Odd Semester, 2020

(Held in March, 2021)

COMPUTER SCIENCE

(Honours)

(CS–502 CT)

(Object Oriented Programming through Java)

Marks : 38

Time : 2 hours

The figures in the margin indicate full marks for the questions

Answer **one** from each Unit

UNIT—I

1. *(a)* Which object-oriented concepts are implemented through creation of classes and method overriding? 2

(b) What is the importance of bytecode in Java? 2

(c) What is a constructor? When is it mandatory to provide a no-argument constructor? 2+2=4

2. *(a)* Explain the different access control specifiers in Java with an illustrative example. 2+2=4

(b) What is the use of final keyword in relation to class data members? 1

(c) Differentiate among *break*, *continue* and *return* statements with an example. 3

UNIT—II

3. *(a)* How is the keyword *super* used in the context of constructors in subclasses? 2

(b) How are priorities of threads handled in a multithreaded program in Java? 2

(c) Distinguish between an abstract class and an interface with an example. 3½

4. *(a)* Explain the concept of polymorphism with an example. 4

(b) Explain the mechanism of exception handling in Java. 3½

UNIT—III

5. *(a)* Explain the process of crating a generic class and using this generic class to create objects. 2+2=4

(b) List two streams used for reading from and writing to files. 2

(c) Write the code to create an array of characters and then crate a string from this array. 1½

6. *(a)* Explain how the StringBuffer class is different from the String class. Discuss any three methods of the StringBuffer class with an example of each. 2+3=5

(b) What is the utility of a BufferedReader stream? 2½

UNIT—IV

7. *(a)* Explain the event-delegation model using Java. 4½

(b) How are applets different from Java applications? 3

8. *(a)* Explain with an example how parameters are passed to applets. 4½

(b) Explain the terms Anonymous Inner Class and Event Listener. 3

UNIT—V

9. Discuss the various steps involved in writing a client-server interaction using stream-based data transfer using TCP. Explain each step with the required Java code. 7½

10. *(a)* Explain how http requests are processed in a Java Servlet program. 4

(b) What is JDBC? Write a note on any two available JDBC drivers. 1+2½=3½

★ ★ ★