

4E4165

Roll No. _____

Total No of Pages: **4****4E4165****B. Tech. IV Sem. (Main/Back) Exam., June/July-2014****Computer Engg.****4CS6 Principles of Programming Languages****Common with IT****Time: 3 Hours****Maximum Marks: 80****Min. Passing Marks: 24****Instructions to Candidates:-**

Attempt any five questions, selecting one question from each unit. All Questions carry equal marks. Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly.

Units of quantities used/ calculated must be stated clearly.

Use of following supporting material is permitted during examination.

(Mentioned in form No.205)

1. _____

2. _____

UNIT-I

Q.1. (a) What do you mean by programming paradigm? Explain different programming paradigm with example. [10]

(b) Describe following properties [6]

(i) Orthogonality

(ii) Reliability

OR

Q.1. (a) Explain the different stages involved in language translation. [10]

(b) Distinguish between static binding and dynamic binding. [6]

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UNIT-II

- Q.2. (a) Explain representation and implementation of following data types- [8]
- (i) Integer Data type
 - (ii) Real Data type
- (b) What is type equivalence? Explain its variations with example. [8]

OR

- Q.2. (a) Describe the implementation and specification of sequential and direct access file with suitable example. [8]
- (b) What is variant record? Give syntax to declare variant record. [4]
- (c) Write short note on sets. [4]

UNIT-III

- Q.3. (a) What do mean by structured sequence control? Also discuss the problems in structural sequence control. [8]
- (b) Differentiate between: [8]
- (i) Subroutine & Macro
 - (ii) Subroutine & Coroutine

OR

- Q.3. (a) Differentiate between: [6]
- (i) Implicit & Explicit sequence control
 - (ii) Substitution and unification
- (b) Explain exception handling. [10]

UNIT-IV

Q.4. What is the role of parameter passing in subprogram invocations? Consider following code:

[16]

```
Void swap (int a, int b)
{
    int temp = a ;
    a = b ;
    b = temp ;
}

Void main ( )
{
    int list [5] = {1, 3, 5, 6, 10};
    Value = 15 ;
    swap (value, list [0]);
    swap (list [0], list [2]);
    swap (value, list [3]);
}
```

Consider different methods of parameter passing find the values of variable value and list after each call of swap function.

OR

Q.4. Write short note on -

[16]

- (i) Encapsulation
- (ii) Information hiding
- (iii) Static and dynamic scop of identifier
- (iv) Formal and actual parameter

UNIT-V

Q.5. Differentiate between static and dynamic storage Management approaches.

[16]

OR

Q.5. Explain following – (any two)

[16]

- (a) Garbage collection Algorithm
- (b) Variable Block Allocation
- (c) Phases of storage Management

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