



US – 651

IV Semester B.C.A. Examination, May 2017  
(Y2K8 Scheme)  
**COMPUTER SCIENCE**  
BCA – 404 : Data Communications and Networks

Time : 3 Hours

Max. Marks : 100

**Instruction :** Answer all questions.

SECTION – A

Answer any 10 questions. Each question carries two marks. (10×2=20)

1. Define computer network. Write any one advantage of computer network.
2. What is topology ? Give an example.
3. Expand FTP and what for it is used ?
4. What is the purpose of using PING and IPCONFIG programs ?
5. What do you mean by amplitude and phase with respect to analog signals ?
6. What is MODEM ?
7. What do you mean by PIPELINING ?
8. What is framing ?
9. Expand CSMA/CD.
10. Explain in brief reservation controlled access method.
11. Define bridge. Name any two bridges.
12. Define the terms datagram and virtual circuits.

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## SECTION – B

Answer **any 5** questions. **Each** question carries **5** marks.

(5×5=25)

13. Explain LAN, MAN and WAN.
14. Differentiate between TCP/IP and OSI reference model.
15. Explain basic properties of digital transmission system.
16. What is ARQ protocol ? Explain STOP and WAIT ARQ protocols.
17. With neat diagram explain pure ALOHA protocol.
18. Explain IEEE 802.11 protocol stack.
19. What is routing ? Explain shortest path routing algorithm.
20. Explain internet addresses.

## SECTION – C

Answer **any 3** questions. **Each** question carries **15** marks.

(15×3=45)

21. a) Explain different goals of computer network.  
b) Explain the working of OSI reference model with neat diagram. (5+10)
22. a) Explain ASK, FSK and PSK with neat diagram.  
b) What do you mean by multiplexing ? Explain TDM with neat diagram. (8+7)
23. a) What is remainder obtained by dividing  $X^9 + X^7 + 1$  by generator polynomial  $X^5 + X^3 + 1$  ?  
b) What is parity check ? Explain block sum check method with example. (8+7)
24. a) Define channelization. Explain FDMA and TDMA.  
b) Explain FDDI token ring networking format. (8+7)
25. a) Explain leaky bucket congestion control algorithm.  
b) Explain operation of HTTP. (8+7)

## SECTION – D

Answer **any 1** question.

(10×1=10)

26. With neat diagram explain various transmission media.
  27. Explain sliding window flow control protocol and point to point protocol.
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