

Total No. of Questions : 8]

SEAT No. :

**PB3632**

**[6261]-39**

[Total No. of Pages :2

**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 exmample 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]

