Seat No.	

[5352]-570

S.E. (COMPUTER ENGG.) (II-Sem.) EXAMINATION, 2018

PRINCIPLES OF PROGRAMMING LANGUAGES

(2015 COURSE)

Time : Two Hours   **Maximum Marks : 50**

N.B. :—   (*i*)   *All* questions are compulsory.

(*ii*)   Figures to the right indicate full marks.

1.   (*a*)   What is an Applet ? Write a generic Skeleton of Java Applet and explain the use of each block.   [7]

(*b*)   State with example the use of the following built in exceptions in Java :

(1)   IndexOutOfBoundsException( )

(2)   NullPointerException( )

(3)   ArrayIndexOutOfBoundsException( )   [6]

Or

2.   (*a*)   What is the use of CharacterArrayReader() and CharacterArrayWriter() methods in Java ? Write a program which reads string of 10 characters from the user. Program extracts and prints the substring from the given string using above methods.   [7]

(*b*)   What is difference in character and byte streams in Java ? Give any *two* input and any *two* output classes for character streams.   [6]

P.T.O.

3. (*a*) What is inheritance ? What are advantages of using inheritance ? Show by example the simple inheritance in Java. [7]

(*b*) Explain the following Java concepts and state the difference with examples : [6]

    (1) Interface and Abstract class

    (2) Static and Dynamic Dispatch.

Or

4. (*a*) What is use of Constructors ? What are types of constructors in Java ? Give example of each type. [7]

(*b*) Explain the concepts and sate the difference in the following with examples : [6]

    (1) Method Overloading and Overriding

    (2) Applet and Console Program.

5. (*a*) What are steps of software development process SDLC (Waterfall Model) ? Why the use of this model is necessary in software development ? [6]

(*b*) Explain how data is handled in programming languages. Give the type structure of ADA Language. [6]

Or

6. (*a*) What do you mean by Syntax ? State and draw the EBNF definition for Syntax Rules. [6]

(*b*) Explain with example the use of the following data aggregates to construct compound data types : [6]

    (1) Sequencing

    (2) Cartesian Product.

7. *(a)* What is generic programming ? How C++ offers generic programming constructs ? Give example. [6]

(b) Explain why Java is Secured, Portable, and Dynamic ? Which of the concepts in Java ensures these ? [6]

8. *(a)* What is the advantage of grouping Units ? Explain the constructs in C++ based on grouping of Units. [6]

(b) Write a program in Java using switch-case statement to perform addition, subtraction, Multiplication and Division of given two numbers and print the result. Does the program generate any exception ? [6]