Total No. of Questions : 8] **SEAT No. :**

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[5869]-280

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 Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Assume suitable data if necessary.***

Q1) a) Describe primitive data types. List the primitive data types in Java and their respective storage capacity. **[6]**

b) Write short notes on Java Virtual Machine(JVM) with diagram. **[6]**

c) State the uses of the final keyword in Java?. **[6]**

OR

Q2) a) Define String in Java. Explain following operations of class strings in Java with example. **[6]**

i) To find length of the string

ii) To compare two strings

iii) To extract a character from a string

iv) To concatenate two strings

b) Explain Java's role in Internet. Justify the following features of Java. **[6]**

i) Secure

ii) Architectural Neutral

iii) Distributed.

c) Summarize different access controls in Java. Explain the situation if you remove static modifier from the main method. **[6]**

Q3) a) State the difference between character and byte stream in Java. Give any two input and any two output classes for character streams. **[6]**

b) Describe Exception. Explain keywords try, catch, throw, throws and finally related to exception handling. **[6]**

c) Define package and interfaces in Java? Explain it with suitable example. **[5]**

OR

P.T.O.

Q4) a) Define is inheritance. List the advantages of Inheritance. Explain Simple inheritance in java with example. **[6]**

b) Elaborate the significance of key word "Super" in Java. Demonstrate with example for Super keyword in Java constructor. **[6]**

c) State the importance of finally blocks. Illustrate the ways finally block differ from finalize() method. **[5]**

Q5) a) Interpret the terms multitasking and multiprocessing and multithreading in Java with example. **[6]**

b) List the Features, advantages and limitations of Angular JS. **[6]**

c) Write the JavaScript code to create Login page Form. **[6]**

OR

Q6) a) Compare React JS and Angular JS and Vue JS. **[6]**

b) Elaborate the terms getPriority() and setPriority() methods with example. **[6]**

c) Explain the uses of isAlive() and Join() methods in Java thread with example. **[6]**

Q7) a) Describe Functional Programming. Enlist its features. Also list the commonly used functional programming languages. **[6]**

b) Write sequences of CAR's and CDR's that will pick the atom pear our of the following s-expression : **[6]**

i) (apple orange pear grapes)
ii) ((apple orange) (pear grapes))
iii) (((apple)(orange) (pear) (grapes)))

c) Explain the concept of "Structures" in Prolog with example. **[5]**

OR

Q8) a) Describe Logical Programming. Enlist its features. Also list the commonly used Logical programming languages. **[6]**

b) Write a LISP program to find the factorial of n numbers using recursion concept. **[6]**

c) Explain the following number predicates using suitable example. **[5]**

i) NUMBERP
ii) ZEROP
iii) PLUSP
iv) EVENP
v) ODDP