[6261]-39

S.E. (Computer Engineering)
PRINCIPLES OF PROGRAMMING LANGUAGES
(2019 Pattern) (Semester- IV) (210255)

Time : 2½ Hours]   *[Max. Marks : 70*

Instructions to the candidates:

1) *Attempt Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.*

2) *Figures to the right indicate full marks.*

3) *Neat diagrams should be drawn wherever necessary.*

4) *Assume suitable data if necessary.*

Q1) a) Explain why Java is secured, portable and Dynamic? Which of the concept in Java ensures these? **[8]**

b) What are strings in java? Explain following operations of class strings in java with example. **[9]**

    i) To find length of string

    ii) To compare strings

    iii) Extraction of characters from string

    iv) To search a substring

OR

Q2) a) What is constructor? Show with exmaple the use and overloading default, parameterized and copy constructor? **[8]**

b) What do you mean by method overloading? Demonstrate through a program in Java how method overloading is used to add two integers and three integers respectively. **[9]**

Q3) a) What is inheritance? What are advantages of using inheritance? Show by example the simple inheritance in Java? **[9]**

b) Explain with example how the access protection is provided for packages in java? **[9]**

OR

P.T.O.

Q4) a) What are uncaught exceptions? Illustrate with example the use of try( ), catch( ) and throw( ) methods in exception handling? **[9]**

b) Differentiate between character streams and byte streams with examples. **[9]**

Q5) a) Differentiate between process and thread. What are various stages of thread lifecycle? **[8]**

b) Write a JavaScript program to develop a simple web application? **[9]**

OR

Q6) a) Explain is Alive( ) and join( ) methods in multithreading. **[8]**

b) Explain features of AngularJS and ReactJS? **[9]**

Q7) a) What is recursion? Write a lisp function to calculate power of a number using recursion and iteration. **[9]**

b) Explain with example how to use structures in prolog? **[9]**

OR

Q8) a) What is predicate in LISP? Explain any 5 predicates with example. **[9]**

b) What is clause in prolog? Explain types of clauses with example. **[9]**

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