



Indian Association for the Cultivation of Science
(Deemed to be University under *de novo* Category)

Integrated Bachelor's and Master's Program
End-Semester Examination (Semester II-2020)

Subject: Object-Oriented Programming with Java
Full Marks: 50

Subject Code(s): MCS1201B
Time Allotted: 3 h

[Answer any five questions]

[5*10=50]

- ✓ 1. a) Differentiate between "Final", "Finally" and "Finalize" statements.
b) Compare throw statement in Java with throws statement.
[6+4]
- ✓ 2. a) How is String class different from StringBuffer class? Write a program in Java to find the length of a given string.
b) Explain each component of the statement "public static void main (String args[])".
[(3+3) +4]
- ✓ 3. a) Write a Java program to create a Teacher class and derive Professor/Associate_Professor/Assistant_Professor class from Teacher class. Define appropriate constructor for all the classes. Also define a method to display information of Teacher. Make necessary assumptions as required.
b) What is private access specifier? Explain with an example, how it is different from public and protected access specifiers.
[6+ (1+3)]
4. a) Explain with the help of an example program, how objects can be passed as parameters in Java.
b) What is an Interface in Java? How are they different from abstract classes?
[5+ (2+3)]
5. a) Differentiate checked and unchecked exception
b) Explain the advantages and disadvantages of garbage collection.
c) Differentiate between method overloading and method overriding with an example.
[3+3+4]

- ✓6. a) Write a program in Java which reads the content of a given file and writes it to the console.
b) What is multithreading? Explain how does it help Java in its performance?
c) Explain use of keyword this with the help of program?
- [4+ (1+2) +3]

- ✓7. a) Explain the different steps in the life cycle of an applet.
b) Write an applet that draws circle, a line, and a polygon inside the applet's visible area.
c) What is final keyword? Explain different uses of final in Java.
- [3+3+ (1+3)]