Lovely Professional University, Punjab

Course Code	Course Title	Course Planner	Lectures	Tutorials	Practicals	Credits
INT213	PYTHON PROGRAMMING	20992::Pooja Rana	0	0	4	2
Course Weightage	ATT: 5 CA: 25 MTT: 20 ETT: 50	**Exam Category: 55: Mid Term Exam: All Subjective – End Term Exam: All Subjective**				
Course Orientation	PLACEMENT EXAMINATION(Mass Recruiters), SOFTWARE SKILL					

	TextBooks (T)		
Sr No	**Title**	**Author**	**Publisher Name**
T-1	INTRODUCTION TO PROGRAMMING USING PYTHON	Y. DANIEL LIANG	PEARSON
T-2	NTRODUCTION TO COMPUTATION AND PROGRAMMING USING PYTHON	GUTTAG, JOHN V.	MIT Press

	Reference Books (R)		
Sr No	**Title**	**Author**	**Publisher Name**
R-1	LEARNING WITH PYTHON	ALLEN DOWNEY, JEFFREY ELKNER, CHRIS MEYERS	DREAMTECH PRESS
R-2	FUNDAMENTALS OF PYTHON	AUTHOR: KENNETH A. LAMBERT	CENGAGE LEARNING
R-3	INTRODUCTION TO PROGRAMMING IN PYTHON: AN INTERDISCIPLINARY APPROACH	ROBERT SEDGEWICK	PEARSON
R-4	DATA STRUCTURES AND ALGORITHMS IN PYTHON	MICHAEL T. GOODRICH, ROBERTO TAMASSIA, MICHAEL H. GOLDWASSER	WILEY
R-5	INTRODUCTION TO COMPUTING AND PROBLEM SOLVING USING PYTHON	BALAGURUSWAMY	MCGRAW HILL EDUCATION

Relevant Websites (RW)		
Sr No	**(Web address) (only if relevant to the course)**	**Salient Features**
RW-1	https://www.tutorialspoint.com/python/python_functions.htm	Python Functions
RW-2	https://www.coursera.org/learn/python	Python coursera
RW-3	https://www.python.org/events/	Python Events
RW-4	https://play.google.com/store/apps/details?id=com.sololearn.python&hl=en	Learn Python App

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| RW-5 | https://docs.python.org/2/tutorial/index.html | Python documentation |
| RW-6 | http://www.geeksforgeeks.org/top-algorithms-and-data-structures-for-competitive-programming/#algo1 | Competitive Programing |

Audio Visual Aids (AV)

Sr No	(AV aids) (only if relevant to the course)	Salient Features
AV-1	http://nptel.ac.in/courses/117106113/34	Python Programming Video Lectures

Software/Equipments/Databases

Sr No	(S/E/D) (only if relevant to the course)	Salient Features
SW-1	https://www.python.org/downloads/	Python 3.2.1

LTP week distribution: (LTP Weeks)	
Weeks before MTE	7
Weeks After MTE	7
Spill Over (Lecture)	8

Detailed Plan For Lectures

Week Number	Lecture Number	Broad Topic(Sub Topic)	Chapters/Sections of Text/reference books	Other Readings, Relevant Websites, Audio Visual Aids, software and Virtual Labs	Lecture Description	Learning Outcomes	Pedagogical Tool Demonstration/ Case Study / Images / animation / ppt etc. Planned	Live Examples
Week 1	Lecture 1	Introduction(python programming language)	T-1 R-1	RW-2 RW-5 SW-1 AV-1	Lecture 1 should be used to discus lecture zero. Lecture 2 should be used to discus introduction and importance of python programming.	Student will understand the use of python programming and its importance in industry.	Class room discussion using power point presentation and Live demonstration of programs in Python.	
	Lecture 2	Introduction(introduction to program and debugging)	T-1 R-1	RW-2 RW-5 SW-1 AV-1	program and debugging, formal and natural language	Student will able to understand the basic of programming language and importance of python.	Class room discussion using power point presentation and Live demonstration of programs in Python.	

Week 1	Lecture 2	Introduction(formal and natural language)	T-1 R-1	RW-2 RW-3 RW-5 SW-1 AV-1	program and debugging, formal and natural language	Student will able to understand the basic of programming language and importance of python.	Class room discussion using power point presentation and Live demonstration of programs in Python.	
	Lecture 3	Variables,Expression and Statements(Values and types, variables)	T-1 T-2	RW-2 RW-5 SW-1 AV-1	values and types , variables and keywords	Students will able to understand different data types (int, float, string, boolean,None)	Class room discussion using power point presentation and Live demonstration of programs in Python.	
		Variables,Expression and Statements(variables name and keywords)	T-1 T-2	RW-2 RW-5 SW-1 AV-1	values and types , variables and keywords	Students will able to understand the importance of variables and rules for declaring a variable	Class room discussion using power point presentation and Live demonstration of programs in Python.	
		Variables,Expression and Statements(statements)	T-1 T-2	RW-2 RW-5 SW-1 AV-1	values and types , variables and keywords	Students will able to understand the role of keywords and different keywords available in python and statements	Class room discussion using power point presentation and Live demonstration of programs in Python.	
	Lecture 4	Variables,Expression and Statements(operators and operand)	R-1 R-2	RW-2 RW-5 SW-1	Comments, order of operations and operations on string	Student will understand various operators (arithmetic, relational and logical operators)	Class room discussion using power point presentation and Live demonstration of programs in Python.	
		Variables,Expression and Statements(order of operations)	R-1 R-2	RW-2 RW-5 SW-1	Comments, order of operations and operations on string	Student will understand various operators precedence of operators and order of execution	Class room discussion using power point presentation and Live demonstration of programs in Python.	
		Variables,Expression and Statements(operations on string)	R-1 R-2	RW-2 RW-5 SW-1	Comments, order of operations and operations on string	Student will understand how strings can be manipulated using operators	Class room discussion using power point presentation and Live demonstration of programs in Python.	

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Week 1	Lecture 4	Variables,Expression and Statements(composition and comments)	R-1 R-2	RW-2 RW-5 SW-1	Comments, order of operations and operations on string	Student will learn about how to give comments and composition	Class room discussion using power point presentation and Live demonstration of programs in Python.	
Week 2	Lecture 5	Conditionals and Iteration (modulus operator)	T-1 R-1	RW-2 RW-5	modulus and logic operators, boolean expressions	Student will understand the use of modulus and // (divide) operator in arithmetic operators	Class room discussion using power point presentation and Live demonstration of programs in Python.	
		Conditionals and Iteration (boolean expressions)	T-1 R-1	RW-2 RW-5	modulus and logic operators, boolean expressions	Student will understand logical operators(and, or , not) and bitwise operators	Class room discussion using power point presentation and Live demonstration of programs in Python.	
		Conditionals and Iteration (logic operators)	T-1 R-1	RW-2 RW-5	modulus and logic operators, boolean expressions	Student will learn about comparison operators and boolean expressions	Class room discussion using power point presentation and Live demonstration of programs in Python.	
	Lecture 6	Conditionals and Iteration (conditional, alternative execution)	R-5	RW-2 RW-5 AV-1	Conditional statements with return statements	Student will understand use of if-else statements and if-else-if statements in programming	Class room discussion using power point presentation and Live demonstration of programs in Python.	
		Conditionals and Iteration (nested conditionals and return statements)	R-5	RW-2 RW-5 AV-1	Conditional statements with return statements	Student will understand use of return statement and nested if-else statements in programming	Class room discussion using power point presentation and Live demonstration of programs in Python.	
	Lecture 7	Conditionals and Iteration (while statements)	T-1 T-2	RW-2 RW-5	While loop and its application, encapsulation and generalization	Student will understand the concept of loop (while,for)in programming	Class room discussion using power point presentation and Live demonstration of programs in Python.	

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Week 2	Lecture 7	Conditionals and Iteration (encapsulation and generalization)	T-1 T-2	RW-2 RW-5	While loop and its application, encapsulation and generalization	Student will understand the concept of generalization and encapsulation in programming	Class room discussion using power point presentation and Live demonstration of programs in Python.	
	Lecture 8	Functions and recursion (function calls)	T-1 R-1	RW-2 RW-5	introduction to function calls and typecasting	Student will understand the concept and use of functions.	Class room discussion using power point presentation and Live demonstration of programs in Python.	
		Functions and recursion(type conversion and coercion)	T-1 R-1	RW-2 RW-5	introduction to function calls and typecasting	Student will understand the concept of typecasting and typeconversion	Class room discussion using power point presentation and Live demonstration of programs in Python.	
Week 3	Lecture 9	Functions and recursion (math functions)	T-2 R-1	RW-1	math library function and its use, defining a function	Student will understand the concept of predefined functions and use of predefined function (like math library functions)	Class room discussion using power point presentation and Live demonstration of programs in Python.	
		Functions and recursion (adding new function)	T-2 R-1	RW-1	math library function and its use, defining a function	Student will learn to define own function.	Class room discussion using power point presentation and Live demonstration of programs in Python.	
	Lecture 10	Functions and recursion (parameters and argument)	T-1 R-3	RW-1 RW-5	Function with arguments and recursion	Student will learn how to pass arguments in functions(passing by value, passing by reference)	Class room discussion using power point presentation and Live demonstration of programs in Python.	
		Functions and recursion (recursion and its use)	T-1 R-3	RW-1 RW-5	Function with arguments and recurssion	Student will understand the concept and use of recursion and stack overflow	Class room discussion using power point presentation and Live demonstration of programs in Python.	

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Week 3	Lecture 11	Functions and recursion (parameters and argument)	T-1 R-3	RW-1 RW-5	Function with arguments and recursion	Student will learn how to pass arguments in functions(passing by value, passing by reference)	Class room discussion using power point presentation and Live demonstration of programs in Python.	
		Functions and recursion (recursion and its use)	T-1 R-3	RW-1 RW-5	Function with arguments and recurssion	Student will understand the concept and use of recursion and stack overflow	Class room discussion using power point presentation and Live demonstration of programs in Python.	
	Lecture 12				Test - Code based 1			
Week 4	Lecture 13	String(string a compound data type, length)	T-1	RW-2	String data type, length of string, string slicing	Student will understand different ways to traverse a string	Class room discussion using power point presentation and Live demonstration of programs in Python.	
		String(string traversal)	T-1	RW-2	String data type, length of string, string slicing	Student will understand different ways to traverse a string	Class room discussion using power point presentation and Live demonstration of programs in Python.	
	Lecture 14	String(string slices, comparision)	T-1 R-1	RW-2 RW-4	String functions, looping and counting	Student will learn different predefined functions applicable on strings and looping using strings	Class room discussion using power point presentation and Live demonstration of programs in Python.	
		String(find function)	T-1 R-1	RW-2 RW-4	String functions, looping and counting	Student will learn different predefined functions applicable on strings and looping using strings	Class room discussion using power point presentation and Live demonstration of programs in Python.	

Week 4	Lecture 14	String(looping and counting)	T-1 R-1	RW-2 RW-4	String functions, looping and counting	Student will learn different predefined functions applicable on strings and looping using strings	Class room discussion using power point presentation and Live demonstration of programs in Python.	
	Lecture 15	String(string slices, comparision)	T-1 R-1	RW-2 RW-4	String functions, looping and counting	Student will learn different predefined functions applicable on strings and looping using strings	Class room discussion using power point presentation and Live demonstration of programs in Python.	
		String(find function)	T-1 R-1	RW-2 RW-4	String functions, looping and counting	Student will learn different predefined functions applicable on strings and looping using strings	Class room discussion using power point presentation and Live demonstration of programs in Python.	
		String(looping and counting)	T-1 R-1	RW-2 RW-4	String functions, looping and counting	Student will learn different predefined functions applicable on strings and looping using strings	Class room discussion using power point presentation and Live demonstration of programs in Python.	
	Lecture 16	Lists(list values, length, membership, operations, slices, deletion)	T-1 R-1	RW-2	List data type, finding length of list, finding membership	Student will learn list declaration, different functions applicable on list and different ways to access the elements of the list (slicing,indexing).	Class room discussion using power point presentation and Live demonstration of programs in Python.	
		Lists(accessing elements)	T-1 R-1	RW-2	List data type, finding length of list, finding membership	Student will learn list declaration, different functions applicable on list and different ways to access the elements of the list (slicing,indexing).	Class room discussion using power point presentation and Live demonstration of programs in Python.	
Week 5	Lecture 17	Lists(list and for loops)	R-1	RW-2	Loops in lists, list as parameters and nested lists	Student will learn about nested loops and looping using list in programming	Class room discussion using power point presentation and Live demonstration of programs in Python.	

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Week 5	Lecture 17	Lists(list parameters and nested list)	R-1	RW-2	Loops in lists, list as parameters and nested lists	Student will learn about nested loops and looping using list in programming	Class room discussion using power point presentation and Live demonstration of programs in Python.	
	Lecture 18	Tuples and Dictionaries (mutability and tuples)	R-1	RW-2	tuple, tuple assignment and tuple as return values	students will learn about declaring tuples, immutability of tuples and accessing elements of tuples	Class room discussion using power point presentation and Live demonstration of programs in Python.	
		Tuples and Dictionaries (tuple assignment, tuple as return values)	R-1	RW-2	tuple, tuple assignment and tuple as return values	students will learn about declaring tuples, immutability of tuples and accessing elements of tuples	Class room discussion using power point presentation and Live demonstration of programs in Python.	
	Lecture 19	Tuples and Dictionaries (random numbers and list of random numbers)	R-1	RW-2	Random number generation in python, counting in lists and buckets	Student will understand various operations on tuples.	Class room discussion using power point presentation and Live demonstration of programs in Python.	
		Tuples and Dictionaries (counting and many buckets)	R-1	RW-2	Random number generation in python, counting in lists and buckets	Student will understand various operations on tuples.	Class room discussion using power point presentation and Live demonstration of programs in Python.	
	Lecture 20	Tuples and Dictionaries (dictionaries operations and methods)	R-1		Dictionaries operations, sparse matrix representation using dictionaries	Student will understand use of dictionaries in programming and different operations on string	Class room discussion using power point presentation and Live demonstration of programs in Python.	
		Tuples and Dictionaries (sparse matrices)	R-1		Dictionaries operations, sparse matrix representation using dictionaries	Student will understand use of dictionaries in programming and different operations on string	Class room discussion using power point presentation and Live demonstration of programs in Python.	

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Week 5	Lecture 20	Tuples and Dictionaries (aliasing and coping)	R-1		Dictionaries operations, sparse matrix representation using dictionaries	Student will understand use of dictionaries in programming and different operations on string	Class room discussion using power point presentation and Live demonstration of programs in Python.	
Week 6	Lecture 21	Files and exceptions(text files)	T-1 R-1		files input/output, directories	Student will learn about taking input from the files and writing into the files, creating directories and different functions to manipulate directories.	Class room discussion using power point presentation and Live demonstration of programs in Python.	
		Files and exceptions(writing variables)	T-1 R-1		files input/output, directories	Student will learn about taking input from the files and writing into the files, creating directories and different functions to manipulate directories.	Class room discussion using power point presentation and Live demonstration of programs in Python.	
		Files and exceptions (directories)	T-1 R-1		files input/output, directories	Student will learn about taking input from the files and writing into the files, creating directories and different functions to manipulate directories.	Class room discussion using power point presentation and Live demonstration of programs in Python.	
		Files and exceptions (pickling)	T-1 R-1		files input/output, directories	Student will learn about taking input from the files and writing into the files, creating directories and different functions to manipulate directories.	Class room discussion using power point presentation and Live demonstration of programs in Python.	

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Week 6	Lecture 22	Files and exceptions(text files)	T-1 R-1		files input/output, directories	Student will learn about taking input from the files and writing into the files, creating directories and different functions to manipulate directories.	Class room discussion using power point presentation and Live demonstration of programs in Python.	
		Files and exceptions(writing variables)	T-1 R-1		files input/output, directories	Student will learn about taking input from the files and writing into the files, creating directories and different functions to manipulate directories.	Class room discussion using power point presentation and Live demonstration of programs in Python.	
		Files and exceptions (directories)	T-1 R-1		files input/output, directories	Student will learn about taking input from the files and writing into the files, creating directories and different functions to manipulate directories.	Class room discussion using power point presentation and Live demonstration of programs in Python.	
		Files and exceptions (pickling)	T-1 R-1		files input/output, directories	Student will learn about taking input from the files and writing into the files, creating directories and different functions to manipulate directories.	Class room discussion using power point presentation and Live demonstration of programs in Python.	
	Lecture 23	Files and exceptions(text files)	T-1 R-1		files input/output, directories	Student will learn about taking input from the files and writing into the files, creating directories and different functions to manipulate directories.	Class room discussion using power point presentation and Live demonstration of programs in Python.	

Week 6	Lecture 23	Files and exceptions(writing variables)	T-1 R-1		files input/output, directories	Student will learn about taking input from the files and writing into the files, creating directories and different functions to manipulate directories.	Class room discussion using power point presentation and Live demonstration of programs in Python.	
		Files and exceptions (directories)	T-1 R-1		files input/output, directories	Student will learn about taking input from the files and writing into the files, creating directories and different functions to manipulate directories.	Class room discussion using power point presentation and Live demonstration of programs in Python.	
		Files and exceptions (pickling)	T-1 R-1		files input/output, directories	Student will learn about taking input from the files and writing into the files, creating directories and different functions to manipulate directories.	Class room discussion using power point presentation and Live demonstration of programs in Python.	
	Lecture 24				Test - Code based 2			
Week 7	Lecture 25	Files and exceptions (exceptions)	R-1		Exception handling and glossary	Student will learn about predefined exceptions and how to handle exceptions in programming	Class room discussion using power point presentation and Live demonstration of programs in Python.	
		Files and exceptions (glossary)	R-1		Exception handling and glossary	Student will learn about predefined exceptions and how to handle exceptions in programming	Class room discussion using power point presentation and Live demonstration of programs in Python.	
	Lecture 26	Files and exceptions (exceptions)	R-1		Exception handling and glossary	Student will learn about predefined exceptions and how to handle exceptions in programming	Class room discussion using power point presentation and Live demonstration of programs in Python.	

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Week 7	Lecture 26	Files and exceptions (glossary)	R-1		Exception handling and glossary	Student will learn about predefined exceptions and how to handle exceptions in programming	Class room discussion using power point presentation and Live demonstration of programs in Python.	
					SPILL OVER			
Week 7	Lecture 27				Spill Over			
	Lecture 28				Spill Over			
					MID-TERM			
Week 8	Lecture 29	Classes and objects (overview of OOP terminology)	T-1 T-2 R-4	RW-2	Object Oriented Programmming	Student will understand the concept and use of object oriented programming, difference between the classes and function	Class room discussion using power point presentation and Live demonstration of programs in Python.	
	Lecture 30	Classes and objects(creating classes)	T-1 T-2	RW-2	Classes and objects in Python Programming	Student will learn how to create classes in python programming	Class room discussion using power point presentation and Live demonstration of programs in Python.	
	Lecture 31	Classes and objects(creating instance objects)	T-1 T-2	RW-2	Classes objects and accessing attributes	Students will learn the concept of objects, creation of objects and accessing attributes using objects and __init__ method	Class room discussion using power point presentation and Live demonstration of programs in Python.	
		Classes and objects (accessing attributes)	T-1 T-2	RW-2	Classes objects and accessing attributes	Students will learn the concept of objects, creation of objects and accessing attributes using objects and __init__ method	Class room discussion using power point presentation and Live demonstration of programs in Python.	

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Week	Lecture	Broad Topic	Lecture T	RW	Chapter/Sub Topic	Learning Outcome	Pedagogical Tool	
Week 8	Lecture 32	Object oriented programming terminology (Class Inheritance)	T-1 T-2	RW-2	Class inheritance in python programming	Students will learn about class inheritance in python,use of inheritance and different access specifier	Class room discussion using power point presentation and Live demonstration of programs in Python.	
Week 9	Lecture 33	Object oriented programming terminology (Overriding Methods)	T-2 R-1	RW-2	Function overriding	Student will learn about the concept and use of function overriding in programming.	Class room discussion using power point presentation and Live demonstration of programs in Python.	
	Lecture 34	Object oriented programming terminology (Data Hiding)	T-2 R-1	RW-2	Data hiding in Programming	Student will learn about the concept of encapsulation and use of data hiding in programming	Class room discussion using power point presentation and Live demonstration of programs in Python.	
	Lecture 35	Object oriented programming terminology (Function Overloading)	T-2 R-1	RW-2	Function overloading	Student will learn about the concept and use of function overloading in programming	Class room discussion using power point presentation and Live demonstration of programs in Python.	
	Lecture 36	Divide and Conquer technique(introduction to divide and conquer technique)	T-1	RW-6	Divide and conquer technique	Student will learn about the concept and use of divide and conquer technique in competitive programming	Class room discussion using power point presentation and Live demonstration of programs in Python.	
Week 10	Lecture 37	Divide and Conquer technique(Binary search)	T-1	RW-6	Binary search in divide and conquer	Student will learn the use of divide and conquer using binary search, how it is more efficient than linear search.	Class room discussion using power point presentation and Live demonstration of programs in Python.	
	Lecture 38	Divide and Conquer technique(Quick Sort, Merge Sort)	T-1 T-2	RW-6	Merge and quick sort	Student will learn to implement merge and quick sort in programming.	Class room discussion using power point presentation and Live demonstration of programs in Python.	

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Week 10	Lecture 39	Divide and Conquer technique(Quick Sort, Merge Sort)	T-1 T-2	RW-6	Merge and quick sort	Student will learn to implement merge and quick sort in programming.	Class room discussion using power point presentation and Live demonstration of programs in Python.	
	Lecture 40				Test - Code based 3			
Week 11	Lecture 41	Graph optimization technique(introduction to graph optimization technique)	T-1	RW-6	Introduction to graph optimization technique	Student will learn about the concept and use of graphs and graph optimization technique in programming	Class room discussion using power point presentation and Live demonstration of programs in Python.	
	Lecture 42	Graph optimization technique(Depth first Search, Breadth first Search)	T-1	RW-6	Breadth first search and depth first search	Student will learn about the concept of graph traversal techniques breadth first and depth first search	Class room discussion using power point presentation and Live demonstration of programs in Python.	
	Lecture 43	Graph optimization technique(Depth first Search, Breadth first Search)	T-1	RW-6	Breadth first search and depth first search	Student will learn about the concept of graph traversal techniques breadth first and depth first search	Class room discussion using power point presentation and Live demonstration of programs in Python.	
	Lecture 44	Graph optimization technique(Problem solving using graph optimization techniques)	T-1	RW-6	Dijsktra's Algorithm	Student will learn to calculate minimum distance in directed graph using dijsktra's algorithm	Class room discussion using power point presentation and Live demonstration of programs in Python.	
Week 12	Lecture 45	Graph optimization technique(Problem solving using graph optimization techniques)	T-1	RW-6	Dijsktra's Algorithm	Student will learn to calculate minimum distance in directed graph using dijsktra's algorithm	Class room discussion using power point presentation and Live demonstration of programs in Python.	

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Week 12	Lecture 46	Greedy approach (introduction to greedy approach)	T-1	RW-6	Introduction to greedy approach	Student will learn about the concept and use of greedy approach in programming	Class room discussion using power point presentation and Live demonstration of programs in Python.	
	Lecture 47	Greedy approach(problem solving using greedy approach)	T-1	RW-6	Solving a problem using greedy approach	Student will learn to solve the activity selection problem using greedy approach.	Class room discussion using power point presentation and Live demonstration of programs in Python.	
	Lecture 48	Greedy approach(problem solving using greedy approach)	T-1	RW-6	Solving a problem using greedy approach	Student will learn to solve the activity selection problem using greedy approach.	Class room discussion using power point presentation and Live demonstration of programs in Python.	
Week 13	Lecture 49	Dynamic programming (introduction to dynamic programming)	T-1	RW-6	Introduction to dynamic approach	Student will learn about the concept and use of dynamic approach in competitive programming.	Class room discussion using power point presentation and Live demonstration of programs in Python.	
	Lecture 50				Test - Code based 4			
	Lecture 51	Dynamic programming (Fibonacci sequences)	T-1	RW-6	Problem solving using Dynamic programming	Student will learn to solve the fibonacci sequence using dynamic programming.	Class room discussion using power point presentation and Live demonstration of programs in Python.	
	Lecture 52	Dynamic programming (dynamic programming and 0/1 Knapsack problem)	T-1	RW-6	Solution of 0/1 knapsack problem using dynamic programming	Student will understand solution of 0/1 knapsack problems	Class room discussion using power point presentation and Live demonstration of programs in Python.	

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| Week 14 | Lecture 53 | Dynamic programming (dynamic programming and 0/1 Knapsack problem) | T-1 | RW-6 | Solution of 0/1 knapsack problem using dynamic programming | Student will understand solution of 0/1 knapsack problems | Class room discussion using power point presentation and Live demonstration of programs in Python. | |
| | Lecture 54 | Dynamic programming (dynamic programming and 0/1 Knapsack problem) | T-1 | RW-6 | Solution of 0/1 knapsack problem using dynamic programming | Student will understand solution of 0/1 knapsack problems | Class room discussion using power point presentation and Live demonstration of programs in Python. | |

SPILL OVER

Week 14	Lecture 55				Spill Over			
	Lecture 56				Spill Over			
Week 15	Lecture 57				Spill Over			
	Lecture 58				Spill Over			
	Lecture 59				Spill Over			
	Lecture 60				Spill Over			

Scheme for CA:

CA Category of this Course Code is:A0304 (3 best out of 4)

Component	Weightage(%)
Test - Code based	33.33
Test - Code based	33.33
Test - Code based	33.33
Test - Code based	33.33

Details of Academic Task(s)

An instruction plan is a tentative plan only and a teacher may make some changes in his/her teaching plan. The students are advised to use syllabus for preparation of all examinations. The students are expected to keep themselves updated on the contemporary issues related to the course. Upto 20% of the questions in any examination/Academic tasks can be asked from such issues even if not explicitly mentioned in the instruction plan.

Academic Task	Objective	Detail of Academic Task	Nature of Academic Task (group/individuals)	Academic Task Mode	Marks	Allottment / submission Week
Test - Code based 1	To evaluate the programming capability of students.	Syllabus of test will cover from Introduction, Variable expression and statements, Conditionals and iterations, Function and Recurssion	Individual	Offline	30	2 / 3
Test - Code based 2	Students will be tested with the basic concepts of python on hackerearth to solve programming challenges	Syllabus of test will cover from string, tuples, dictionaries ,list and file Input output	Individual	Online	30	5 / 6
Test - Code based 3	To evaluate the competitive programming skills of the student	Syllabus of test will cover classes and objects, inheritance, concept of object oriented programming and divide and conquer techniques	Individual	Offline	30	9 / 10
Test - Code based 4	Students will be tested with the competitive programming concepts to solve the challenges on the hackerearth	Syllabus of test will cover graph optimization techniques, greedy approach and dynamic programming	Individual	Online	30	12 / 13

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