CHRIST DEEMED TO BE UNIVERSITY, Bengaluru - 560029

End Semester Examination November/December - 2021 Bachelor of Computer Applications III SEMESTER

Code: BCA333 Max.Marks: 100
Course: OBJECT ORIENTED PROGRAMMING USING JAVA Duration: 3Hrs

SECTION A

Answer ALL the questions

10X2 = 20

- 1 Is java a platform independent language? Justify your answer.
- 2 How is run time polymorphism achieved in Java?
- 3 How will you declare three-dimensional arrays in java?
- 4 How will you control access to class members?
- **5** Why do we sometimes use final keyword with Inheritance?
- 6 What is the difference between String and StringBuffer classes?
- 7 Can we declare an interface with abstract keyword?
- **8** What is an output stream in java?
- 9 Discuss the MVC architecture in Swing.
- 10 Which method is used to set the color of text in JavaFX?

SECTION B

Answer any FIVE questions

5X6=30

- 11 Develop a program in Java to do the following tasks in the given one-dimensional integer array. a) the smallest integer in the array b) sum of the even numbers in the array c) count of prime numbers in the array.
- 12 Write a Java program to sort an array in ascending order.
- Design a class Test with the following data members str A variable to store a string. Num - a variable to store an integer number Define the following member functions in the Test class read() - read values to the data members powerDigit() - To find the sum of the square of the digits of the given number and display the sum on screen. reverse()-to reverse the string and display the result.
- 14 Develop a Java program to copy the contents of one file to another.
- 15 Explain Multithreading in Java with a suitable example.
- 16 Explain any three methods in Frame class.
- 17 What is new in JavaFX?

SECTION C

Answer any FIVE questions

5X10=50

- **18** Develop a program in Java to print the following pattern.
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 - ***
 - ***
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- 19 Write a program in Java to demonstrate the relevance of "this" keyword.
- An Advertisement company keeps the main information about the advertisement such as advertisement_id, client_name, start_date of advertisement in a class called Advertisement. From this class derive two classes: Commercial_Add and Free_Add. Commercial_Add class keeps the additional information such as size_of_add in cm and prize_of_add per cm. Free_Add class adds free_add_time_duration (in months). Each of these three classes should have a read()to read its data from the user through the keyboard, and a display()Â function to display its data on the

screen. In each class, at least one parameterized constructor is required to explain the meaning of passing parameters from a child class constructor to parent class constructor. Implement the above classes in Java.

- 21 Write a program to throw the StringIndexOutOfBoundsException.
- 22 Illustrate the relevance of interface with help of an example.
- 23 Explain different OutputStream classes in java.
- 24 a. Explain JTextField and JTextArea classes. b. Write a note on the JLabel class.