END TERM EXAMINATION

THIRD SEMESTER [MCA] DECEMBER 2019

Paper Code: MCA 205	**Subject: Java Programming**
Time : 3 Hours	**Maximum Marks :75**

Note: Attempt five question in all including Q. No. 1 which is compulsory.

Q1.   Answer the following: **(2.5x10=25)**
- a)   Java is freeform language. Comment.
- b)   What is the role of wrapper classes in Java?
- c)   Write a note on CLASSPATH.
- d)   What is Object class? Explain 'toString' method of Object class.
- e)   List the methods under WindowListener Interface.
- f)   What is the difference between applications and applets?
- g)   List atleast six differences between Java and C++.
- h)   Explain user defined exceptions with an example.
- i)   What are the advantages of swings over AWT?
- j)   Describe the uses of "final" and "super" keywords with respect to inheritance.

Q2.   a)   Write an Applet to create the following structure: **(9)**

String   [   ]

Reverse [   ]

[SHOW]

When the user will click on 'Show' button, the string entered in 'String' Textbox should reverse and appear in the 'Reverse' Textbox.

b)   Explain the lifecycle of an applet.   **(3.5)**

Q3.   a)   Write a program in Java to add two complex numbers. Make use of a copy constructor in the program. Get the input from command line.   **(6)**

b)   What do you understand by run-time polymorphism? How is it achieved in java?   **(6.5)**

Q4.   Write a program to create a stand-alone AWT-based application which contains three checkboxes as RED, GREEN and YELLOW. Display the selected items in a textbox. Also change the background color of the window accordingly to that of the selected checkbox. (e.g. if RED checkbox is selected, change background to RED color).   **(12.5)**

Q5.   a)   What are the streams? What are the two broad categories of stream classes? Explain three methods of Random Access File Class.   **(7.5)**

b)   Differentiate between checked and unchecked exceptions.   **(5)**

Q6.   a)   Write a program to change the name and priority of the main thread and display the same.   **(6.5)**

b)   Write a note on class file format and sandbox model in Java virtual machine.   **(6)**

Q7.   Write notes on **any two** of the following: **(6.25x2=12.5)**
- a)   The collection Framework
- b)   Remote method invocation
- c)   Java Foundation Classes

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