B.Tech. – VIEP – COMPUTER SCIENCE AND ENGINEERING (BTCSVI)

Term-End Examination

December, 2015

BICS-015 : PRINCIPLES OF PROGRAMMING LANGUAGES

Time : 3 hours   *Maximum Marks : 70*

*Note : Attempt any **seven** questions. All questions carry equal marks.*

1. (a) Write the major factors that influence the development of programming languages and give a brief overview of programming language development.   7

    (b) What do you mean by fourth generation languages (4GL) ?   3

2. (a) How is inheritance different from overloading ?   5

    (b) Compare 'C' and 'C++' programming languages.   5

3. (a) What are the salient features of functional languages ? Explain with help of suitable examples.   5

(b) How will you prevent side-effect in parameter passing ? Can it be done using pass by value or pass by reference or pass by name ? 5

4. (a) Define the following Prolog terms : 5

(i) Clause

(ii) Fact

(iii) Query

(b) What is meant by unification ? How is it used in logic programming ? 5

5. (a) Why is Java known as pure object oriented programming language ? 5

(b) Differentiate between 'C' and 'Java'. 5

6. (a) In a program, show base class, derived class and abstract class. 5

(b) Describe polymorphism using an appropriate example. 5

7. (a) Show the working of break and continue statements in Java. 5

(b) Why do we use an array ? Describe its types with the help of suitable examples. 5

8. (a) Describe the salient features of LISP. 5

(b) What is ADA ? List various datatypes in ADA. 5

9. (a) Explain the necessity for four divisions of a COBOL program. *5*

(b) Define the Add statement and Divide statement in COBOL. What is the use of COMPUTE verb ? *5*

10. Write short notes on the following :

(a) Sequential File Organization *5*

(b) Von Neumann Bottleneck *5*

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