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4E2014

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4E2014

B. Tech. (Sem. IV) (Main & Back) Examination, June/July - 2011
Computer Engg.

4CS1 Principal of Programming Language
(Common for Computer Engg. 4CS1 & Information
Technology 4IT6.2 Branch)

Time : 3 Hours]

[Total Marks : 80
[Min. Passing Marks : 24

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. _____ Nil _____

2. _____ Nil _____

UNIT-I

- 1 (a) Discuss issues in language designing with example. 8
- (b) Explain analysis synthesis stages in language translation. 8

OR

- 1 (a) What is Parse tree ? Explain with example : 6
 - (b) Explain following :
 - (i) CFG
 - (ii) BNF Grammer.
- 5×2=10

UNIT-II

- 2 (a) What are Arrays ? Write address calculation functions for an element of 2-D array. 8



- (b) What is an elementary data type ? Explain with their specification and implementation.

8

OR

- 2 (a) Explain types and error checking. And also compare static and dynamic checking.

8

- (b) Explain followings with example :

- (i) List
(ii) Union.

4×2=8

UNIT-III

- 3 (a) What is sequence control ? With the help of an example show the sequence control between statements of a sub program.

8

- (b) Define exception. How exception handler works, explain with example.

8

OR

- 3 (a) Explain subprogram with its definition and activation. Give an example of recursive subprogram.

8

- (b) Define parameter. Explain methods for parameter transmission between subprograms.

8

UNIT-IV

- 4 (a) What is Information hiding ? Explain encapsulation with example.

8

- (b) Discuss briefly the heap storage management for variable size elements.

8

OR

- 4 (a) What is the importance of storage management of data ? Explain Garbage collection.

8

- (b) Explain stack-based storage management with example.

8



UNIT-V

- 5 Describe main characteristics of parallel programming ? What are their application areas ? How expressions are evaluated in parallel programming language ? Explain.

16

OR

- 5 Explain following with example :
- (a) Threads
 - (b) Monitor.

8×2=16