Course Code	UCA20S03L	Course Name	LUA PROGRAMMING	Course Category	S	Skill Enhancement Course	L	T	P	C
							0	0	2	1

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	Computer Applications	Data Book / Codes/Standards	Nil		

Course Learning Rationale (CLR):	*The purpose of learning this course is to:*
CLR-1 :	Learn the basics of working with Lua
CLR-2 :	Learn String Manipulation using Lua
CLR-3 :	Learn to work with decision control and looping statements
CLR-4 :	Learn object-oriented programming concept in Lua
CLR-5 :	Learn and use the concept of arrays
CLR-6 :	Understand standard LUA libraries for math and file i/o

Course Learning Outcomes (CLO):	*At the end of this course, learners will be able to:*	Learning			Program Learning Outcomes (PLO)															
		1	2	3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
		Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)	Disciplinary Knowledge	Critical Thinking	Problem Solving	Analytical Reasoning	Research Skills	Team Work	Scientific Reasoning	Reflective Thinking	Self-Directed Learning	Multicultural Competence	Ethical Reasoning	Community Engagement	ICT Skills	Leadership Skills	Life Long Learning
CLO-1 :	Understand the basics of programming the Lua language	3	80	70	-	-	-	H	L	H	H	-	L	-	-	H	-	-	-
CLO-2 :	Understand how to use tables, the data structure that makes Lua so powerful	3	85	75	-	-	-	M	L	M	M	-	M	-	-	H	-	-	-
CLO-3 :	Apply Inheritance	3	75	70	-	-	-	H	L	H	H	-	M	-	-	H	-	-	-
CLO-4 :	*Perform String Manipulation*	3	85	80	-	-	-	H	L	H	H	-	M	-	-	H	-	-	-
CLO-5 :	*Use Lua Libraries*	3	85	75	-	-	-	H	L	H	H	-	M	-	-	H	-	-	-
CLO-6 :	*Write simple applications using Lua*	3	80	70	-	-	-	H	L	H	H	-	L	-	-	H	-	-	-

Duration (hour)		06	06	06	06	06
S-1	SLO-1	Introduction To Lua Programming	Functions	While Loops, Infinite Loops	Arrays	Inheritance
	SLO-2	Writing First Lua Program	Defining a Function, Calling a Function, Function Arguments, Any No of Arguments, Returning a value, Returning Multiple values	Breaking a Loop	Array constructors, Array are one based, Sparse array, The size of an array, Multidimensional array	Single and Multiple Inheritance
S-2	SLO-1	Basic Syntax	Define a function using variable no of arguments to sum all the argument passed.	Write a program to reverse a number	Write a program to add two matrix	Write a program to implement single and multiple inheritance
	SLO-2	Token, Comments, Identifiers, Keywords, Whitespaces				
S-3	SLO-1	Variables	Operators	Repeat until loop, for loop	Iterating	Math
	SLO-2	Basic Data Types	Arithmetic operators, Relational Operators, Logical Operators, Misc Operators, Operator Precedence	Nested Loop	Understanding pairs, Understanding ipairs, Closures, Iterative functions	Trigonometry, Changing Numbers, Comparing Numbers, Randomness
S-4	SLO-1	Developing Simple Programs	Write a program to perform simple arithmetic operations	Write a program to generate multiplication table	Write a program to illustrate the concept Iterators	Write a program to work with math library
	SLO-2					

S-5	SLO-1	String Types - String Literals/, String Length, Concatenate Strings, String Coercion, Escape Characters, Console input	Control Structures	Creating Tables, Storing Values	Objects	File IO
	SLO-2	Scope – Scope access, Global Access, Shadowing	If, elseif, else, Nesting if statements	Table Constructors, Tables are references	Classes, The : operator, Tables inside of objects	Opening a File, Reading Data, Writing Data, Closing a File
S-6	SLO-1	Write a program to perform various string manipulations	Write a Program that takes user input. If typed 'Hi" display "Welcome", If typed "Bye", Display "Good Bye"	Write a program to work with tables	Write a program using class and objects	Write a program to create a file
	SLO-2					

Learning Resources	1. *"Lua Programming, A Beginners Guide", 2019 Edition, The Definitive Lua Programming Guide, Lua Publishing*	2. *Gabor Szauer, (2018), " Lua Quick Start Guide", Packt Publishing*

Learning Assessment

Level	Bloom's Level of Thinking	Continuous Learning Assessment (50% weightage)								Final Examination (50% weightage)	
		CLA – 1 (10%)		CLA – 2 (10%)		CLA – 3 (20%)		CLA – 4 (10%)#			
		Theory	Practice	Theory	Practice	Theory	Practice	Theory	Practice	Theory	Practice
Level 1	Remember / Understand	20%	20%	15%	15%	15%	15%	15%	15%	-	30%
Level 2	Apply / Analyze	20%	20%	20%	20%	20%	20%	20%	20%	-	40%
Level 3	Evaluate / Create	10%	10%	15%	15%	15%	15%	15%	15%	-	30%
	Total	100 %		100 %		100 %		100 %		100 %	

CLA – 4 can be from any combination of these: Assignments, Seminars, Short Talks, Mini-Projects, Case-Studies, Self-Study, MOOCs, Certifications, Conf. Paper etc.,

Course Designers

Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
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