R18

Code No: 155CX

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year I Semester Examinations, March - 2024

PRINCIPLES OF PROGRAMMING LANGUAGES

(Common to CSE, IT)

Time: 3 Hours **Max. Marks: 75**

Note: i) Question paper consists of Part A, Part B.
ii) Part A is compulsory, which carries 25 marks. In Part A, Answer all questions.
iii) In Part B, Answer any one question from each unit. Each question carries 10 marks and may have a, b as sub questions.

PART – A

(25 Marks)

1.a)	List the evaluation criteria for Principles of Programming Languages.	[2]
b)	Define syntax and semantics with an example.	[3]
c)	What is the scope and life time of a variable? Explain.	[2]
d)	Give an example for an associative array.	[3]
e)	Write the design issues of Subprograms.	[2]
f)	Compare closures and coroutines.	[3]
g)	What is the use of Semaphores?	[2]
h)	Explain the concept of Concurrency.	[3]
i)	Outline the applications of Logic Programming.	[2]
j)	Define Pragmatics with an example.	[3]

PART – B

(50 Marks)

2.a)	Explain about various programming domains and their features.	
b)	Discuss about the Programming Environments.	[5+5]
	OR	
3.a)	Explain in detail about attribute grammars with examples.	
b)	What are the tradeoffs in design of a Language?	[5+5]
4.a)	Distinguish between tuple types and list types.	
b)	What is meant by type equivalence? Explain with an example.	[5+5]
	OR	
5.a)	Demonstrate the working process of Iterative statements in detail.	
b)	Give an example for overloaded operators with brief explanation.	[5+5]
6.a)	Describe the methods of implementing dynamic scoping.	
b)	Illustrate different parameter passing methods with examples.	[5+5]
	OR	
7.a)	Discuss how subprogram names are passed as parameters with examples.	
b)	What is parameterized ADT? How Java supports parameterized ADT?	[5+5]

8.a) What advantages do monitors have over semaphores? Discuss.
b) Explain statement level concurrency with an example. [5+5]

OR

9.a) Describe the operations performed using message passing.
b) Discuss how Events are handled in C# and Java. [5+5]

10.a) Explain the basic primitives of LISP. Give suitable examples.
b) Write detailed note on mathematical functions. [5+5]

OR

11.a) What are the variables and bindings supported in Python?
b) Differentiate between procedural abstraction and data abstraction with examples. [5+5]

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