Total No. of Questions :5] *[Total No. of Printed Pages : 2*

Roll No .....

CS - 602

B.E. VI Semester

Examination, June 2016

Principles of Programming Languages

Time : Three Hours

Maximum Marks : 70

Note: i) Answer five questions. In each question part A, B, C is compulsory and D part has internal choice.

ii) All parts of each question are to be attempted at one place.

iii) All questions carry equal marks, out of which part A and B (Max. 50 words) carry 2 marks, part C (Max. 100 words) carry 3 marks, part D (Max. 400 words) carry 7 marks.

iv) Except numericals, Derivation, Design and Drawing etc.

Unit - I

1. a) Explain general syntactic criteria.
   b) What are the advantages of using pure interpretation?
   c) What do you mean by a general purpose language? Is C a general purpose language?
   d) How do you describe the meaning of program using operational semantics? Explain with suitable examples and compare it with denotational semantics.

Or

Explain language evaluation criteria and the characteristics that affect them.

Unit - II

2. a) What do you mean by Aliasing and Overloading?
   b) Explain the relationship between variant record and union.
   c) What is the scope of a loop parameter in ADA? Compare it with static and dynamic scope?
   d) Explain the following terms:
      i) Type checking ii) Coercion
      iii) Type compatibility iv) Exception handling

Or

Explain control dependencies and data dependencies. In compiler theory, what factors are to be considered for loop dependence analysis?

Unit - III

3. a) What do you mean by co-routines?
   b) Define the terms: Scope and Lifetime.
   c) Explain various components of referencing environment.
   d) Explain procedure of encapsulation and message passing in programming language.

Or

Consider the example program, discuss the call by reference and call by value:

```
Swap (a[i], a[j])
What happens if i = j?
Swap (int x, int y)
{x = x+y;
y = x–y;
x = x–y;}
```

Unit - IV

4. a) What is the need of abstraction?
   b) How objects are created in perl?
   c) Explain the concept of interface and delegates in C#.
   d) What are threads? How do you create a thread in C#? Also explain various states of a thread.

Or

What is monitor? What are its advantages and disadvantages over semaphores?

Unit - V

5. a) Explain the features of 4GL.
   b) Write the applications of logic programming.
   c) Write the working procedure of exception handling in C++.
   d) Explain various forms of expression evaluation used in functional programming.

Or

Explain the use of predicate calculus in logic programming.

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