C 80694

(Pages : 2)

Name...................

Reg. No...................

FOURTH SEMESTER B.TECH. (ENGINEERING) (09 SCHEME) DEGREE EXAMINATION, APRIL 2015

CS 09 404/PTCS 09 403—PROGRAMMING PARADIGMS

Time : Three Hours

Maximum : 70 Marks

Part A

Short answer questions (one / two sentences).
All *questions are* **compulsory.**

1. Write context-free grammar describing the syntax for the sequences of letters or digits starting with a letter.

2. Define Polymorphism.

3. What are the advantages of functional programming ?

4. What is meant by synchronization ?

5. Mention the advantages of concurrent programming.

(5 × 2 = 10 marks)

Part B

Analytical / Problem solving questions.

1. What is Abstract syntax tree ? Explain with an example.

2. Explain the role of Programming Language.

3. Explain the operators used for dynamic memory allocation with examples.

4. Explain the constructors and destructors.

5. Define List type and operations on list.

6. What is a cut in PROLOG ? Explain its uses.
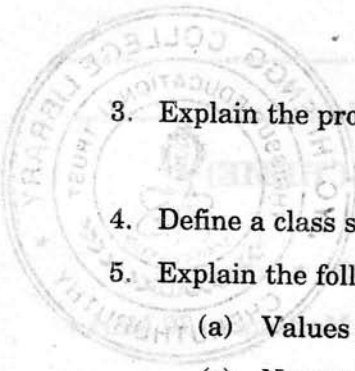
(4 × 5 = 20 marks)

Part C

Descriptive / Analytical / Problem solving questions.

1. Explain the following parameter passing methods with an example in C++

   (a) Call by value ;   (b) Call by reference ;

   (c) Call by value result ;   (d) Call by name.

Or

2. What is context-free grammar ? Explain its representation with an example.

Turn over

3. Explain the program design with modules.

Or

4. Define a class stack implementing the methods to perform various operations on stack.

5. Explain the following concepts with respect to functional programming :—

    (a) Values ;   (b) Types ;

    (c) Names ;   (d) Functions.

Or

6. Define a class list and write its basic methods.

7. Discuss the methods for synchronized access to shared variables.

Or

8. Discuss the features of PROLOG.

                                                            (4 × 10 = 40 marks)