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**Question Paper Code: 54202**

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2018

Fourth Semester

Computer Science and Engineering

15UCS402 - JAVA PROGRAMMING

(Regulation 2015)

(Common to Information Technology)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (5 x 1 = 5 Marks)

1. Which will legally declare, construct, and initialize an array? CO1- R  
(a) `int [ ] myList = {"1", "2", "3"};`                      (b) `int [ ] myList = (5, 8, 2);`  
(c) `int myList [ ] [ ] = {4,9,7,0};`                      (d) `int myList [ ] = {4, 3, 7};`
2. Which of these keyword must be used to inherit a class? CO2- R  
(a) `super`                      (b) `this`                      (c) `extent`                      (d) `extends`
3. The user defined exceptions must extend which of the following class? CO3- R  
(a) `Error`                      (b) `UserDefinedException`                      (c) `Exception`                      (d) `Throwable`
4. Which of these class is used to read and write bytes in a file? CO4- R  
(a) `FileReader`                      (b) `FileWriter`                      (c) `FileInputStream`                      (d) `InputStreamReader`
5. Which of these methods can be used to determine the type of event? CO5- R  
(a) `getID()`                      (b) `getSource()`                      (c) `getEvent()`                      (d) `getEventObject()`

PART – B (5 x 3= 15Marks)

6. Give an example for method overloading. CO1- U
7. What is final modifier? CO2- R
8. Define Exception and how java handles exception CO3- U
9. Compare byte stream and Character stream CO4- U

## PART – C (5 x 16= 80Marks)

11. (a) (i) "Java is called Machine Independent language" - Justify this statement with proper explanation. CO1- App (8)
- (ii) Define a class. What is the general form of a class? How objects are declared? Explain with an example. CO1- U (8)
- Or
- (b) (i) Why a constructor does not have any return type? Explain it with proper example. CO1- U (8)
- (ii) Explain how single -dimensional and multi- dimensional arrays are defined and used in Java. CO1- U (8)
12. (a) Create a class called Calculation with methods for addition and subtraction. Create another class My\_Calculation with a method for multiplication. The My\_Calculation class must inherit Calculation class so that objects of My\_Calculation class can do addition, subtraction, and multiplication operations CO2- App (16)
- Or
- (b) (i) Write a Java program to implement the stack ADT using interface. CO2- App (8)
- (ii) With an example explain the effect of using final keyword in inheritance. CO2- App (8)
13. (a) (i) Demonstrate the order of throwing exception objects between methods with suitable example CO3- Ana (8)
- (ii) Illustrate the throws clause with suitable. CO3- Ana (8)
- Or
- (b) (i) Discuss about how exceptions are handled in Java and also write a Java program that raises an exception named Insufficient Fundsexception whenever a customer of a bank tries to withdraw an amount higher than the available amount. CO3- App (10)
- (ii) Explain bounded and unbounded wildcards in Generics Java. CO3- U (6)

14. (a) Write a method that takes a string and returns the number of unique characters in the string. It is expected that a string with the same character sequence may be passed several times to the method. Since the counting operation can be time consuming, the method should cache the results, so that when the method is given a string previously encountered, it will simply retrieve the stored result. Use collections and maps where appropriate. CO4- U (16)

Or

- (b) (i) Write a Java program to get the input from the user and store it into file. Use Reader and Writer file. CO4- App (8)
- (ii) Write a Java program that counts number of characters, words, and lines in a file. CO4- App (8)
15. (a) Create a form with three buttons such as red, green and blue buttons when you click on any one button then background color will change the appropriate color CO5- U (16)

Or

- (b) (i) Write a Java program to create and display a frame in swing. CO5- U (8)
- (ii) What is component and container in swing? Explain in detail. CO5- U (8)

