

Roll No.2021218211.....

Total Pages : 03

BT-3/D-22

43138

PRINCIPLES OF PROGRAMMING
LANGUAGES
ES-227A

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Unit I

1. (a) Discuss about the various attributes of a good language and explain the process of evaluating attributes with an example. 7.5
- (b) What is interpretation and translation process ? With neat diagram state the purpose of each activity in language processing with interpretation and translation. 7.5
2. (a) What is meant by type checking ? Differentiate between static type checking and dynamic type checking and give their relative advantages. 5

- (b) Discuss various primitive data types with suitable examples. 5
- (c) What are the difficulties in using an attribute grammar to describe all of the syntax and static semantics of a contemporary programming language ? 5

Unit II

3. (a) What do you mean by structural data types ? Give specifications of any *two* structural data types. 7.5
- (b) Define Vectors, Union, Records and Sets. Explain the usage of these with an example. 7.5
4. (a) Define subprogram. What are the distinct categories of sub-programs ? 7.5
- (b) What are abstract data types ? What is the need of declaring abstract data type ? 7.5

Unit III

5. (a) What is the difference between implicit and explicit sequence control ? Explain using suitable examples. 7.5
- (b) Discuss the reasons for using exception handlers in a programming language. Explain the basic concepts of exception handling. 7.5

6. What is Synchronization ? Explain how synchronization can be achieved using semaphores using suitable examples.

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Unit IV

7. Differentiate between the following :

- (a) Heap and Stack Storage Management
- (b) Variable and Fixed Size Elements.

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8. Compare the functional programming languages with Object Oriented programming languages. Also differentiate between C and C++ programming languages.

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