

TCS-504

286

Printed Pages : 4

Paper Code & Roll No. to be filled in your Answer Book

Roll No.

Odd Semester Examination-2016

B.Tech (Semester-V)**PRINCIPLES OF PROGRAMMING
LANGUAGES**

[Time : 2 Hours]

[Maximum Marks : 50]

Note : Attempt all questions.1. Attempt **any four** questions : [3×4=12]

- (a) What are the general characteristics of programming language? Explain each.
- (b) Describe the concept of orthogonality in programming language design.
- (c) Some languages notable C and java distinguish between lowercase and uppercase in identifiers. What are the pros and cons of this design language?
- (d) Give the accessing formula for computing the location of component A(I)(J) of a matrix A

TCS-504/1460

(1)

[P.T.O.]

declared as $\text{int A}[m][n]$ where m and n are constants and A is stored in row major order?

- (e) When and why dynamic type checking and static type checking are performed? Give major advantages using type checking operation.

2. Attempt **any four** questions : [3×4=12]

- (a) Consider a procedure SWAP declared as follows :

```
void swap (int x, int y)
```

```
{
```

```
int t ;
```

```
t=x;
```

```
x=y;
```

```
y=t;
```

```
}
```

Assuming that parameters are passed as value, discuss why the values of actual parameters are not exchanged with this procedure?

- (b) Show a situation during execution where a data object of that type exists that is neither a variable nor a constant?
- (c) What do you mean by software simulated computer? Explain.
- (d) Explain subprogram definition and subprogram activation. Explain the implementation of subprogram activation and definition.
- (e) Differentiate between data flow language and object oriented language.

3. Attempt **any two** questions : [6×2=12]

- (a) Explain the various programming language processors with example.
- (b) What do you mean by prototypes? Explain the importance of prototype in programming language.
- (c) On the basis of execution time and storage requirement compare compiler and interpreter.

4. Attempt **any two** questions : [7×2=14]

- (a) Write a short note on the following :
 - (i) Static storage management

(ii) Heap based storage management

(b) What do you mean by general purpose and special purpose language? Compare general purpose and special purpose programming language with the help of any language?

(c) Compare the languages like C, PASCAL and LISP on the basis of the following :

(i) Program structure

(ii) Parameter passing scheme

(iii) Scope Rules

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