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)

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