6	Design of combinational circuits such as MUX, DEMUX, Encoder and Decoder etc.	PSO-3	AP

Teaching Plan

Total contact hours: 60 (Including lectures, assignments and tests)

Unit	Module	Topics	Lecture Hours	Learning outcome	Pedagogy	Assessment Evaluation
I Computer Organization and Architecture						
	1.	Central Processing Unit, Internal Communication	4	To analyze the parts of Central Processing Unit	Lecture	Short test Formative Assessment
	2.	Machine Cycle, The Bus, Memory Representation	3	To create the knowledge about Memory Representation	Lecture with PPT Illustration	
	3.	Random Access Memory, Read Only Memory, Storage System, Magnetic Storage System, Optical Storage System	5	To understand the Memory storage	Lecture Discussion with PPT	
II Input and Output Devices						
	1.	Key Board, Pointing Devices, Scanning Devices	4	To create the knowledge about various input devices	Lecture with PPT Illustration	Evaluation through: short test

	2.	Optical Recognition Devices, Digital camera. Display Monitors	5	To understand the Optical Recognition Devices	Lecture with PPT Illustration	Multiple choice questions
	3.	Impact Printers, Non Impact Printers, Plotters	3	To distinguish the types of printers	Lecture Discussion with PPT	
III Digital Systems and Binary Numbers						
	1.	Digital Systems, Binary Numbers, Number Base conversion	4	To analyze the Digital Systems	Lecture	Short test
	2.	Octal and Hexadecimal Numbers, Complements, Subtraction with r 's Complement ,Subtraction with (r-1)'s Complement	3	To create the knowledge about Octal and Hexadecimal Numbers and about Complements,	Lecture with PPT Illustration	Quiz Formative Assessment
	3.	Binary Codes, Registers, Integrated Circuits	5	To understand the Integrated Circuits	Lecture Discussion with PPT	
IV Boolean Algebra And Logic Gates						
	1.	Basic definition of Boolean algebra, Axiomatic definition of Boolean algebra	3	To analyze the Basic definition of Boolean algebra, Axiomatic definition of Boolean algebra	Lecture with PPT Illustration	Short test Formative Assessment
	2.	Basic Theorems and Properties of Boolean Algebra	3	To analyze the Basic Theorems and Properties of Boolean Algebra	Lecture with PPT Illustration	
	3.	Digital Logic Gates, Gate Level Minimization	4	To understand the Digital Logic Gates, Gate Level Minimization	Lecture	
	4.	NAND Implementation, NOR Implementation, XOR Function	3	To analyze the NAND Implementation, NOR Implementation, XOR Function	Lecture with PPT Illustration	
V Combinational Logic						
	1.	Binary Adder, Subtractor, Binary Multiplier	4	To distinguish the Binary Adder, Subtractor, Binary	Lecture	Evaluation through: short test
	2.	Decoders, Encoders, Multiplexer	4	To understand the Decoders, Encoders, Multiplexer	Lecture with PPT Illustration	Multiple

	3.	D Flip-flop, JK Flip-flop, Master-Save Flip-flop	3	To analyze the D Flip-flop, JK Flip-flop, Master-Save Flip-flop	Lecture	choice questions
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Course Instructor: J. Jackulin Reeja

HOD: J. Anto Hepzie Bai

Semester: I

CorelDraw

Subject code: SNM171

No. of hours per week	No. of credits	Total no. of hours	Total marks
4	2	60	100

Course Outcomes

CO	Upon completion of this course the students will be able to :	PSO addressed	CL
CO-1	Create Professional illustration for designing magazines, Company logo, Brochures, Book Cover, Visiting Card	PSO-3	AP
CO-2	Develop images of the highest Quality	PSO-4	AN
CO-3	Illustrate Sufficient knowledge about Corel Basic	PSO-3	AP
CO-4	Understand tools for creating, drawing, text manipulation and output options for printing.	PSO-1	R
CO-5	Importing, Exporting, Printing, Applying Effects used in order to manipulate Images.	PSO-1	C

Teaching Plan

Total contact hours: 60 (Including lectures, assignments and tests)

Unit	Module	Topics	Lecture Hours	Learning Outcome	Pedagogy	Assessment Evaluation
I	Corel draw Basics					
	1	Getting started with CorelDraw, Creating a new file, The CorelDraw Screen and Property Bar	3	To Understand the various components in CorelDraw Screen	Lecture with PPT Illustration	Evaluation through: short test
	2	Drawing Basic Geometric Figures Drawing Polygons,	3	To draw the basic geometric figures	Lecture with PPT Illustration	Formative
II	Drawing and Selecting					
	1	Getting familiar with the Toolbox,	3	To recall the tools in toolbox	Lecture with Illustration	Formative Assessment,

		Getting Started with the Project, More about Lines		To draw a house in CorelDraw		Short test
	2	Working with Objects Shapes, Using the Transformations Dock, Adding Effects to Objects	3	To apply various effects for images	Lecture with Illustration, Discussion	Ask questions Ask to draw a house
III	Working with Text					
	1	The Text Tool, Getting Started with the Book Cover	2	To be able to design a book cover To distinguish the difference between the artistic text and paragraph text	Lecture with Illustration	Formative Assessment Ask to design book cover
IV	Working with Images					
	1	Bitmap and Vector Images, Importing Images, Resizing, Rotating and Skewing Images	3	To import, resize, rotate and skew images and objects To distinguish the difference between bitmap and vector images	Lecture with Illustration	Formative Assessment
	2	Cropping an Image, Importing Images from a CD, Converting to Bitmap	3	To crop and import images from CD to system	Lecture with Illustration	Formative Assessment Ask to import images from CD
V	Working with Images					
	1	Adding Special effects to Bitmaps, Exporting Files to other Applications	2	To apply special effects to images To save files in different formats	Lecture with Illustration	Formative Assessment
	2	Publishing to PDF, Backup and Recovering File	2	To take backup files	Lecture	

Course Instructor: J. Anto Hepzie Bai

HOD: J. Anto Hepzie Bai

Programming in Java

Subject Code: SC1731

No. of Hours per Week	Credit	Total No. of Hours	Marks
5	4	75	100

Course Outcomes and Teaching Plan

CO	Upon completion of this course the students will be able to :	PSO addressed	CL
CO- 1	Define the Concept of OOP	PSO-2	R
CO- 2	Understand the Structure of the Java programming Language	PSO-2	U
CO- 3	Implement various Errors handling technique using Exception Handling to solve complicated problem.	PSO-5	A
CO -4	Understand the Applet program to display window based Activities.	PSO-5	U
CO- 5	Create	PSO-5	C

Unit	Module	Topics	Lecture Hours	Learning Outcome	Pedagogy	Assessment Evaluation
I	Data Types, Variables and Arrays, Operators and Control Statements					
	1	Object Oriented Programming & A first Simple program, Two Control Statements, Lexical Issues & Java Class Libraries, Java is a Strongly Typed Language & The Simple Styles, Integers & Floating point	4	Define the Concept of OOP and Various Data types	Lecture Discussion	Evaluation through short test Multiple choice question Formative assessment
	2	Characters & Boolean, A Close Look at Literal & Variables, Arrays, Arithmetic Operators & The Bitwise Operator, Relational Operator & Boolean Logical	5	Understand the Structure of the Java programming Language	Lecture Illustration	
	3	Operator, The Assignment Operator, The ? Operator, Operator Precedence & Using Parenthesis, Java Selection Statements, Iteration Statements & Jump Statements	3	To distinguish the difference types of operators	Lecture, Group discussion,	
II	Methods an Classes, Inheritance, Packages and Interfaces.					
	1	Class Fundamentals, Declaring Objects & Assigning Object, Reference Variables & Introducing Methods, Constructors & The this	3	To cite the example of java class ,object and Methods	Lecture, Illustration,	Evaluation through short test Class test

		keyword,				Multiple choice question Formative assessment
	2	Overloading Methods, Using Objects as Parameters & Recursion, Inheritance Basics & Using Super, Creating a Multilevel Hierarchy & When Constructors are Called, Method Overriding & Dynamic Method Dispatch	4	To understand java method, parameters and Inheritance Basic	Lecture Discussion	
	3	Using Abstract Classes & Using Final with Inheritance, Packages, Access Protection & Importing packages, Interface	4	Define java Package	Lecture with PPT presentation	
III	Exception Handling and Multithreaded Programming					
	1	Fundamentals & Exception Types, Uncaught Exceptions & Using Try and Catch Clauses Nested Try Statements & Throw, Throws-Finally Java's Built in Exceptions	4	Implement various Errors handling technique using Exception Handling	Lecture Discussion Lecture Discussion	Evaluation through short test Class test Multiple choice question Formative assessment
	2	Creating Your Own Exceptions Subclasses, The java Thread Model, The Main Thread & Creating Thread, Creating Multiple Threads & Using is alive () and join(), Thread Priorities	4	To distinguish the Java Thread Model	Lecture with PPT presentation	
IV	The Applet Class and Event Handling					
	1	Applet Basics & Applet Architecture, An Applet Skeleton, Simple Applet Display Methods, The HTML APPLET Tag, Passing Parameter to Applets & Applet Context and Show Document	5	To create the Applet program to display window based Activities.	Lecture with PPT presentation	Evaluation through short test, Class test, Multiple choice question, Formative assessment
	2	Two Event Handling Mechanisms &	5	To be able to evaluate the	Lecture, Group	

		The delegation Event Model, Event Classes, Sources of Events, Event Listener interfaces, Using the Delegation Event Model		Event handling Mechanisms.	discussion	
V	Introducing AWT ,AWT Controls, Layout Managers and Menus					
	1	AWT Classes, Window Fundamentals, Working with Frame Windows, Working with Graphics	4	To able to Define AWT Classes	Lecture	Evaluation through short test, Class test
	2	Working with color, Control Fundamentals, Labels, Using Buttons	4	Understand the AWT window	Lecture	Multiple choice question
	3	Applying Check Boxes &Checkbox Group, Choice Controls Using Lists, Using Text Field, Using a Text area	4	Understand the Applet window based Activity	Lecture with PPT presentation	Formative assessment

Course Instructor: J.Lidia

HOD: J. Anto Hepzie Bai

Semester: III

Name of the Course: Microprocessor and Assembly Language Programming

Subject Code: SC1732

No. of Hours per Week	Credit	Total No. of Hours	Marks
5	4	75	100

Course Outcomes

CO	Upon completion of this course the students will be able to:	PSO addressed	CL
CO-1	To understand basic architecture of 8 bit microprocessor	PSO-1	R
CO-2	Understand and realize the Interfacing of memory & various I/O devices with 8085 microprocessor	PSO-2	U
CO-3	Understand and classify the instruction set of 8085 microprocessor and distinguish the use of different instructions and apply it in assembly language programming.	PSO-2	AP
CO-4	Understand the difference between 8085 and advanced microprocessor.	PSO-2	U

Teaching Plan

Total contact hours: 75(Including lectures, assignments and tests)

Unit	Module	Topics	Lecture Hours	Learning outcome	Pedagogy	Assessment Evaluation
I Microcomputers, Microprocessors, and Assembly Language						
	1.	A Microprocessor as a Programmable Device , Microprocessor as a CPU	3	To understand the importance of micro processor	Lecture Discussion	Short test Quiz Formative Assessment
	2.	Organization of a Microprocessor Based System, Working of Microprocessor	4	To know microprocessor based system	Lecture Discussion	
	3.	Microprocessor Architecture and Micro Computer Systems: Microprocessor Architecture and its Operations	4	To know full architecture of microprocessor	Lecture Discussion with PPT	
	4.	8085 Microprocessor Architecture and Memory Interfacing: The 8085 MPU, Memory Interfacing.	6	To distinguish the MPU	Lecture with PPT Illustration	
II Introduction to 8085 assembly language Programming						
	1.	The 8085 Programming Model , Instruction Classification	5	Discuss and draw the microprocessor format	Lecture with PPT Illustration	Multiple choice questions Formative Assessment
	2.	Instruction Format: Instruction Word Size, Opcode Format , To Write, Assemble and Execute a Simple Program	5	To study about the programming structure and execute method in microprocessor	Lecture Illustration	
	3.	Programming Techniques with Additional Instruction: Programming Techniques	4	To know all the major techniques in microprocessor	Lecture Illustration With PPT	
	4.	Looping, Counting and Indexing, Arithmetic Operations Related to Memory, Logic Operations	4	To understand the arithmetic operations and all the logical operations	Lecture Illustration With PPT	
III Introduction to 8085 Instructions						

	1.	Introduction to 8085 Instructions: Data Transfer (Copy) Operations , Arithmetic Operations , Logic Operations , Branch Operations	6	To be able to know copy and transfer the data from one place to another	Lecture Illustration	Short test Formative Assessment
	2.	Writing Assembly Language Programs	4	To understand the assembly language	Lecture Illustration	
	3.	Code Conversion, BCD Arithmetic and 16-bit Data Operations: BCD to Binary Conversions , Binary to BCD Conversion	6	To know the binary values and its conversion types	Lecture with PPT Illustration Discussion	
IV Counters and Time Delays Stack and Sub routine						
	1.	Counters and Time Delays.	3	To know the system timing and signal allocations	Lecture Discussion with PPT	Short test Quiz Formative Assessment
	2.	Stack and Sub routine: Stack -Sub Routine - Restart, Conditional Call and Return Instructions.	3	To understand the push and pop operations with instructions	Lecture with PPT Illustration	
	3.	Interrupts: The 8085 Interrupt - RST Instructions - An Implementation of the 8085 Interrupt - Multiple Interrupts and Priorities. Specifications, Plug and Play BIOS , BIOS Error Messages	4	To be able to identify the internal problem with the help of interrupts	Lecture with PPT Illustration Discussion	
V Case Study						
	1.	8086 Architecture - 80386 Architecture - 80486 Architecture	5	To know full architecture in micro processor unit	Lecture Discussion with PPT	Short test Formative Assessment
	2.	A Comparative Study of Pentium I, II, III & IV- Intel Dual Core - Intel Core 2 Duo	5	Discuss and get knowledge about the Intel memory	Lecture with PPT Illustration	
	3.	Introduction to Microcontroller - Comparative Studies of Microprocessor and Microcontroller.	4	To know difference between micro controller and micro processor	Lecture	

Course Instructor: V. Abisha

HOD: J. Anto Hepzie Bai

Semester: III
Name of the Course: Data Structure and Algorithms
Subject Code: SS1733

No. Of Hours Per Week	Credit	Total No. Of Hours	Marks
5	4	75	100

Course Outcomes

CO	Upon completion of this course the students will be able to :	PSO addressed	CL
CO-1	Define basic static and dynamic data structures and relevant standard algorithm for them	PSO-2,PSO- 5	R
CO-2	Demonstrate advantages and disadvantages of specific algorithms and data structures	PSO-2	U
CO-3	Select basic data structures and algorithms for simple programs	PSO-2	AP
CO-4	Determine and demonstrate bugs in program, recognizes needed basic operations with data structures	PSO-2	E
CO-5	Formulate new solutions for programming problems.	PSO-5	C
CO-6	Analyze algorithms and data structures in terms of time and space complexity of basic operations	PSO-2	AN

Teaching Plan

Total contact hours: 75(Including lectures, assignments and tests)

Unit	Module	Topics	Lecture Hours	Learning Outcome	Pedagogy	Assessment/ Evaluation
1	Problem Solving					
	1	Introduction to Data Structures	2	To understand data structures	Lecture	Short Test, Quiz
	2	How to Write an algorithm	2	Able to write data structure algorithms	Lecture with PPT Illustration	
	3	Asymptotic Notation	1	To understand asymptotic notation	Lecture	
	4	Arrays	2	To understand about arrays	Lecture	
	5	Concept of Linked List	1	To understand about linkedlist and its algorithm	Lecture	
	6	Circular and Doubly Linked List	2	To get idea about different link list types	Lecture with PPT Illustration	
II	Stacks					
	1	Concept of Stack	2	To understand the concept of		Short test

				stack		Quiz Formative Assessment
	2	Linked Stack	2	To understand about Linked stack	Lecture	
	3	Evaluaton of Postfix Expression	1	To write postfix expression	Lecture with PPT Illustration	
	4	Recursion	1	To understand about the recursion	Lecture	
	5	Queues	1	To understand about queues	Lecture with PPT Illustration	
	6	Types of Queues	5	Getting knowledge about different types of Queues	Lecture with PPT Illustration	
111	Tree Structure					
	1	Introduction	1	To understand the tree structue	Lecture method	Short test
	2	Binary Trees	2	To understand about Binay trees, its repretation and traversal method	Lecture method with ppt illustration	Quiz Formative Assessment
	3	AVL Trees	4	To understand how AVL Tree is represented and how the search process is performed	Lecture method	
	4	Heaps	3	It deals about the heap and the operation performed in the heap structure.	Lecture	
IV	Graphs					
	1	Introduction	2	To understand graph structure and its properties	Lecture	Short test
	2	Representation of Graph	3	To understand the representation of graph	Lecture	Quiz Formative Assessment
	3	Application of Graph	2	It deals about the application and able to understand about spanning tree	Lecture	
	4	Shortest Path	3	To understand about the shortest	Lecture with PPT	

				path algorithm and able to find the shortest path.	Illustration	
	5	Topological Sort	1	To understand about the topological sort.	Lecture with PPT Illustration	
V	Algorithm Design and analysis					
	1	Greedy Algorithms	1	To understand about rules Greedy algorithm	Lecture	Short test
	2	Knapsac Problem	2	To solve Knapsac problem	Lecture	Quiz
	3	Huffman Code	2	To get knowledge about Huffman code	Lecture with PPT Illustration	Formative Assessment
	4	Divide and Conquer Method	3	To solve problems based on divide and conquer method	Lecture	
	5	Backtracking	2	To understand the backtracking method	Lecture	

Course Instructor: P.Jasmine Lizy

HOD: J. Anto Hepzie Bai

Semester: III

Name of the Course : Numerical and Statistical Methods

Subject code: SA1731

No. of Hours per Week	Credit	Total No. of Hours	Marks
5	4	75	100

Course Outcomes

CO	Upon completion of this course the students will be able to :	PSO addressed	CL
CO-1	Solve an algebraic and Transcendental Equations using an appropriate numerical methods	PSO-4,PSO- 5	C
CO-2	Find an error analysis for a given numerical method	PSO-3	R
CO-3	Solve a simultaneous equation using an appropriate numerical method	PSO-4,PSO- 5	C
CO-4	Find inverse of a matrix using Back Substitution method	PSO-4	R
CO-5	Find a polynomial using interpolation methods	PSO-4	R
CO-6	Determine correlation and rank correlation coefficient between two variables	PSO-3,PSO- 5	E
CO-7	Find a regression equations using the given data	PSO-4	R
CO-8	Acquire problem solving techniques and Baye's Theorem to solve real world problems	PSO-2, PSO-4, PSO- 5	AP

Teaching Plan

Total contact hours: 75(Including lectures, assignments and tests)

Unit	Module	Topics	Lecture Hours	Learning Outcome	Pedagogy	Assessment / Evaluation
I	Algebraic and Transcendental Equations					
	1	Introduction	1			Short test on iteration method Formative assessment test1
	2	Errors in Numerical Computation	1	Find an error analysis for a given numerical method	Lecture with illustration	
	3	Iteration Method-Theorem	1	Solve an algebraic and Transcendental Equations	Lecture with illustration	
	4	Iteration Method-Problem 1-3	2	Solve an algebraic and Transcendental Equations	Lecture with illustration	
	5	Iteration Method-Problem 4-7	2	Solve an algebraic and Transcendental Equations	Lecture with illustration	
	6	Bisection Method-Problem 1-3	2	Solve an algebraic and Transcendental Equations	Lecture with illustration	
	7	Bisection Method-Problem 4-7	2	Solve an algebraic and Transcendental Equations	Lecture with illustration	
II	Simultaneous Equations					
	1	Introduction	1			Short test on Gauss Elimination method Formative assessment test1
	2	Simultaneous Equations	1	Solve a simultaneous equation	Lecture with illustration	
	3	Back Substitution Method- Theorem	1	Solve a simultaneous equation	Lecture with illustration	
	4	Gauss Elimination Method- Problem 1-3	2	Solve a simultaneous equation	Lecture with illustration	
	5	Gauss Elimination Method- Problem 4,5	1	Solve a simultaneous equation	Lecture with illustration	
	6	Gauss Jordan Elimination Method-Problem 1-3	2	Solve a simultaneous equation	Lecture with illustration	
	7	Gauss Jordan Elimination Method-Problem 4, 5	1	Solve a simultaneous equation	Lecture with illustration	
	8	Calculation of Inverse of a Matrix-	2	Find inverse of a matrix	Lecture with	

		Problem 1-3			illustration	Formative assessment test2
	9	Calculation of Inverse of a Matrix- Problem 4, 5	1	Find inverse of a matrix	Lecture with illustration	
III	Interpolation					
	1	Introduction	1			Formative assessment test2 Short test on Newton's forward & backward interpolation Short test on Newton's divided differences
	2	Newton's forward Interpolation formulae- Theorem	1	Find a polynomial	Lecture with illustration	
	3	Newton's forward Interpolation formulae- Problem 1, 2	2	Find a polynomial	Lecture with illustration	
	4	Newton's forward Interpolation formulae- Problem 3,4	1	Find a polynomial	Lecture with illustration	
	5	Newton's backward Interpolation formulae- Theorem	1	Find a polynomial	Lecture with illustration	
	6	Newton's backward Interpolation formulae- Problem 1-3	2	Find a polynomial	Lecture with illustration	
	7	Lagrange's Interpolation formulae- Theorem	1	Find a polynomial	Lecture with illustration	
	8	Lagrange's Interpolation formulae- Problem 1-3	2	Find a polynomial	Lecture with illustration	
	9	Lagrange's Interpolation formulae- Problem 4,5	1	Find a polynomial	Lecture with illustration	
	10	Divided differences	1	Find a polynomial	Lecture with illustration	
	11	Newton's divided differences- Theorem	1	Find a polynomial	Lecture with illustration	
	12	Newton's divided differences- Problem 1-3	2	Find a polynomial	Lecture with illustration	
	13	Newton's divided differences- Problem 4,5	1	Find a polynomial	Lecture with illustration	
IV	Correlation and Regression					
	1	Introduction	1			Formative assessment test2
	2	Correlation – Theorem	2	Determine correlation coefficient between two variables	Lecture with illustration	
	3	Correlation – Problem 1,2	2	Determine correlation coefficient between two variables	Lecture with illustration	
	4	Correlation – Problem 3-5	2	Determine correlation coefficient between two variables	Lecture with illustration	
	5	Correlation – Problem 6,7	1	Determine correlation coefficient between two variables	Lecture with illustration	

	6	Rank Correlation- Theorem	1	Determine rank correlation coefficient between two variables	Lecture with illustration	Short test on correlation Formative assessment test3
	7	Rank Correlation- Problem 1-3	2	Determine rank correlation coefficient between two variables	Lecture with illustration	
	8	Rank Correlation- Problem 4,5	1	Determine rank correlation coefficient between two variables	Lecture with illustration	
	9	Regression- Theorem 1-4	2	Find a regression equations using the given data	Lecture with illustration	
	10	Regression- Theorem 5-7	1	Find a regression equations using the given data	Lecture with illustration	
	11	Regression- Problem 1-3	2	Find a regression equations using the given data	Lecture with illustration	
	12	Regression- Problem 4-7	2	Find a regression equations using the given data	Lecture with illustration	
V	Probability					
	1	Introduction	1			Short test on Baye's Theorem Formative assessment test3
	2	Definition and Examples	2	Acquire problem solving techniques	Lecture with illustration	
	3	Conditional Probability	1	Acquire problem solving techniques	Lecture with illustration	
	4	Properties of Independent Events	2	Acquire problem solving techniques	Lecture with illustration	
	5	Baye's Theorem	1	Use Baye's Theorem to solve real world problems	Lecture with illustration	
	6	Problem using Baye's Theorem 1-3	2	Baye's Theorem to solve real world problems	Lecture with illustration	
	7	Problem using Baye's Theorem 4,5	1	Baye's Theorem to solve real world problems	Lecture with illustration	
	8	Real life Problems 1-4	2	Solve real life problems	Lecture with illustration	
	9	Real life Problems 5-8	2	Solve real life problems	Lecture with illustration	
	10	Real life Problems 9-12	2	Solve real life problems	Lecture with illustration	

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