



Third Semester B.E./B.Tech. Degree Examination, June/July 2026
Python Programming for Data Science

Time: 3 hrs.

Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.

2. M : Marks , L: Bloom's level , C: Course outcomes.

Module – 1			M	L	C
Q.1	a.	Define Python Program? With examples explain the types of operators in python.	10	L1	CO1
	b.	What are Tokens? Explain the different types of tokens.	6	L1	CO1
	c.	Write a python program to get the values for a, b, c and evaluate the following expression $\text{delta} = \sqrt{b^2 - 4ac}$	4	L2	CO1
OR					
Q.2	a.	Define Variable. Explain the block structure in python.	7	L1	CO1
	b.	Describe input and output statements also explain formatting print statements.	10	L1	CO1
	c.	Write a python program to add two numbers take the inputs from the console.	3	L2	CO2
Module – 2					
Q.3	a.	What is the need for decision structure?	4	L1	CO2
	b.	Discuss the different types of conditional statements.	10	L1	CO1
	c.	Develop a python program to accept 4 numbers and display them in sorted using minimum number of if else statements.	6	L3	CO1

OR				
Q.4	a.	What are the benefits of using loops in python?	4	L1 CO1
	b.	With examples discuss looping statements.	10	L2 CO2
	c.	Discuss Break and Continue statements in python.	6	L1 CO1
Module – 3				
Q.5	a.	Define List and Tuple? With proper syntax and examples explain the operator in List.	4	L1 CO1
	b.	Differentiate between List and Tuples.	10	L2 CO2
	c.	Discuss how indexing and slicing is done tuples	6	L1 CO1
OR				
Q.6	a.	Define Sets and Dictionary? What are the characteristics of sets?	8	L1 CO1
	b.	With examples discuss the different methods used on sets.	4	L1 CO1
	c.	With snippets explain the methods of dictionary.	8	L1 CO1
Module – 4				
Q.7	a.	Explain the operations done on numpy array.	10	L2 CO1
	b.	How to manipulate numpy array through indexing slicing and iterating.	10	L2 CO1
OR				
Q.8	a.	Describe how Array data is read and written to files.	10	L1 CO1
	b.	Explain the two datastructures of pandas.	10	L2 CO2
Module – 5				
Q.9	a.	Discuss Reading data in CSV or Text-files.	10	L1 CO1
	b.	Explain Reading and Writing data on Microsoft Excel files.	10	L2 CO2
OR				
Q.10	a.	Explain briefly Data preparation in pandas.	10	L1 CO1
	b.	With examples, explain the built-in methods for manipulation of strings.	10	L2 CO2
