Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

**End Semester Examination – April/May– 2017**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
| **Code :** | **14CS2040** | **Duration :** | **3hrs** |
| **Sub. Name :** | **PROGRAMMING IN JAVA** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Q. No. | Sub Div. | Questions | Course  Outcome | Marks |
| 1. | a. | Write a java program to read two integer values (N1,N2) as command line arguments, and find the prime numbers between N1 and N2. | CO2 | 5 |
| b. | A retailer requires to automate the billing process of his retail business of selling products to his customers. He needs to maintain a reward system for his customers. The customers are classified into privileged customers and regular customers.  From this given scenario,   1. Identify all the classes, and discuss about object, class and encapsulation. 2. Identify the inheritance relationship and discuss. | CO3 | 10 |
| c. | Given: int m = 5; int n = 1; int x = -1; int y = 6; int z=0; Evaluate the following.   1. z = m<<n; 2. z = x>>y; 3. z = x >>> n; 4. z = m & y; 5. byte b = m + n; // this will create compile error. Write the correct statement. | CO2 | 5 |
| (OR) | | | | |
| 2. | a. | List the features of Java. | CO1 | 6 |
| b. | Write a java program to input an array of five integers. Read through the array using ‘for each’ version of the for loop and print whether each number is an Armstrong number or not. | CO2 | 7 |
| c. | Demonstrate the use of break and continue statement as a form of goto in java. | CO2 | 7 |
| 3. | a. | Write an application that prompts the user to enter a number to use as an array size and then attempt to declare an array using the entered size. If the array is created successfully, display an appropriate message. Java generates a NegativeArraySizeException if you attempt to create an array with a negative size, and a NumberFormatException if you attempt to create an array using a non numeric value for the size. Use a catch block that executes if the array size is non numeric or negative, displaying a message that indicates the array was not created. | CO2 | 10 |
|  | b. | Discuss about garbage collection in java and the use of finalize() method. | CO1 | 5 |
|  | c. | Discuss about various access specifiers in java. | CO1 | 5 |
| (OR) | | | | |
| 4. | a. | List three uses of final keyword. | CO3 | 3 |
|  | b. | Discuss about single inheritance and multilevel inheritance in java with appropriate example and demonstrate the use of super. | CO3 | 10 |
|  | c. | Write a java program that illustrates an overloading method that takes variable length argument. | CO3 | 7 |
| 5. | a. | Given: enum Fruits{ apple, orange, kiwi, mango, grape}   1. Apply the java library methods ordinal() & values() with the given enum and display the results. 2. Create an one argument constructor to assign the price for each fruits. 3. Write a method to access the price of each fruits. | CO5 | 8 |
|  | b. | List the wrapper classes. Differentiate autoboxing and auto-unboxing with an example. | CO1 | 8 |
|  | c. | Demonstrate four ways in which a String can be created. | CO5 | 4 |
| (OR) | | | | |
| 6. | a. | Given: String s1 = “Java”; String s2 = “Programming ”;  Use the following library functions to operate on the given Strings and show the result.  substring(), concat(), replace(), trim() | CO5 | 5 |
|  | b. | Create a java program to demonstrate interthread communication. | CO4 | 10 |
|  | c. | Discuss on thread priorities. | CO4 | 5 |
| 7. | a. | Write a java program to demonstrate serialization and deserialization. | CO4 | 8 |
|  | b. | Create a java program for client – server chat. | CO4 | 8 |
|  | c. | Differentiate InputStream and Reader. | CO2 | 4 |
| (OR) | | | | |
| 8. | a. | Write a java program to copy the contents of one file to another file. | CO2 | 7 |
|  | b. | Dicsuss about the life cycle of an Applet. | CO4 | 7 |
|  | c. | Assume, the following file is referring to the directory. From java directory, we want to access files that are of .ppt type among many other file types. Write a java program to implement a FileNameFilter interface and access only the .ppt files from the directory.  File file = new File(“/studies/java”); | CO4 | 6 |
|  | | **Compulsory:** |  |  |
| 9. | a. | Write a GUI based java application to do the following.   1. Create four buttons and place it in a Panel and arrange the components in Grid Layout (2 X 2). 2. Label the buttons with your favourite color. On click of the buttons, change the background color according to the label of the Button. | CO4 | 7 |
|  | b. | Write an applet to move the circle object from left to right. | CO4 | 7 |
|  | c. | Create an window based application, that provides options to input your name in a textfield, and select the gender(Male or Female) using radio buttons. Handle the event on selecting an option. | CO4 | 6 |

ALL THE BEST