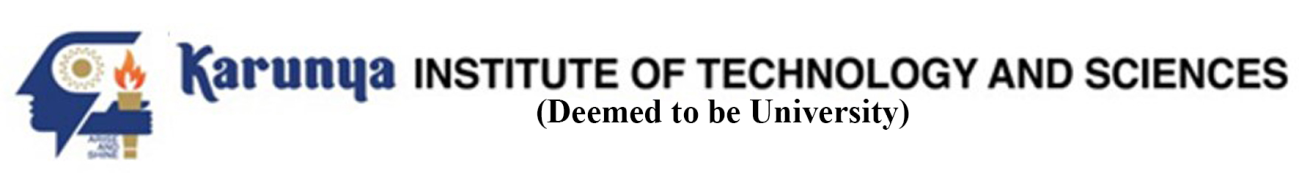
Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_



**End Semester Examination – Nov/Dec – 2018**

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

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

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Elaborate on the buzzwords in Java. | CO1 | 10 |
| b. | Write a program in Java to print the prime numbers within a given range. | CO1 | 10 |
| (OR) | | | | |
| 2. | a. | Briefly describe the various categories of operators in Java. | CO1 | 10 |
| b. | Write a program in Java to display the following pattern for ‘n’ number of rows.  1  1 2  1 2 3  1 2 3 4 | CO1 | 10 |
|  |  |  |  |  |
| 3. | a. | Write a program in Java to maintain the Book details in a library by using the concepts of constructors, getter/setter methods, and array of objects. The user has to be given the options to add, search and display book details. | CO1 | 10 |
| b. | Demonstrate the concept of dynamic method despatch with suitable example. | CO1 | 10 |
| (OR) | | | | |
| 4. | a. | Write a program in Java for employee management system by using the concepts of inheritance. The user has to be given the privileges to add new employee, display employee details & display pay slip. | CO1 | 10 |
| b. | Elaborate on method overriding with suitable example. | CO1 | 10 |
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| 5. | a. | Write a program in Java to calculate the area & perimeter of various shapes such as Circle, Rectangle & Square using the concept of interfaces. | CO1 | 10 |
| b. | Demonstrate the use of the following keywords.  i. abstract  ii. final | CO1 | 10 |
| (OR) | | | | |
| 6. | a. | Demonstrate the following String methods with necessary program.  i. length( ) ii. getChars( ) iii. getBytes( ) iv. substring( ) v. concat( )  vi. replace( ) vii. trim( ) viii. toUpperCase( ) ix. split( ) | CO1 | 10 |
| b. | Create an Enum named Fruit which contains five constant Fruit objects such as Apple, Orange, Kiwi, Strawberry and BlueBerry. Provide necessary field variables and methods in the enumeration to retrieve the cost of every fruit from a main class. | CO1 | 10 |
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| 7. | a. | Write a program in Java that executes three threads. First thread displays “Good Morning” every one second, the second thread displays “Hello” every two seconds and the third thread displays “Welcome” every three seconds. Create the three threads by extending the Thread class. | CO3 | 10 |
| b. | What is Synchronization? How do you achieve synchronization in multithreading. | CO3 | 10 |
| (OR) | | | | |
| 8. | a. | Describe the TCP socket programming with an example. | CO3 | 10 |
| b. | Assume a file “D:\science.txt” with textual contents. Write a program to copy the entire contents of the file to “E:\technology.txt” using File I/O. | CO3 | 10 |
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|  | | **Compulsory**: |  |  |
| 9. | a. | Discuss the following layout manager with suitable illustrations.  i) Flow Layout ii) Border Layout iii) Grid Layout | CO2 | 10 |
| b. | Design and develop a basic calculator using the concepts of Applets, Event Handling and AWT Controls. | CO2 | 10 |