

Roll No. .... Total Pages : 2

8906

BT-5/D07

NETWORK PROGRAMMING

Paper-IT-355

Time : Three Hours] [Maximum Marks : 100

**Note :** Students are required to attempt *five* questions, selecting at least *one* question from each Unit.

UNIT-I

1. (a) Write a short note on "Byte code". 5  
(b) Explain garbage collection mechanism of JAVA. 5  
(c) Explain the super class "Object". What are its uses ?  
How will you over ride "to String" method of this class ? 10
2. (a) Explain the keyword "final" and its different uses. 5  
(b) How does String buffer class differ from the class String ? 5  
(c) Explain "Abstract classes" in JAVA and their use. 10

UNIT-II

3. (a) What is Producer-Consumer Problem ? How to solve it using Inter-Thread Communication ? 10  
(b) How do the interfaces help JAVA to achieve multiple inheritance ? 5  
(c) Explain Byte/Character streams of JAVA. 5

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4. (a) Explain the methods `isAlive` and `join` with an example. 5
- (b) Explain the difference between Error and Exception in JAVA. 5
- (c) What do you mean by Serializability ? Explain the Streams Object Input Stream and Object Output Stream. 10

### UNIT-III

5. (a) Write a short note on "Transactions". 5
- (b) "Applets have a life-cycle at client side". Explain. 5
- (c) Create an echo-server which sends back the data to client using TCP, with the class `Server Socket`. Also write a client program for it. 10
6. (a) Explain the class "Result Set Meta Data". 5
- (b) Give the names and uses of any 5 AWT classes. 5
- (c) How does Multi-threading help in Applets ? Explain with an example. 10

### UNIT-IV

7. (a) Write a program to handle Key-Events. 10
- (b) Write short note on JSP. 5
- (c) Explain the methods `init` and `destroy` of a servlet. 5
8. (a) Explain the concept of "Buffering" when servlets generate response. Give its API, advantages and disadvantages. 10
- (b) How do the servlets help in doing Background Processing ? 5
- (c) Give the advantages of servlets over CGI. 5