

Anjuman Islam Janjira Degree College of Science, Murud Janjira

Academic Calender 2022-2023

F.Y.B.Sc C . S Sem - I Paper - I Digital System & Achitecture

Date	Syllabus topic
04-07-2022	Unit I Fundamentals of digital logic: Boolean algebra, logic gates
06-07-2022	Simplification of logic circuits:Algebraic Simplification karnaugh maps
07-07-2022	Combinational circuits;Adders, mux, De-mux
11-07-2022	Sequential Circuits:Flip-flops,Counters
13-07-2022	Computer system: Comparison of computer organization & architecture.
14-07-2022	Computer components and functions , Interconnection structures, Bus interconnections
18-07-2022	Input/output: I/O module, programmed I/O,interrupt driven I/O, direct memory access.
20-07-2022	Unit II Memory System Organization: classification&design parameters
21-07-2022	memory hierarchy, Internal memory
25-07-2022	interleaved and associative memory
27-07-2022	cache memory: design principles
28-07-2022	memory mappings, eplacement algorithms
01-08-2022	cache performance,cache coherence,virtual memory
03-08-2022	External memory:magnetic discs,optical memory,flash memory, RAID levels
04-08-2022	Processor organization:Instruction formats,instruction sets
10-08-2022	Addressing modes,processor organization, structures & functions
11-08-2022	register org,basic microprocessor operations: data transfer
17-08-2022	arithmetic & logical operations
18-08-2022	instruction cycle and instruction pipeline
19-08-2022	RISC & CISC Architecture
22-08-2022	instruction level parallism
25-08-2022	superscalar processors
26-08-2022	design issues
29-08-2022	unit III
31-08-2022	Control unit
01-09-2022	micro operations
05-09-2022	functional requirements
07-09-2022	processor control
08-09-2022	hardwired implementation
12-09-2022	micro programmed control
14-09-2022	parallel architecture
15-09-2022	classification of parallel system
19-09-2022	flynn's taxonomy
21-09-2022	array processor
22-09-2022	clusters
26-09-2022	numa computers
28-09-2022	multi processor system
29-09-2022	structure & interconnection networks
06-10-2022	multi core computers
10-10-2022	introduction
12-10-2022	organization and performance

Practical details

Date	Practical topic
09-07-2022	study and verify the truth table of various logic gates
16-07-2022	simplify given boolean expression and realize it.
23-07-2022	design and verify half/full adder.
30-07-2022	design and verify half/full subtractor.
06-08-2022	design a 4 bit magnitude comparator using combinational circuits
13-08-2022	design and veify flip-flops using logic gates.
20-08-2022	verify the operation of counter.

27-08-2022	verify the operation of a 4 bit shift register
03-10-2022	design and implement expressions using multiplexers/demultiplexers
10-10-2022	design and implement 3 bit binary ripple counter using JK flip-flops

F.Y.B.Sc C. S Sem - I Paper - II Introduction To Programming With Python

Date	Syllabus topic
13-07-2022	Unit I
13-07-2022	Chapter I: Overview of Python: History & Versions, Features of Python, Execution of a Python Program
18-07-2022	Flavours of Python, Innards of Python, Python Interpreter
19-07-2022	Memory Management in Python, Garbage Collection in Python, Comparison of Python with C and Java,
20-07-2022	Installing Python, Writing and Executing First Python Program, Getting Help, IDLE
20-07-2022	Chapter II: Data Types, Variables and Other Basic Elements: Comments, Docstrings, Data types- Numeric Data type
25-07-2022	Compound Data Type, Boolean Data type, Dictionary
26-07-2022	Sets, Mapping, Basic Elements of Python, Variables
27-07-2022	Chapter III: Input and Output Operations: Input Function, Output Statements, The print() function
20-07-2022	The print("string") function, The print(variables list) function
25-07-2022	The print(object) function, The print(formatted string) function, Command Line Arguments
26-07-2022	Chapter IV: Control Statements: The if statement, The if ... else Statement, The 'if ... elif ... else' Statement
27-07-2022	Loop Statement- while loop, for loop, Infinite loop, Nested loop
01-08-2022	The else suite, break statement, continue statement
02-08-2022	pass statement, assert statement, return statement
03-08-2022	Operators: Arithmetic operators, Assignment operators, Unary minus operator
03-08-2022	Relational operators, Logical operators, Bitwise operators
08-08-2022	Membership operators, Identity operators
10-08-2022	Precedence of Operators, Associativity of Operators
10-08-2022	Arrays: Creating Arrays, Indexing and Slicing of Arrays, Basic Array Operations
17-08-2022	Arrays Processing, Mathematical Operations on Array, Aliasing Arrays
17-08-2022	Slicing and Indexing in NumPy Arrays, Basic slicing, Advanced Indexing
22-08-2022	Dimensions of Arrays, Attributes of an Array, The ndim Attribute
23-08-2022	The shape Attribute, The size Attribute, The itemsize Attribute
24-08-2022	Functions: Function definition and call, Returning Results, Returning Multiple Values from a Function, Built-in Functions
24-08-2022	Difference between a Function and a Method, Pass Value by Object Reference,
29-08-2022	Parameters and Arguments, Formal and Actual Arguments ,Positional Arguments, Keyword Arguments
30-08-2022	Default Arguments, Arbitrary Arguments, Recursive Functions
05-09-2022	Anonymous or Lambda Functions, Using Lambda with the filter() Function
05-09-2022	Using Lambda with the map() Function, Using Lambda with the reduce() Function
06-09-2022	Modules: Introduction to Modules in Python
07-09-2022	Strings: Creating Strings, Functions of Strings, Working with Strings, Length of a String
12-09-2022	Indexing and Slicing, Repeating and Concatenating Strings, Checking Membership, Comparing Strings

13-09-2022	Removing Spaces, Finding Substrings, Counting Substrings, Immutability, Splitting and Joining Strings
14-09-2022	Changing Case, Checking Starting and Ending of a String, Sorting Strings, Searching in the Strings
19-09-2022	Testing Methods, Formatting Strings, Finding the Number of Characters and Words, Inserting Substrings into a String
20-09-2022	List and Tuples: Lists, List Functions and Methods, List Operations
21-09-2022	List Slices, Nested Lists, Tuples, Functions in Tuple
26-09-2022	Dictionaries: Creating a Dictionary, Operators in Dictionary, Dictionary Methods, Using for Loop with Dictionaries
27-09-2022	Operations on Dictionaries, Converting Lists into Dictionary,
28-09-2022	Converting Strings into Dictionary, Passing Dictionaries to Functions,
24-09-2022	Sorting the Elements of a Dictionary using Lambda, Ordered Dictionaries
Practicals of Introduction To Programming With Python	
Dates	Title of Practical
13-07-2022	Practical I: Write a program to design and develop python program to implement various control statement using suitable examples.
20-07-2022	Practical II: Write program in Python to define and call functions for suitable problem.
27-07-2022	Practical III: Write Python program to demonstrate different types of function arguments.
03-08-2022	Practical IV: Write a Python program to demonstrate the precedence and associativity of operators.
10-08-2022	Practical V: Write suitable Python program to implement recursion for problems such as Fibonacci series, Factorial, Tower of Hanoi etc.
17-08-2022	Practical VI: Write Python program to implement and use lambda function in python
24-08-2022	Practical VII: Write a python program to create and manipulate arrays in Python. Also demonstrate use of slicing and indexing for accessing elements from the array.
05-09-2022	Practical VIII: Write a program to implement list in Python for suitable problem. Demonstrate various operations on it.
12-09-2022	Practical IX: Write a program to implement tuple in Python for suitable problem. Demonstrate various operations on it.
19-09-2022	Practical X: Write a program to implement dictionary in Python for suitable problem. Demonstrate various operations on it.

F.Y.B.Sc C. S Sem - I Paper - III Linux Operating System

Date	Syllabus topic(theory)
07-06-2022	Unit I Linux operating system and Basics : History, GNU Info and Utilities,
07-07-2022	GNU Info and Utilities,
07-09-2022	Various Linux Distributions,
13/7/2022	The Unix/Linux architecture,
14/7/2022	Features of Unix/Linux,
16/7/2022	Starting the shell, Shell prompt,
20/7/2022	Command structure, File Systems and Directory Structure,
21/7/2022	man pages, more documentation pages Basic Bash shell commands:
23/7/2022	General purpose utility Commands, basic commands,
27/7/2022	Various file types, attributes and File handling Commands, Handling Ordinary
28/7/2022	More file attributes Advanced Bash shell commands:Simple Filters,
30/7/2022	Filters using regular expressions.
08-03-2022	The Linux environment variable: Setting, Locating and removing environment variables like PATH etc,

4-8-22	Default shell environment variables, Using command aliases.
6-8-22	(Unit II) Understanding Linux file permission
10-8-22	Linux security, Using Linux groups,
11-8-22	Decoding file permissions, Changing security setting, Sharing files.
13/8/2022	Linux Security: Understanding Linux Security, uses of root,
17/8/2022	sudo command, working with passwords, Understanding ssh.
18/8/2022	Unit II Chapter 3 Networking: TCP/IP Basics, TCP/IP Model,
20/8/2022	Resolving IP addresses, Applications, ping, telnet, ftp, DNS
24/8/2022	Chapter 4 Working with Editors: awk, sed and Introduction to vi
25/8/2022	Unit III Chapter 1 Basic script building: Using multiple commands, Creating script files, Displaying messages
27/8/2022	Using variables, Redirecting Input and Output, Pipes performing math, Exiting the scrip
31/8/2022	Chapter 2 Using structured commands: Working with if-then, if-then-else and nested if statements, test command,
09-01-2022	Compound condition testing, while command, until command, case command.
09-03-2022	Chapter 3 Script and Process control : Handling signals, Running scripts in background mode, Running scripts without a console
09-07-2022	Job control, Job scheduling commands: ps, nice, renice, at, batch, cron table, Running the script at boot
Dates	Title of Practical
07-08-2022	1. Installation of Ubuntu Linux operating system. a) Booting and Installing from (USB/DVD) b) Using Ubuntu Software center / Using Synaptic c) Explore useful software packages.
15/7/2022	2. Becoming an Ubuntu power user a) Administering system and User setting b) Learning Unity keyboard c) Using the Terminal d) Working with windows
22/7/2022	3. File System Commands: touch, help, man, more, less, pwd, cd, mkdir, rmdir, ls, find, ls, etc File handling Commands: cat, cp, rm, mv, more, file, wc, od, cmp, diff, comm, chmod, chown, chgrp, gzip and gunzip, zip and unzip, tar, ln, umask,, chmod, chgrp, chown, etc
29/7/2022	4. General purpose utility Commands: cal, date, echo, man, printf, passwd, script, who, uname, tty, stty, etc Simple Filters and I/O redirection: head, tail, cut paste, sort, grep family, tee, uniq, tr, etc. Networking Commands: who, whoami, ping, telnet, ftp, ssh, etc
08-05-2022	5. Editors: vi, sed, awk
08-12-2022	6. Working and Managing with processes- sh, ps, kill, nice, at and batch etc.
19/8/2022	7. Shell scripting I: Defining variables, reading user input, exit and exit status commands, , expr, test, [], if conditional, logical operators
26/8/2022	8. Shell scripting II: Conditions (for loop, until loop and while loop) arithmetic operations, examples
09-02-2022	9. Shell scripting III: Redirecting Input / Output in scripts, creating your own Redirection
09-09-2022	10. Installation of C/C++/Java/Python Compiler and creating an environment for app development. Basic programming using C and Python Languages.

F.Y.B.Sc C. S Sem - I Paper - IV Open Source Technologies

Date	Syllabus topic(theory)
5-7-22	Unit I Introduction to open source
6-7-22	Advantages of oss Disadv of oss
7-7-22	Free software
12-7-22	Free software vs open source software Free software foundation
13/7/22	Public domain software Software freedom
14/7/22	Licence, Apache
19/7/22	GPI

20/7/22	mozilla
21/7/22	Copyright copyleft, Patent
26/7/22	Income generation opportunities
27/7/22	Closed source software, Open source software, Shared source
28/7/22	Free doesn't mean no cost, Internationalization
08-02-2022	Unit II Case studies Intro apache web server Features of http
08-03-2022	GNU linux Features of linux
08-04-2022	Android Mozilla
08-10-2022	wikipedia
17/8/2022	Drupal Wordpress
23/8/2022	GNU compiler GNU debugger
24/8/2022	Github openoffice
25/8/2022	Unit III Open source software development Open source design
5-9-22	Open source hardware, Open source teaching
6-9-22	Open source media, Communication and etiquettes
7-9-22	Intro open solaris, Containerization technology
12-9-22	Virtualization
13/9/2022	Docker development tools
Dates	Title of Practical
5-7-22	Identify any Open Source software and create detailed reports about it. Sample Guidelines. Idea What problem does it solve? Licensing model Intent behind making it open source Monetization models Popularity Impact
07-12-2022	2. Learn at least three different open source licenses and create a brief report about them. History of license Idea What problems does it solve? Detailed licensing model Which popular software are released under this license? Any popular news associated with this license? Popularity Impact

19/7/2022	<p>3. Contributing to Open Source</p> <p>Identify any Open Source project of your interest</p> <p>Learn more about the project w.r.t. Lab 1.</p> <p>Start contributing to the project either by</p> <ul style="list-style-type: none"> Testing Reporting bugs Coding Helping in documentation Participating in discussions Participating in pre-release testing programs UI development. Or any other important area.
26/7/2022	<p>4. Hands on with Open Source Software</p> <p>Identify any open source software of your interest</p> <p>Learn it from practical view-point</p> <p>Give a brief presentation about it to the class</p> <p>Sample projects: gcc, gdb, drupal, wordpress, apache web server, mysql database</p>
2-8-22	<p>5. Contributing to Wikipedia:</p> <p>Introduction to wikipedia: operating model, license, how to contribute?</p> <p>Create your user account on wikipedia</p> <p>Identify any topic of your choice and contribute the missing information</p>
23/8/2022	<p>6. Github</p> <p>Create and publish your own open source project: Write any simple program using your choice of programming language.</p> <p>Create a repository on github and save versions of your project. You'll learn about the staging area, committing your code, branching, and merging,</p> <p>Using GitHub to Collaborate: Get practice using GitHub or other remote repositories to share your changes with others and collaborate on multi-developer projects. You'll learn how to make and review a pull request on GitHub.</p> <p>Contribute to a Live Project: Students will publish a repository containing their reflections from the course and submit a pull request.</p>
30/8/22	<p>Open Source Operating Systems</p> <p>Learn any open source operating system of your choice : Linux, Android, FreeBSD, Open Solaris etc.</p> <p>Learn the installation.</p> <p>Identify the unique features of the OS of your choice.</p>
09-06-2022	<p>8. Virtualization: Open Source virtualization technologies:</p> <p>Install and configure any one: VirtualBox, Zen, KVM</p> <p>Create and use virtual machines</p>
13/9/2022	<p>9. Containerization: Containerization technologies: docker, rocket, LXD,</p> <p>Install and configure any containerization technology</p> <p>Create and use containers using it</p>
20/9/2022	<p>10. Linux Kernel: Learn Linux kernel with respect to:</p> <ul style="list-style-type: none"> What is Linux kernel? Operating model Licensing Model How development works? Download kernel source code. Compile the Kernel

F.Y.B.Sc C. S Sem - I Paper - V Discrete Mathematics

Date	Syllabus topic
	(Unit I)
07-01-2022	Chapter I: Defining function, domain, co-domain & range of function , direct & inverse images
07-02-2022	Injective, Surjective, Bijective functions, composite & inverse functions
07-04-2022	Chapter II: Definition examples & properties of relations
07-04-2022	partial ordering sets
07-08-2022	Linear ordering hasse diagrams, maximum and minimum elements, lattices.
07-09-2022	Chapter III: Definition of recurrence relations
07-11-2022	formulating recurrence relations
15/7/2022	Solving recurrence relation , back tracking method
16/7/2022	Linear homogenous recurrence relations with constant coefficients
18/7/2022	Solving linear homogenous recurrence relation with constant coefficients of degree two when characteristic equation has distinct roots & only one root
22/7/2022	Particular solutions of non-linear homogenous recurrence relation
23/7/2022	Solution of recurrence relation by the method of generation functions
25/7/2022	Application- Formulate and solve recurrence relation for Fibonacci numbers
29/7/2022	Tower of Hanoi, Intersection of lines in a plane
30/7/2022	Sorting algorithms.
08-01-2022	(Unit II)
	Chapter IV: Partition and distribution of objects
08-05-2022	Permutation with distinct & indistinct objects, Binomial numbers
08-06-2022	Combination with identities: Pascal Identity, Vandermonde's Identity
08-08-2022	Pascal triangle, Binomial theorem
08-12-2022	Combination with indistinct objects
13/8/2022	Chapter V: Counting Principles
15/8/2022	Sum and product rules , Two way counting
15/8/2022	Tree diagram for solving counting problems
19/8/2022	Pigeon hole principle, simple examples
20/8/2022	Inclusion & Exclusion principle
22/8/2022	Chapter VI: Languages , Grammars & Machines
22/8/2022	Introduction to languages, regular expression & regular languages
26/8/2022	Finite state automata, grammars
27/8/2022	Finite state machines
29/8/2022	Godel numbers, Turing machines
09-02-2022	(Unit III)
	Chapter VII: Definitions and elementary results
09-03-2022	Adjacency matrix, path matrix
09-05-2022	Representing relations using diagraphs
09-09-2022	Warshall's algorithm-shortest path
09-10-2022	Linked representation of graph
09-12-2022	Operations on graph with algorithms- searching in graph
09-12-2022	Insertion in a graph, Deleting from a graph
16/9/2022	Traversing a graph BFS & DFS algorithm
17/9/2022	Chapter VIII: Ordered rooted tree, Binary trees
19/9/2022	Complete and extended binary trees
19/9/2022	Representing Binary trees in a memory
23/9/2022	Traversing binary trees
24/9/2022	Binary search tree
26/9/2022	Algorithms for searching & inserting in binary search trees
26/9/2022	Algorithms for deleting in a binary search tree
Date	Practical Manual

07-11-2022	Practical I: Graphs of standard functions such as absolute value function, inverse function, logarithmic and exponential functions, flooring and ceiling functions, trigonometric function over suitable intervals.
18/7/2022	Practical II: Partial ordering sets, hasse diagram and lattices.
25/7/2022	Practical III: Recurrence relation.
08-08-2022	Practical IV: Different counting principles.
15/8/2022	Practical V: Finite state automata and finite state machines.
22/8/2022	Practical VI: Warshall's algorithm.
09-05-2022	Practical VII: Shortest path algorithms.
09-12-2022	Practical VIII: Operations on graphs.
19/9/2022	Practical IX: Breadth and depth first search algorithms.
26/9/2022	Practical X: Concept of searching , inserting and deleting from binary search trees

F.Y.B.Sc C. S Sem - I Paper - VI Descriptive Statistics & Introduction To Probability

Date	Syllabus topic
07-02-2022	(Unit I)
	Chapter I: Data types, attribute, variable
07-05-2022	Discrete and continuous variable
07-07-2022	Chapter II: Data presentation
07-09-2022	Frequency distribution, histogram o give
07-12-2022	Stem and Leaf display data aggregation
14/7/2022	Chapter III: Measures of central tendency
14/7/2022	Mean , Median ,Mode for raw data
16/7/2022	Discrete , Grouped frequency distribution
19/7/2022	Chapter IV: Measures dispersion
21/7/2022	Variance
23/7/2022	Standard deviation
26/7/2022	Coefficient of variation for raw data
28/7/2022	Discrete and grouped frequency distribution
28/7/2022	Quartiles
30/7/2022	Quantiles real life example
08-02-2022	(Unit II)
	Chapter V: Moments
08-04-2022	Raw moments, Central moments
08-06-2022	Relation between raw and central moments
08-09-2022	Chapter VI: Measures of Skewness and Kurtosis
08-11-2022	Based on moments
08-11-2022	Quartiles
13/8/2022	Relation between mean , median ,mode for symmetric , asymmetric curve
16/8/2022	Chapter VII: Correlation and Regression
18/8/2022	Bivariate data
20/8/2022	Scatter plot
23/8/2022	Correlation, nonsense correlation
25/8/2022	Karl pearson's coefficients of correlation, independence
25/8/2022	Chapter VIII: Linear Regression
27/8/2022	Fitting of linear regression using least square regression
30/8/2022	Coefficient of determination, properties of regression coefficients.
09-01-2022	(Unit III)
	Chapter IX: Probability
09-03-2022	Random experiment
09-06-2022	Sample space
09-08-2022	Introduction to events

09-10-2022	Event types
13/9/2022	Operation of events
15/9/2022	Chapter X: Probability definition
15/9/2022	Introduction to probability
17/9/2022	Classical
20/9/2022	Axiomatic
22/9/2022	Elementary theorems of probability
24/9/2022	Conditional probability
27/9/2022	Bayes theorem
29/9/2022	Independence
29/9/2022	Examples on probability

Practical Manual Of Descriptive Statistics And Introduction To Probability

Date	Practical Manual
14/7/2022	Practical I: Frequency distribution and data presentation.
21/7/2022	Practical II: Measures of central tendency.
28/7/2022	Practical III: Data entry using functions, c(),scan(), creating vectors, mathematical operations, exp, log,+/-/**,etc, creating vector of text type, useful functions such as data, frame ,matrix operations, seq(), split() etc.
08-11-2022	Practical IV: Frequency distribution using cut(), table().
18/8/2022	Practical V: Data presentation.
25/8/2022	Practical VI: Summary statistics(measures of central tendency, dispersion).
09-01-2022	Practical VII: Measures of skewness & kurtosis.
09-08-2022	Practical VIII: Correlation and regression.
15/9/2022	Practical IX: Probability.
22/9/2022	Practical X: Conditional probability.

F.Y.B.Sc C. S Sem - I Paper - VII Soft Skill

Date	Syllabus Topic(theory)
04-07-2022	UNIT I: Introduction to Soft Skills and Hard Skills Personality Development: Knowing Yourself
05-07-2022	Positive Thinking , Johari's Window
09-07-2022	Communication Skills , Non-verbal Communication
11/072022	Physical Fitness, Emotional Intelligence: Meaning and Definition ,Need for Emotional Intelligence
12-07-2022	Intelligence Quotient versus Emotional Intelligence Quotient
16-07-2022	Components of Emotional Intelligence
11-07-2022	Competencies of Emotional Intelligence and Skills to Develop Emotional Intelligence
12-07-2022	Etiquette and Mannerism: Introduction and Professional Etiquette, Technology Etiquette
16-07-2022	Communication Today: Significance of Communication, GSC's 3M Model of Communication, Vitality of the Communication Process, Virtues of Listening
18-07-2022	Fundamentals of Good Listening, Nature of Non-Verbal Communication
19-07-2022	Need for Intercultural and Communication, Communicating Digital World
23-07-2022	UNIT II: Academic Skills Employment Communication: Introduction
25-07-2022	Resume or Curriculum Vitae
26-07-2022	Scannable Resume and Developing an Impressive Resume
30-07-2022	Formats of Resume
01-08-2022	Job Application or Cover Letter
02-08-2022	Professional Presentation: Nature of Oral Presentation, Planning a Presentation
06-08-2022	Preparing the Presentation, Delivering the Presentation

08-08-2022	Job Interviews: Introduction, Importance of Resume and Definition of Interview
09-08-2022	Changes in the Interview Process, FAQ During Interviews
13-08-2022	Group Discussion: Introduction
16-08-2022	Ambience/Seating Arrangement for Group Discussion
20-08-2022	Importance of Group Discussions
22-08-2022	Difference between Group Discussion, Panel Discussion and Debate
23-08-2022	Traits, Types of Group Discussions, topic based and Case based Group Discussion
27-08-2022	Individual Traitsmachine instructions: arithmetic, logic, shift, etc. Instruction sets, RISC and CISC examples
29-08-2022	Professional Skills Creativity at Workplace: Introduction and Current Workplaces
03-09-2022	UNIT III: Creativity, Motivation, Nurturing Hobbies at Work,
05-09-2022	The Six Thinking Hat Method
06-09-2022	Ethical Values: Ethics and Society, Theories of Ethics
10-09-2022	Correlation between Values and Behavior, Nurturing Ethics, Importance of Work Ethics, Problems in the Absence of Work Ethics
12-09-2022	Capacity Building: Learn, Unlearn and Relearn: Capacity Building, Elements of Capacity Building
13-09-2022	Zones of Learning, Ideas for Learning, Strategies for Capacity Building
17-09-2022	Leadership and Team Building: Leader and Leadership, Leadership Traits
19-09-2022	Culture and Leadership, Leadership Styles and Trends, Team Building, Types of Teams,
20-09-2022	Steps for Decision Making
24-09-2022	Decision Making Techniques, Negotiation Fundamentals, Negotiation Styles, Major
27-09-2022	Negotiation Concepts

S.Y.B.Sc C . S Sem - III Paper - I Linear Algebra Using Python

Date	Syllabus topic
23-06-2022	(Unit I) Chapter I: Field
27-06-2022	Introduction to complex numbers
28-06-2022	Complex numbers in python
28-06-2022	Abstracting over fields
30-06-2022	Playing with GF2
04-07-2022	Chapter II: Vectors as a function, Vector addition
05-07-2022	Scalar-Vector multiplication
07-07-2022	Combining vector addition and scalar multiplication
11-07-2022	Dictionary based representation of vectors
12-07-2022	Dot product, Solving a triangular system of linear equations
14-07-2022	Support Vector machine- Introduction & Mechanism
18-07-2022	Chapter III: The Vector Space
19-07-2022	Linear combination, Span
19-07-2022	The geometry of sets of vectors, Vector spaces
21-07-2022	Linear systems homogenous and otherwise

Practical Manual Of Linear Algebra Using Python

Date	Practical Manual
28-06-2022	Practical I: Write a program which demonstrates the following: <ul style="list-style-type: none"> <input type="checkbox"/> Addition of two complex numbers <input type="checkbox"/> Displaying the conjugate of a complex number <input type="checkbox"/> Plotting a set of complex numbers <input type="checkbox"/> Creating a new plot by rotating the given number by a degree 90,180, 270 degrees and also by scaling by a number $a=1/2$, $a=1/3$, $a=2$ etc.
05-07-2022	Practical II: Write a program to do the following: <ul style="list-style-type: none"> <input type="checkbox"/> Enter a vector u as a n-list <input type="checkbox"/> Enter another vector v as a n-list <input type="checkbox"/> Find the vector $au+bv$ for different values of a and b <input type="checkbox"/> Find the dot product of u and v
12-07-2022	Practical III: Vector Application: Classifying given data using support vector machines(SVM)

S.Y.B.Sc C . S Sem - III Paper - II Data Structure

Date	Syllabus topic(theory)
21/6/2022	Unit I : Chapter 1 : Abstract Data Type: Different Data Types
22/6/2022	different types of data structures & their classifications, Introduction to ADT
23/6/2022	Creating user-specific ADT
28/6/2022	Chapter 2 Linked Structures: ADT for linked list, Advantages & Disadvantages
29/06/2022	Singly Linked List-Traversing, Searching, Prepending and Removing Nodes
30/06/2022	applications of linked list like polynomial equation
07-05-2022	Chapter 3 Stacks: Stack ADT for Stack, Advantages & Disadvantages
07-06-2022	Applications of stack like balanced delimiter, prefix to postfix notation
07-07-2022	Queues: Queue ADT, Advantages & Disadvantages
07-12-2022	linked representations. Circular Queue operations
13/7/2022	Dequeues, applications of queue like job scheduling queues
14/7/2022	Unit I : Chapter 1 :Doubly Linked list: ADT of doubly linked list, Advantages & Disadvantages,
19/7/2022	Insertion and deletion of nodes at various positions
20/7/2022	Chapter 2 Trees: ADT for Tree Structure. Advantages & disadvantages
21/7/2022	Binary Tree- Properties, Implementation and Traversals
26/7/2022	Binary Search Tree, Balanced BST, Threaded Binary Trees, AVL Trees
27/7/2022	Applications of Tree like Huffman Coding,
28/7/2022	Chapter 3 Priority Queues & Heaps: Priority Queue, Priority Queue ADT, Advantages and Disadvantages,
2-8-22	Applications, Heaps, types of heaps
3-8-22	Heapifying the element
4-8-22	Unit I : Chapter 1 Graph: Introduction, Graph ADT, Advantages and Disadvantages
10-8-22	Graph Representation using adjacency matrix and adjacency list,
11-8-22	Graph operations like insertion and deletion of nodes
17/8/2022	Graph Traversals using BFS & DFS,
23/8/2022	Applications of Graphs like shortest path algorithms
24/8/2022	Chapter 2 Hashing: Hash Table ADT, Advantages & Disadvantages
25/8/2022	Concept of hashing,
30/8/2022	hash table
31/8/2022	hash functions, collision
09-01-2022	collision avoidance techniques
09-06-2022	Applications of hashing

Practical details	
Dates	Title of Practical
25/6/2022	1. Write a program to implement Abstract Data Types (ADT)
2-7-22	2. Write a program to implement Singly Linked list with insertion, deletion, traversal operations
9-7-22	3. Write a program to implement Doubly Linked list with insertion, deletion, traversal operations
16/7/2022	4. Write a program to implement Stack with insertion, deletion, traversal operations
23/7/2022	5. Write a program to implement Queue with insertion, deletion, traversal operations
30/7/2022	6. Write a program to implement Priority Queue with insertion, deletion, traversal operations
08-06-2022	7. Write a program to implement Binary Tree with insertion, deletion, traversal operations
13/8/2022	8. Write a program to implement Huffman Coding
20/8/2022	9. Write a program to implement Graph with insertion, deletion, traversal operations
27/8/2022	10. Write a program to implement Travelling Salesman Problem

S.Y.B.Sc C . S Sem - III Paper - III Advanced Database Concepts

Date	Topics Name
20-06-2022	UNIT NO 1 Overview of pl/sql: Advantages of pl/sql, main features of pl/sql.
22-06-2022	Architecture of pl/sql.
23-06-2022	Fundamentals of pl/sql: character sets, lexical units, declarations.
27-06-2022	References to identifiers, scope and visibility of identifiers.
29-06-2022	Assigning values to variables, Expression.
30-06-2022	Error-reporting function, data types.
04-07-2022	Control statements: Conditional selection statements, Loop statements
06-07-2022	Sequential control statements, GOTO and NULL statements.
07-07-2022	Sequences: creating sequence, referencing.
11-07-2022	Altering and dropping a sequence.
13-07-2022	Stored procedures and functions: procedures: types and benefits of stored procedures.
14-07-2022	creating stored procedures.
18-07-2022	Executing and altering stored procedures.
20-07-2022	Functions: calling function
21-07-2022	Recursion function.

S.Y.B.Sc C . S Sem - III Paper - IV Java Based Application Development

Date	Syllabus topic
13/6/2022	Recaptulation
15/6/2022	Recaptulation
18/6/2022	Chapter no. 1: Introduction to java: History
20/6/2022	Features of Java
22/6/2022	Java Development Kit
25/06/2022	Java Application Programming Interface
27/06/2022	Java Virtual Machine
29/06/2022	Program Structure, Java Tokens
07-02-2022	Chapter no. 2: OOPS: Introduction
07-04-2022	Class, Object, Static Keywords, Constructors
07-09-2022	this keyword, Inheritance, Inner class, Anonymous Inner class, super keyword, Polymorphism
07-11-2022	Abstraction, Encapsulation

13/7/2022	Abstract Classes, Interfaces
16/7/2022	Chapter no. 3: Packages: Introduction to predefined packages, User Defined Packages, Access specifiers
18/7/2022	Chapter no. 4 : Exception Handling: Introduction, Pre-Defined Exceptions
20/7/2022	try-catch-finally, throws, throw, User Defined Exceptions
23/7/2022	Chapter no. 5 : Multithreading: Thread Creations, Thread Life Cycle, Life Cycle Methods,
25/7/2022	Synchronization, wait() notify() notify all() methods
27/7/2022	Unit 2: Chapter no. 1: Collection Framework: Introduction, java.util Package interfaces,
30/7/2022	List, Set, Map, List interface & its classes, Set interface & its classes, Map interface & its classes.
08-01-2022	Chapter no. 2 : Introduction to JFC and Swing- Features of the Java Foundation Classes, Swing API Components
08-03-2022	Check Boxes, Menus, Toolbars, Implementing Action interface, Pane, JScrollPane,
08-06-2022	Desktop pane, Scrollbars, Lists and Combo Boxes, Text-Entry Components, Colors and File Choosers
08-08-2022	Tables and Trees, Printing with 2D API and Java Print Service API.
08-10-2022	Chapter no. 3 : Event Handling: Delegation Event Model, Events
13/8/2022	Event classes, Event listener interfaces, Using delegation event model, adapter classes
15/8/2022	Chapter no. 4: JDBC: Introduction, JDBC Architecture, JDBC Drivers
17/8/2022	JDBC Connectivity Model, java.sql package, Using Statement, PreparedStatement
20/8/2022	CallableStatement, ResultSet, Scrollable and Updatable ResultSet
22/8/2022	Navigating and manipulating data, ResultSetMetaData, Managing Transactions in JDBC, JDBC Exception classes, BLOB & CLOB
24/8/2022	Unit 3: Chapter no.1: Servlets: Introduction
27/8/2022	Servlet Life Cycle, Types of Servlet
29/8/2022	Servlet Configuration with Deployment Descriptor, Working with ServletContext and ServletConfig Object
31/8/2022	Attributes in Servlet,, Response and Redirection using Request Dispatcher and using sendRedirect Method
09-03-2022	Filter API, Manipulating Responses using Filter API
09-05-2022	Session Tracking: using Cookies, HttpSession,
09-07-2022	Hidden Form Fields and URL Rewriting,Types of Servlet Event: ContextLevel and SessionLevel.
09-10-2022	Chapter no.2: Java Server Pages (JSP): Introduction to JSP
09-12-2022	Comparison with Servlet, JSP Architecture
14/9/2022	JSP Life Cycle, JSP Scripting Elements
17/9/2022	JSP Directives, JSP Action, JSP Implicit Objects
19/9/2022	JSP Expression Language, JSP Standard Tag Libraries
21/9/2022	JSP Custom Tag, JSP Session Management,
24/9/2022	JSP Exception Handling, JSP CRUD Applications
26/9/2022	Chapter no.3: JSON: Overview, Syntax, DataTypes, Objects,
28/9/2022	Schema, Comparison with XML, JSON with Java

Practical details

Dates	Title of practical
07-06-2022	Practical I: a. Write a program to create a class and implement the concepts of Constructor Overloading, Method Overloading, Static methods b. Write a program to implement the concept of Inheritance and Method Overriding

13/07/2022	Practical II: a. Write a program to implement the concepts of Abstract classes and methods b. Write a program to implement the concept of interfaces
20/07/2022	Practical III: Write a program to define user defined exceptions and raise them as per the requirements
27/07/2022	Practical IV: Write a program to demonstrate the methods of: a. List interface b. Set interface c. Map interface
08-03-2022	Practical V: Write a program using various swing components design Java application to accept a student's resume. (Design form)
08-10-2022	Practical VI: a. Write a JDBC program that displays the data of a given table b. Write a JDBC program to return the data of a specified record from a given table
17/8/2022	Practical VII: a. Construct a simple calculator using the JAVA Swings with minimum functionality. b. Construct a GUI using JAVA Swings to accept details of a record of a given table and submit it to the database using JDBC technology on the click of a button.
24/8/2022	Practical VIII: a. Write a Servlet that accepts a User Name from a HTML form and stores it as a cookie. Write another Servlet that returns the value of this cookie and displays it
31/08/2022	b. Write a Servlet that displays the names and values of the cookie stored on the client. c. Write a Servlet that accepts a User Name from a HTML form and stores it as a session variable. Write another Servlet that returns the value of this session variable and displays it.
09-07-2022	Practical IX: a. Write a registration Servlet that accepts the data for a given table and stores it in the database. b. Write a Servlet that displays all the records of a table.
14/09/2022	Practical X: a. Write a JSP that accepts a User Name from a HTML form and stores it as a cookie. Write another JSP that returns the value of this cookie and displays it. b. Write a JSP that displays the names and values of the cookie stored on the
21/09/2022	c. Write a JSP that accepts a User Name from a HTML form and stores it as a session variable. Write another JSP that returns the value of this session variable and displays it.

S.Y.B.Sc C . S Sem - III Paper - V Web Technologies

Date	Syllabus topic
14/6/2022	Recaptulation
17/6/2022	Recaptulation
18/6/2022	Chapter no. 1: HTML5: Fundamental Elements of HTML,
21/6/2022	Formatting Text in HTML
24/6/2022	Links and URLs in HTML, Tables in HTML, Images on a Web Page
25/06/2022	Colors, FORMs in HTML, Interactive Elements, Image Formats, Image Maps
28/06/2022	Working with Multimedia - Audio and Video File Formats, HTML elements for inserting Audio / Video on a web page
07-01-2022	Chapter no. 2: CSS: Understanding the Syntax of CSS
07-02-2022	CSS Selectors, Inserting CSS in an HTML Document
07-05-2022	CSS properties to work with background of a Page, CSS properties to work with Fonts and Text Styles
07-08-2022	CSS properties for positioning an element.
07-09-2022	Unit 2:Chapter no. 1: JavaScript: Using JavaScript in an HTML Document

07-12-2022	Programming Fundamentals of JavaScript – Variables, Operators, Control Flow Statements, Popup Boxes
15/7/2022	Functions – Defining and Invoking a Function,
16/7/2022	Defining Function arguments, defining a return Statement,
19/7/2022	Calling Functions with Timer
22/7/2022	JavaScript Objects - String, RegExp, Math, Date
23/7/2022	Browser Objects - Window, Navigator, History,
26/7/2022	Location, Document
29/7/2022	Cookies, Document Object Model
30/7/2022	Form Validation using JavaScript
08-02-2022	Chapter no. 2 :XML: Comparing XML with HTML
08-05-2022	Advantages and Disadvantages of XML
08-09-2022	Structure of an XML Document,
08-12-2022	XML Entity Reference, DTD
13/8/2022	xsl:template, xsl:apply-templates
16/8/2022	xsl:import, xsl:call-template, xsl:include, xsl:element,
19/8/2022	xsl:attribute, xsl:attribute-set, xsl:value-of
20/8/2022	Unit 3: Chapter No.1: AJAX: AJAX Web Application Model
20/8/2022	How AJAX Works
23/8/2022	XMLHttpRequest Object – Properties and Methods
26/8/2022	handling asynchronous requests using AJAX
27/8/2022	Chapter No.2: PHP: Variables and Operators,
30/8/2022	Program Flow, Arrays, working with Files and Directories
09-02-2022	working with Databases
09-03-2022	Working with Cookies
09-06-2022	Sessions and Headers
09-09-2022	Chapter No.3: Introduction to jQuery
09-10-2022	Fundamentals
13/9/2022	Selectors
16/9/2022	methods to access HTML attributes
17/9/2022	methods for traversing
20/9/2022	manipulators
23/9/2022	events
24/9/2022	effects

Practical details

Dates	Title of practical
07-08-2022	Practical I: Design a webpage that makes use of a. Document Structure Tags b. Various Text Formatting Tags c. List Tags d. Image and Image Maps
15/07/2022	Practical II: Design a webpage that makes use of a. Table tags b. Form Tags (forms with various form elements) c. Navigation across multiple pages d. Embedded Multimedia elements
22/07/2022	Practical III: Design a webpage that make use of Cascading Style Sheets with a. CSS properties to change the background of a Page b. CSS properties to change Fonts and Text Styles c. CSS properties for positioning an element

29/07/2022	Practical IV: Write JavaScript code for a. Performing various mathematical operations such as calculating factorial / finding Fibonacci Series / Displaying Prime Numbers in a given range / Evaluating Expressions / Calculating reverse of a number b. Validating the various Form Elements
08-05-2022	Practical V: Write JavaScript code for a. Demonstrating different JavaScript Objects such as String, RegExp, Math, Date
08-12-2022	b. Demonstrating different JavaScript Objects such as Window, Navigator, History, Location, Document, c. Storing and Retrieving Cookies
19/8/2022	Practical VI: Create a XML file with Internal / External DTD and display it using a. CSS b. XSL
26/8/2022	Practical VII: Design a webpage to handle asynchronous requests using AJAX on a. Mouseover b. button click
09-02-2022	Practical VIII: Write PHP scripts for a. Retrieving data from HTML forms b. Performing certain mathematical operations such as calculating factorial / finding Fibonacci Series / Displaying Prime Numbers in a given range / Evaluating Expressions / Calculating reverse of a number
09-09-2022	c. Working with Arrays d. Working with Files (Reading / Writing)
16/09/2022	Practical IX: Write PHP scripts for Page 24 of 51 a. Working with Databases (Storing Records / Retrieving Records and Display them)
23/9/2022	b. Storing and Retrieving Cookies c. Storing and Retrieving Sessions
30/9/2022	Design a webpage with some jQuery animation effects.

T.Y.B.Sc C.S Sem - V Paper - I Linux Server Administration

Date	Syllabus topic
20-06-2022	Unit I Intro linux operating system, Managing software
22-06-2022	GUI RPM package manager Managing user and group
23-06-2022	Booting, shutting down file system Fsock, volume management, core system services
27-06-2022	Telinit command
29-06-2022	/etc/rsyslog.conf, cron programn, Process of configuring compiling linux kernel
30-06-2022	tcp/ip system administrator
04-07-2022	A complete tcp connection
06-07-2022	Bringing ip network together Network configuration and firewall Managing routes
07-07-2022	Linux firewall

11-07-2022	System and network security
	Unit II
13-07-2022	Internet services
	Domain name system
	DNS record types
14-07-2022	DNS toolbox
	FTP
18-07-2022	Starting, testing FTP server
	customizing
20-07-2022	SMTP, postfix server, post office protocol
21-07-2022	Secure shell
	Creating secure tunnel
25-07-2022	LDAP server
	SAMBA server
	Unit III
27-07-2022	Intranet services introduction
	NFS
	Version of NFS
28-07-2022	NFSv3 NFSv4
01-08-2022	Mount and access partition
	NFS component
03-08-2022	/etc/exports configuration file
04-08-2022	SAMBA
08-08-2022	Samba
	Creating a share
10-08-2022	Remote file access
11-08-2022	Distributed file system DFS
17-08-2022	Terms in DFS
18-08-2022	GlusterFS
22-08-2022	Distributed replicate volume
24-08-2022	Mount glusterfs volume
25-08-2022	Network information service
29-08-2022	Demons in NIS
01-09-2022	NIS server
05-09-2022	Configuring NIS server and client
07-09-2022	Configuring secondary NIS server
08-09-2022	NIS tools
12-09-2022	LDAP protocol
14-09-2022	LDAP terminology
15-09-2022	Open LDAP utilities
19-09-2022	Configuring slapd
21-09-2022	Configuring openldap client
22-09-2022	DHCP
26-09-2022	Email services
28-09-2022	Virtual private network

Practical details	
Date	Title of practical
27-06-2022	Install DHCP Server in Ubuntu 16.04
04-07-2022	Initial settings: Add a User, Network Settings, Change to static IP address,
11-07-2022	Configure NTP Server (NTPd), Install and Configure NTPd, Configure NTP
18-07-2022	SSH Server : Password Authentication
	Configure SSH Server to manage a server from the remote computer, SSH Client
25-07-2022	Install DNS Server BIND, Configure DNS server which resolves domain name or
01-08-2022	Configure DHCP Server, Configure DHCP (Dynamic Host Configuration
08-08-2022	Configure LDAP Server, Configure LDAP Server in order to share users' accounts
15-08-2022	Configure NIS Server in order to share users' accounts in your local networks,
22-08-2022	Install Samba to share folders or files between Windows and Linux.

T.Y.B.Sc C.S Sem - V Paper - II Software Testing & Quality Assurance

Date	Syllabus topic
20-06-2022	Unit I
	Introduction, nature of errors, definition of Quality
21-06-2022	QA, QC, QM, and SQA
22-06-2022	S/W development life cycle, S/W quality factors
27-06-2022	Definition and types of V&V mechanisms
28-06-2022	Concepts and reviews
29-06-2022	Testing Fundamentals, test case design
04-07-2022	White box testing and its type
05-07-2022	black box testing and its types
06-07-2022	Inspection and walkthrough
11-07-2022	Unit II
	Strategic Approach to Software Testing
12-07-2022	Unit Testing, Integration Testing
13-07-2022	Validation Testing, System Testing
18-07-2022	Concept and Developing Metrics
19-07-2022	Different types of Metrics, Complexity metrics
20-07-2022	Defect Management: Definition of Defects
25-07-2022	Defect Management Process
26-07-2022	Defect Reporting
27-07-2022	Metrics Related to Defects
01-08-2022	Using Defects for Process Improvement
02-08-2022	Software Quality Assurance
03-08-2022	Quality Concepts,
08-08-2022	Quality Movement
09-08-2022	Background Issues
10-08-2022	SQA activities
15-08-2022	Software Reviews
16-08-2022	Formal Technical Reviews
17-08-2022	Formal approaches to SQA
22-08-2022	Statistical Quality Assurance
23-08-2022	Software Reliability
24-08-2022	The ISO 9000 Quality Standards
05-09-2022	SQA Plan , Six sigma
06-09-2022	Informal Reviews

12-09-2022	Quality Improvement : Introduction, Pareto Diagrams
13-09-2022	Scatter Diagrams, Run charts
14-09-2022	Quality Costs : Defining Quality Costs
19-09-2022	Types of Quality Costs, Quality Cost Measurement,
20-09-2022	Utilizing Quality Costs for Decision-Making
Practical details	
Date	Practical topic
28-06-2022	Install selenium IDE, write a test suite containing minimum 4 test cases for different formats.
05-07-	Conduct a test suite for any two web sites.
12-07-2022	Install selenium server and demonstrate it using a script in java /php.
19-07-2022	write a test program to update 10 student records into table into excel file.
26-07-2022	write a test program to select the number of students who have scored more than 60 in any one subjects.
02-08-2022	write a test program to provide total number of objects present /available on the page.
09-08-2022	write and test a program to get the number of items in a list.
16-08-2022	write a test program to login webpage
23-08-2022	write a program to count the number of check boxes
30-08-2022	load testing using jmeter,bugzilla bug tracking tools

T.Y.B.Sc C.S Sem - V Paper - I Information And Network Security

Date	Syllabus topic
Date	Syllabus topic
14-06-2022	Recaptulation
18-06-2022	Recaptulation
19-06-2022	Introduction to information and network Security
21-06-2022	introduction of security attacks
23-06-2022	Introduction: Security Trends
27/06/2022	The OSI Security Architecture,
28/06/2022	Security Attacks,
30/06/2022	Security Services,
04-07-2022	Security Mechanisms Classical Encryption Techniques: Symmetric Cipher Model,
05-07-2022	Substitution Techniques
07-07-2022	Transposition Techniques
11-07-2022	Steganography, Block Cipher Principles,
12-07-2022	The Data Encryption Standard,
14/07/2022	The Strength of DES,
18/07/2022	AES (round details not expected), Multiple Encryption and Triple DES,
19/07/2022	Block Cipher Modes of Operation,
21/07/2022	Stream Ciphers Public-Key Cryptography
25/07/2022	RSA: Principles of Public-Key Cryptosystems,
26/07/2022	The RSA Algorithm
28/07/2022	Key Management: Public-Key Cryptosystems,
01-08-2022	Key Management,
02-08-2022	Diffie-Hellman Key Exchange Message Authentication and Hash Functions: Authentication Requirements,
04-08-2022	Authentication Functions,
08-08-2022	Message Authentication Codes,
09-08-2022	Hash Functions, Security of Hash Functions and Macs,
16/08/2022	Secure Hash Algorithm, HMAC

18/08/2022	Digital Signatures and Authentication:
22/08/2022	Digital Signatures,
23/08/2022	Authentication Protocols and Digital Signature Standard
25/08/2022	Authentication Applications:
29/08/2022	Kerberos
30/08/2022	X.509 Authentication
01-09-2022	Public-Key Infrastructure
05-09-2022	Electronic Mail Security: Pretty Good Privacy,
06-09-2022	S/MIME IP Security: Overview,
12-09-2022	Architecture,
13/09/2022	Authentication Header, Encapsulating Security Payload,
15/09/2022	Combining Security Associations,
19/09/2022	Key Management Web Security: Web Security Considerations,
20/09/2022	Secure Socket Layer and Transport Layer Security
22/09/2022	Secure Electronic Transaction, Intrusion: Intruders,
17/09/2022	Intrusion Techniques, Intrusion Detection Malicious Software
22/09/2022	Viruses and Related Threats,
27/09/2022	Virus Countermeasures
29/09/2022	DDOS Firewalls: Firewall Design Principles, Types of Firewalls
Practical details	
Dates	Title of practical
07-07-2022	Practical I: Write programs to implement the following Substitution Cipher Techniques: - Caesar Cipher Monoalphabetic Cipher
14/07/2022	Practical II: 2 Write programs to implement the following Substitution Cipher Techniques: - Vernam Cipher - Playfair Cipher
21/07/2022	Practical III: 3 Write programs to implement the following Transposition Cipher Techniques: - Rail Fence Cipher - Simple Columnar Technique
28/07/2022	Practical IV: 4 Write program to encrypt and decrypt strings using - DES Algorithm - AES Algorithm
04-08-2022	Practical V: 5 Write a program to implement RSA algorithm to perform encryption / decryption of a given string
18/08/2022	Practical VI: 6 Write a program to implement the Diffie-Hellman Key Agreement algorithm to generate symmetric keys.
25/08/2022	Practical VII: 7 Write a program to implement the MD5 algorithm compute the message digest.
01-09-2022	Practical VIII: 8 Write a program to calculate HMAC-SHA1 Signature
15/09/2022	Practical IX: 9 Write a program to implement SSL.
22/09/2022	Practical X: 10 Configure Windows Firewall to block: - A port - An Program - A website

T.Y.B.Sc C.S Sem - V Paper - IV Architecting of IOT

Date	Syllabus topic
22/6/2022	(Unit I)
	Chapter I: Introduction of IOT an architectural overview
25/6/2022	Building architecture of IOT
25/6/2022	Main design principle and needed capabilities
29/6/2022	An IOT architecture outline
07-02-2022	Standard considerations of IOT
07-06-2022	Chapter II: Introduction of IOT architecture
07-09-2022	Introduction to the state of the art
07-09-2022	Reference model and architecture
16/7/2022	IOT reference model
16/7/2022	IOT reference architecture

20/7/2022	Functional view of IOT
23/7/2022	Information view of IOT
23/7/2022	Deployment and operation view of IOT
27/7/2022	Other relevant architectural views
30/7/2022	Domain model of IOT
08-03-2022	(Unit II)
	Chapter III: Introduction to IOT data link layer & network layer protocols
08-03-2022	PHY/MAC layer 3GPP MTC
08-06-2022	IEEE 802.11
08-06-2022	IEEE 802.15
08-10-2022	Wireless HART
08-10-2022	Z wave, Bluetooth Low Energy
13/8/2022	Zigbee Smart Energy
13/8/2022	DASH7
17/8/2022	Chapter IV: Network layer IPV4
17/8/2022	Network layer IPV6
20/8/2022	6LoWPAN
20/8/2022	6TiSCH
24/8/2022	ND, DHCP
27/8/2022	ICMP, RPL
27/8/2022	CORPL, CARP
09-03-2022	(Unit III)
	Chapter V:Transport layer protocols
09-03-2022	TCP
09-07-2022	MPTCP
09-10-2022	UDP
09-10-2022	DCCP
14/9/2022	SCTP
14/9/2022	TLS,DTLS
17/9/2022	Chapter VI:Session layer
17/9/2022	HTTP
21/9/2022	CoAP
21/9/2022	XMPP
24/9/2022	AMQP, MQTT
24/9/2022	Chapter VII:Service layer protocols
28/9/2022	One M2M, ETSIM2M
28/9/2022	OMA, BBF
Practical Manual Of Architecting Of IOT (USCSP502)	
Date	Practical List
29/6/2022	1 a) Edit text files with nano and cat editor, Learn sudo privileges and Unix shell commands such as cd , ls , cat, etc
	2. Learn to set dynamic and static IP. Connect to and Ethernet and WiFi network.
	Learn to vnc and ssh into a raspberry pi using vnc and putty from a different computer on the network.
13/7/2022	3. Write a basic bash script to open programs in kiosk mode. Learn how to autostart programs on boot.
	2. Run the node red editor and run simple programs and trigger gpios. Use basic nodes such as inject, debug, gpio
20/7/2022	3. Open the python idle editor and run simple Python scripts such as to print Fibonacci numbers, string functions. Learn how to install modules using Pip and write functions

27/7/2022	4. Setup a physical button switch and trigger an led in node red and python w debounce
08-10-2022	5. Write simple JavaScript functions in Node-Red simple HTTP server page using node red
17/8/2022	6. Setup a TCP server and client on a raspberry pi using Python modules to send messages and execute shell commands from within python such as starting another application
24/8/2022	7. Trigger a set of led Gpios on the pi via a Python Flask web server
09-07-2022	8. Interface the raspberry pi with a 16x2 LCD display and print values
14/9/2022	9. Setup a Mosquitto MQTT server and client and write a Python script to communicate data between Pi's.
21/9/2022	10. Interface with an Accelerometer Gyro Mpu6050 on the i2c bus and send sensor values over the internet via mqtt.

T.Y.B.Sc C.S Sem - V Paper - V Game Programming

Date	Syllabus topic
	UNIT I (Chap 1): Introduction and syllabus discussion
21-06-2022	Cartesian Coordinate system: The Cartesian XY-plane, Function Graphs, Geometric Shapes
23-06-2022	Polygonal Shapes, Areas of Shapes, Theorem of
25-06-2022	Pythagoras in 2D,
28-06-2022	Theorem of Pythagoras in 3D, 3D Polygons, Euler's Rule
30-06-2022	UNIT I (Chap 2): Vectors: Vector Manipulation, multiplying a Vector by a Scalar, Vector Addition and
02-07-2022	Subtraction, Position Vectors, Unit Vectors
05-07-2022	Cartesian Vectors, Vector Multiplication, Scalar Product
07-07-2022	Example of the Dot Product, The Dot Product in
09-07-2022	Lighting Calculations, The Dot Product in Back-Face Detection, The Vector Product
09-07-2022	The Right-Hand Rule, deriving a Unit Normal Vector for
12-07-2022	a Triangle Areas, Calculating 2D Areas
14-07-2022	UNIT I (Chap 3): Transformations: 2D Transformations, Matrices
16-07-2022	Homogeneous Coordinates
16-07-2022	3D Transformations, Change of Axes, Direction Cosines
19-07-2022	Rotation
21-07-2022	Transforming Vectors, Determinants
23-07-2022	Perspective Projection, Interpolation
23-07-2022	UNIT I (Chap 4): DirectX: Understanding GPU and GPU architectures. How they are different from CPU Architectures? Understanding how to solve by GPU?
25-07-2022	UNIT II (Chap 1): DirectX Pipeline and Programming: Introduction To DirectX 11: COM, Textures and Resources Formats
28-07-2022	The swap chain and Page flipping, Depth Buffering, Texture Resource Views
30-07-2022	Multisampling Theory and MS in Direct3D, Feature
02-08-2022	Levels
	UNIT II (Chap 2): Direct3D 11 Rendering Pipeline: Overview, Input Assembler Stage (IA)
04-08-2022	Vertex Shader Stage (VS), The Tessellation Stage (TS),
06-08-2022	Geometry Shader Stage (GS), Pixel Shader Stage (PS), Output merger Stage (OM)
11-08-2022	Understanding Meshes or Objects
13-08-2022	Texturing, Lighting, Blending

18-08-2022	UNIT II (Chap 3): Interpolation and Character Animation: Trigonometry: The Trigonometric Ratios, Inverse Trigonometric Ratios
20-08-2022	Trigonometric Relationships, The Sine Rule, The Cosine
23-08-2022	Rule
25-08-2022	Compound Angles, Perimeter Relationships
27-08-2022	UNIT II(Chap 4): Interpolation: Linear Interpolant, Non-Linear Interpolation
30-08-2022	Trigonometric Interpolation, Cubic Interpolation,
01-09-2022	Interpolating Vectors, Interpolating Quaternions
	UNIT II (Chap 5): Curves: Circle, Bezier, B-Splines
03-09-2022	UNIT II (Chap 6): Analytic Geometry: Review of Geometry, 2D Analytic Geometry, Intersection Points, Point in Triangle, and Intersection of circle with straight line.
06-09-2022	UNIT III (Chap 1): Introduction to Rendering Engines: Understanding the current market Rendering Engines
08-09-2022	Understanding AR, VR and MR
10-09-2022	Depth Mappers, Mobile Phones, Smart Glasses, HMD's
13-09-2022	UNIT III (Chap 2): Unity Engine: Multi-platform publishing, VR + AR: Introduction and working in Unity,
15-09-2022	2D,Graphics, Physics, Scripting
17-09-2022	Animation, Timeline
20-09-2022	Multiplayer and Networking, UI,Navigation and Pathfinding,XR, Publishing.
22-09-2022	UNIT III (Chap 3): Scripting: Scripting Overview
24-09-2022	Scripting Tools and Event Overview
27-09-2022	UNIT III (Chap 4): XR: VR, AR, MR
29-09-2022	Conceptual Differences
Practicals of Game Programming	
Date	Title of Practical
09-07-2022	1.Setup DirectX 11, Window Framework and Initialize Direct3D Device
16-07-2022	2. Buffers, Shaders and HLSL (Draw a triangle using Direct3D 11)
23-07-2022	3. Texturing (Texture the Triangle using Direct 3D 11)
30-07-2022	4. Lightning (Programmable Diffuse Lightning using Direct3D 11)
06-08-2022	5. Specular Lightning (Programmable Spot Lightning using Direct3D 11)
13-08-2022	6. Loading models into DirectX 11 and rendering.
20-08-2022	7. https://unity3d.com/learn/tutorials/s/2d-ufo-tutorial
27-08-2022	8. https://unity3d.com/learn/tutorials/s/space-shooter-tutorial
03-09-2022	9. https://unity3d.com/learn/tutorials/s/roll-ball-tutorial
10-09-2022	10. https://unity3d.com/learn/tutorials/topics/vr/introduction?playlist=22946