

Code No: 54028

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**B.Tech II Year II Semester Examinations, August/September- 2022****PRINCIPLES OF PROGRAMMING LANGUAGES****(Information Technology)****Time: 3 hours****Max. Marks: 75****Answer any five questions
All questions carry equal marks**

- 1.a) Give an overview of various programming domains.
- b) What are the various criteria for evaluating a programming language? Explain. [7+8]
- 2.a) Give the CFG for simple assignment statement and generate parse tree for $A=B*(A+C)$.
- b) What do you mean by an ambiguous grammar? Give an example of an ambiguous grammar and correct the grammar to generate an unambiguous version of the same.[7+8]
- 3.a) Give an overview of array types: the design issues specific to array types, array categories, array initialization, array operations and array implementation.
- b) Discuss on type checking, strong typing and type equivalence. [8+7]
- 4.a) Discuss the design issues specific to arithmetic expressions in detail.
- b) Give an overview of multiple-selection statements. [8+7]
- 5.a) Explain various parameter-passing methods in detail.
- b) Explain generic functions in C++. [8+7]
- 6.a) Discuss the design issues specific to Abstract Data Types.
- b) Describe semaphores and explain how semaphores provide competition synchronization. [7+8]
- 7.a) Discuss exception handling in Java.
- b) Describe the basic elements of Prolog. [7+8]
- 8.a) Distinguish between functional and imperative languages.
- b) Explain the fundamental concepts of LISP. [8+7]

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