(II) 09/10/2025

NEP - Semester End Examination – October 2025

Program: SY.B.SC.IT SEM-III **Course:** Python for AI

Program Code: UGIT01 **Course Code:** NUIT301

Duration: 1 Hour **Max. Marks:** 30

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Draw neat diagrams wherever necessary.

Q. 1		Attempt any THREE of the following. (5 Marks each)	[15]	Course Outcome	Knowledge Level
	(a)	Describe five features of the Python programming language.		CO1	L2
	(b)	Define an array and its types. Illustrate any five aggregate functions of arrays with suitable examples.		CO3	L3
	(c)	List any five operators in Python. Explain them in detail with examples.		CO5	L2
	(d)	Analyze and implement a Python program that accepts a number from the user and computes its factorial using a loop.		CO4	L4
	(e)	Evaluate and write a Python program to determine the largest number among three numbers, ensuring it handles both positive and negative values.		CO2	L5
	(f)	Design and develop a Python program that demonstrates at least five operators in Python (arithmetic, relational, logical, assignment, membership). Justify their usage with suitable examples.		CO5	L6
Q. 2		**Attempt any THREE of the following. (5 Marks each)**	**[15]**	**Course Outcome**	**Knowledge Level**
	(a)	Construct a Python program to: • Create a list named lst1. • Accept any 10 elements from the user and store them in the list. • Delete the 4th element of the list. • Update the 5th element of the list		CO3	L2
	(b)	Define a tuple with syntax. Explain any five built-in tuple functions with examples.		CO4	L3
	(c)	Explain the use of comments in Python. Write examples of single-line and multi-line comments		CO1	L2
	(d)	Differentiate between built-in and user-defined functions in Python.		CO2	L4
	(e)	Define regular expressions in Python? Explain sequence characters (like \d, \w) and special characters (*, +, ?) with examples.		CO5	L4
	(f)	Analyze the foundations of Artificial Intelligence (AI) and evaluate the state-of-the-art AI technologies today. Discuss their applications and impact on real-world problems.		CO1	L5

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