Nallamuthu Gounder Mahalingam College (Autonomous)

Pollachi

Part	Course Code	Course Title	Hrs	Dur. Hrs	MAX.MARKS			Credits
					Int	Ext	Total	
V SEMESTER								
III	19UCS517	Core XI: Linux	4	3	25	75	100	3
	19UCS518	Core XII: Kotlin Programming	4	3	25	75	100	3
	19UCS519	Core XIII: Cyber Security	4	3	25	75	100	3
	19UCS5E1/ 19UCS5E2/ 19UCS5E3	Core Elective-I:	6	3	25	75	100	4
	19UCS520	Core Lab VII: Linux Lab	5	3	40	60	100	3
	19UCS521	Core Lab VIII: Programming lab using Kotlin	5	3	40	60	100	3
IV	19UCS5S1/ 19UCS5S2 / 19UCS5S3	Skill Based Elective-I	1	2	-	50	50	2
	19HEC505	Human Excellence Paper: National Values& SKY Yoga Practice-5	1	2	25	25	50	1
	19GKL501	General Knowledge	SS	2	-	50	50	2
Total							750	24

List of Electives-I
19UCS5E1 Software Testing
19UCS5E2 Distributed Computing
19UCS5E3 Client/Server Technology

Skill Based Elective I
19UCS5S1 Word Press
19UCS5S2 Dream Weaver
19UCS5S3 Quantitative Aptitude Skills

VI SEMESTER								
III	19UCS622	Core XIV: Python Programming	4	3	25	75	100	3
	19UCS6E4 19UCS6E5 19UCS6E6	Core Elective – II	6	3	25	75	100	5
	19UCS6E7 19UCS6E8 19UCS6E9	Core Elective – III	6	3	25	75	100	5
	19UCS623	Core Lab IX: Python Programming Lab	5	3	40	60	100	3
	19UCS624	Core Lab X: Advanced Applications in MS Excel Lab	4	3	20	30	50	2
	19UCS625	Project	4	-	-	100	100	3
IV	19UCS6S4/ 19UCS6S5/ 19UCS6S6	Skill based Elective-II	1	2	-	50	50	2
	19HEC606	Human Excellence Paper: Global Values & SKY Yoga Practice-6	2	2	25	25	50	1

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Programme code:	B.Sc	Programme Title :	Bachelor of Science (Computer Science)	
Course Code:	19UCS5E1	Title	Batch :	2019-2022
		Core Elective- I:	Semester	V
Hrs/Week:	6	Software Testing	Credits:	4

Course Objective

The objective of this course is to make the students to understand the various features of testing such as software test automation, test metrics and measurement. Software testing tool win runner is used for applications.

Course Outcomes (CO)

K1	CO1	To remember the software development life cycle phases,quality assurance and quality control.
K2	CO2	To understand the types of testing, scenarios, process,methodologies, challenges in testing.
K3	CO3	To implement design and architecture for automation, software testing tools are applied.
K4	CO4	To evaluate performance ,test metrics and measurement , WinRunner software is used.
K5	CO5	To Access verification and validation, integrate functional and non-functional testing,to perform regression testing, framework for test tools, testing an application using WinRunner.

Syllabus

Units	Contents	Hrs
Unit I	***Software development life cycle:*** Phases of Software Project-Quality, Quality Assurance, and Quality Control-Testing, Verification, and Validation. White Box Testing: Static Testing-Structural Testing-*Challenges.* Black Box Testing: What is Black Box Testing, Why Black Box Testing-When to do Black Box Testing-How to do Black Box Testing	15
Unit II	***Integration Testing:*** Integration Testing as a type of Testing- Integration Testing as a phase of Testing- Scenario Testing-Defect Bash. System and Acceptance Testing: Functional System Testing- Non Functional Testing- Acceptance Testing.	15
Unit III	***Performance Testing:*** Methodology-Tools-Process-Challenges. Regression Testing: Types-When to do Regression Testing- How to do Regression Testing. Internationalization Testing.	16
Unit IV	***Software Test Automation:*** Skills needed for Automation-What to Automate-Scope of Automation-Design and Architecture for Automation-Generic requirements for Test Tools Framework-Selecting a Test Tool-Challenges. Test Metrics and Measurements: Metrics and Measurements-*Metrics in Testing*-Types of Metrics	16
Unit V	***WinRunner:***Overview of WinRunner-Testing an Application Using WinRunner-Test Script Language-Synchronization of Test Cases-Data Driven Testing-Rapid Test Script Wizard-Mapping Custom Object to Standard Class-Checking GUI Objects	16
	Total Contact Hrs	78
	**Italicized* texts are for self study	
	Power point Presentations, Seminar, and Assignment	

TEXT BOOKS	1. Srinivasan Desikan, Gopalaswamy Ramesh, "Software Testing Principles and Practices"pearson Education-7th impression 2009 2. Dr K.V.K.K Prasad, "Software Testing Tools", Dreamtech press, New Delhi, 2007 (for unit V)
REFERENCES	1.Roger S.Pressman,"Software Engineering", Tata McGraw Hill Publication, Sixth Edition, 2009.

Mapping

PSO / CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	M	M	M	H
CO2	H	M	M	M	H
CO3	M	M	H	M	M
CO4	M	H	H	H	H
CO5	H	M	H	H	H

H-High; M-Medium; L-Low

Course Designed by	Verified by HOD	Checked by	Approved by
Name and Signature	Name with Signature	CDC	COE
Dr. R.Manicka Chezian M. Meena Krithika	Name: Dr.Antony Selvadoss Thanamani Signature:	Name: K.Srinivasan Signature:	Name: Dr.R.Muthukumaran Signature:

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Programme code:	B.Sc	Programme Title :	Bachelor of Science (Computer Science)	
Course Code:	19UCS622	Title	Batch :	2019-2022
		Core XIV: Python Programming	Semester	VI
Hrs/Week:	4		Credits:	03

Course Objective

On successful completion of this course the students should understand the core principles of the Python Language and use the tools to produce well designed programs in python and create effective GUI applications.

Course Outcomes (CO)

K1	CO1	To remember the principles of structured programming and to understand basics of python.
K2	CO2	To understand the common programming idioms: variables, loop, branch, subroutine, and input/output
K3	CO3	To deploy the concepts of functions, standard libraries, modular programming and the design of user interfaces
K4	CO4	To figure out ability to analyze and solve the problems using advanced facilities of the Python Language
K5	CO5	To evaluate the object oriented features in python using functions and standard libraries.

Syllabus

Units	Contents	Hrs
Unit I	BASICS : Python - Variables - Executing Python from the Command Line - Editing Python Files - Python Reserved Words - Basic Syntax-Comments - Standard Data Types – Relational Operators - Logical Operators - Bit Wise Operators - Simple Input and Output.	10
Unit II	CONTROL STATEMENTS: Control Flow and Syntax - Indenting - if Statement - statements and expressions- string operations- Boolean Expressions -while Loop - break and continue - for Loop - Lists – Tuples - Sets - Dictionaries	11
Unit III	FUNCTIONS: Definition - Passing parameters to a Function - Built-in functions- Variable Number of Arguments - Scope – Type conversion-Type coercion-Passing Functions to a Function - Mapping Functions in a Dictionary – Lambda - Modules - Standard Modules – sys – math – time - dir - help Function.	10

Unit IV	**ERROR HANDLING:** Run Time Errors - Exception Model - Exception Hierarchy - Handling Multiple Exceptions - Data Streams - Access Modes Writing - Data to a File Reading - Data From a File - Additional File Methods - Using Pipes as Data Streams - Handling IO Exceptions - Working with Directories.	11
Unit V	**OBJECT ORIENTED FEATURES:** Classes Principles of Object Orientation - Creating Classes - Instance Methods - File Organization - Special Methods - Class Variables – Inheritance – Polymorphism - Type Identification - Simple Character Matches - Special Characters - Character Classes – Quantifiers - Dot Character - Greedy Matches – Grouping - Matching at Beginning or End - Match Objects – Substituting - Splitting a String - Compiling Regular Expressions.	10
	Total Contact Hrs	**52**
	**Italicized* texts are for self study	
	Power point Presentations, Seminar, Quiz and Assignment	
TEXT BOOKS	1. Mark Summerfield. —Programming in Python 3: A Complete introduction to the Python Language, Addison-Wesley Professional, 2009. 2. Martin C. Brown, —PYTHON: The Complete Referencel, McGraw-Hill, 2001.	
REFERENCES	1. Allen B. Downey, ``Think Python: How to Think Like a Computer Scientist'', 2nd edition, Updated for Python 3, Shroff/ O'Reilly Publishers, 2016 2. Guido van Rossum and Fred L. Drake Jr, —An Introduction to Python – Revised and updated for Python 3.2, Network Theory Ltd., 2011. 3. Wesley J Chun, —Core Python Applications Programmingl, Prentice Hall, 2012.	

Mapping

CO \ PSO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	H	H	H	H	H
CO2	H	M	H	H	H
CO3	H	H	H	H	M
CO4	M	H	M	M	H
CO5	H	H	M	H	M

H: High M: Medium L: Low

Course Designed by	Verified by HOD	Checked by	Approved by
Name and Signature	Name with Signature	CDC	COE
Dr.R.Manicka Chezian Dr.R.Deepa	Name: Dr.Antony Selvadoss Thanamani Signature:	Name: K.Srinivasan Signature:	Name: Dr.R.Muthukumaran Signature:

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Programme code:	B.Sc	Programme Title :	Bachelor of Science (Computer Science)	
Course Code:	19UCS623	Title :	Batch :	2019-2022
Hrs/Week:	5	Core Lab IX: Python Programming Lab	Semester:	VI
			Credits:	03

Course Objective

On successful completion of the course the students should write well-documented programs in the Python language, including use of the logical constructs of that language.

Course Outcomes (CO)

K3	CO1	To implement, Interpret, Contrast of various operators.
K4	CO2	To review and analyze database with variables, loop, branch, subroutine, and input/output
K5	CO3	To validate how databases are integrated with components ,modular programming and the design of user interfaces

Syllabus

Units	Contents	Hrs
	SET A • Write a program to find the largest of n numbers. • Write a program that asks the user to enter a series of positive numbers (The user should enter a negative number to signal the end of the series)and the program should display the numbers in order and their sum. • Write a program to find the product of two matrices [A]mxp and [B]pxr • Write recursive and non-recursive functions for the following: o To find GCD of two integers. o To find the factorial of positive integer o To print Fibonacci Sequence up to given number n • Write a program to display two random numbers that are to be added, such as: 247 + 129, the program should allow the student to enter the answer. If the answer is correct, a message of congratulations should be displayed. If the answer is incorrect, a message showing the correct answer should be displayed. • Write recursive and non-recursive functions to display prime number from 2 to n. • Write a program that writes a series of random numbers to a file from 1 to n and	65

display.

- Write a program to create file, write the content and display the contents of the file with each line preceded with a line number (start with 1) followed by a colon.
- In a program, write a function that accepts two arguments: a list and a number n. The function displays all of the numbers in the list that are greater than the number n.

SET B

- Write a program for linear search and binary search.
- Write a program with a function that accepts a string as an argument and returns the no. of vowels that the string contains. Another function to return number of consonants.
- Write a program that opens a specified text file and then displays a list of all the unique words found in the file. (Store each word as an element of a set.)
- Write a program to analyze the contents of two text files using set operations.
- Write a program to implement the inheritance and dynamic polymorphism.
- Write a GUI program that converts Celsius temperatures to Fahrenheit temperatures.
- Write a GUI program that displays your details when a button is clicked.
- Write a program to delete or remove elements from a list
- Write a program to slice lists in Python
- Write a Program to Illustrate Different Set Operations
- Write a Program to Display Calendar

.INTERNAL MARK (40 Marks)

Observation Record Note	**10 Marks**
Practical Skills	**10 Marks**
Model Exam	**20 Marks**

EXTERNAL MARK (60 Marks)

Record Note	**10 Marks**
Set A	**20 Marks**
Set B	**30 Marks**