SA – 914

IV Semester B.C.A. Degree Examination, April/May 2015
(Y2K8 Scheme)
COMPUTER SCIENCE
BCA-404 : Data Communications and Networks
(100 Marks - 2012-13 and Onwards/90 Marks - Prior to 2012-13)

Time : 3 Hours Max. Marks : 90/100

Instructions : *1) Section **A, B** and **C** is common to **all**.*
*2) Section **D** is applicable to **only** the students who have taken admission in **2012-2013** onwards.*
*3) **100** marks for **fresh** students of **2012-2013** onwards. **90** marks for **repeater** students prior to **2012-13**.*

SECTION – A

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

1. What are the goals of computer network ?
2. Expand DNS and HTTP.
3. What are the various TCP/IP utilities ?
4. What is protocol ? Give example.
5. What is multiplexing ? What are the types of multiplexing ?
6. What is the difference between bit interval and bit rate ?
7. What is Nyquist signalling rate for a noiseless channel ?
8. What is piggy backing ?
9. What is the need for framing ?
10. What is channelization methods ?
11. What are the types of bridges ?
12. What is a repeater ?

SECTION – B

Answer **any five** questions. **Each** question carries **5** marks. **(5×5=25)**

13. List the essential elements of network architecture ? Explain.
14. Explain architecture of Telnet.
15. Explain Shannon channel capacity for a noisy channel.

P.T.O.

16. Compare analog and digital transmission.
17. Explain PPP phase diagram.
18. Explain the difference between FDMA and CDMA.
19. Write a short note on FDDI.
20. Write about packet switched network.

SECTION – C

Answer **any 3** questions. **Each** question carries **15** marks. **(15×3=45)**

21. a) What are the three different transmission modes ? Explain. **7**
    b) Explain TCP/IP model with a diagram. **8**
22. a) Explain unguided medium/wireless medium. **7**
    b) Write short notes :
       a) Hamming code
       b) CRC. **8**
23. Explain in detail the following CSMA protocols :
    a) 1-persistent
    b) Non-persistent
    c) P-persistent. **(5+5+5)**
24. Explain Go-Back-N-ARQ. **15**
25. a) Explain the working of frame format of token ring. **8**
    b) Write short notes :
       i) Shortest path algorithm
       ii) Distance vector algorithm. **7**

SECTION – D

Answer **any one** question. It is **applicable** for the students who have taken admission in **2012-13** onwards. **(10×1=10)**

26. Explain OSI reference model with neat diagram. **10**
27. Write short notes on :
    a) Congestion control
    b) Routers. **(5+5)**