Code No: 115AN

R13

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech III Year I Semester Examinations, May - 2018
PRINCIPLES OF PROGRAMMING LANGUAGES
(Computer Science and Engineering)

Time: 3 hours

Max. Marks: 75

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A

(25 Marks)

1.a)	In what way do operational semantics differ from denotational semantics?	[2]
b)	A programming language can be compiled or interpreted. Give relative advantages and disadvantages of compilation and interpretation.	[3]
c)	Define Union type.	[2]
d)	How pointers are represented and used in C and C++?	[3]
e)	What are the different categories of subprograms?	[2]
f)	Give a brief note on Scope and lifetime of variable.	[3]
g)	What is the purpose of the Java Finally clause?	[2]
h)	Explain the applications of logic programming.	[3]
i)	Write about functions in ML and Haskell.	[2]
j)	Discuss the storage and Control in python.	[3]

PART - B

(50 Marks)

2.a)	What is need for study of programming languages? Explain.	
b)	Describe the Programming Paradigms.	[5+5]
	OR	
3.a)	Define Ambiguity. Write short notes on attributed grammars.	
b)	Explain briefly about the Denotational semantics with example.	[5+5]
4.	What is an array? Explain about various array operations with an example.	[10]
	OR	
5.a)	Explain the syntax of Ada Union Type.	
b)	List and explain the design issues for all iterative control statements.	[5+5]
6.	Describe the Design issues of subprograms and operations.	[10]
	OR	
7.a)	Briefly explain the static and dynamic scope.	
b)	What are the general subprogram characteristics? Explain.	[5+5]

8. Explain how Binary semaphore provides solution to the competition synchronization problem with example pseudo code. [10]

OR

9. What is exception handling? Explain about exception handling in Java. [10]

10.a) What is the difference between functional and imperative languages?
  b) Discuss the data types supported in Python. [5+5]

OR

11. Explain the common characteristics of the scripting languages. [10]

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