



MS – 579

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IV Semester B.C.A. Examination, May 2016
(Y2K8 Scheme)

COMPUTER SCIENCE

BCA – 404 : Data Communications and Networks
(100 – 2012 – 13 & Onwards / 90 – Prior to 2012 – 13)

Time : 3 Hours

Max. Marks : 100/90

- 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 – 13** Onwards.
3) **100** marks for **fresh** students of **2012 – 13** Onwards.
90 marks for **repeaters** students **prior to 2012 – 13**.

SECTION – A

Answer **any 10** questions. **Each** question carries **two** marks.

(10×2=20)

1. Define Encoding.
2. Define term error.
3. What is multiplexing ? Name them.
4. What is piggybacking ?
5. Define channelization methods.
6. Define bit rate and baud rate.
7. Define synchronous communication.
8. What is protocol ? Give example.
9. What is congestion ?
10. Define Topology. Give example.
11. What is switching ?
12. What is signal ?

P.T.O.



SECTION – B

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

(5×5=25)

13. Explain the need for multiplexing.
14. Differentiate between Analog and Digital Transmission.
15. Write short notes on FDDI.
16. Write about Message Switching.
17. What is Flooding ? State its advantages and disadvantages.
18. What is Routing Table ? Explain different types of Routing.
19. What are various goals of computer network ? *Explain.*
20. Differentiate between LAN and WAN.

SECTION – C

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

(15×3=45)

21. With a neat diagram explain.
 - a) Stop and wait ARQ. 7
 - b) Go Back N ARQ. 8
22. a) With a neat diagram explain various types of coaxial cables. 8
b) With a neat diagram explain SONET multiplexing. 7
23. a) Explain the Frame Format of IEEE 802.3 LAN. 8
b) Write short notes on :
 - i) Shortest path algorithm 4
 - ii) Distance vector algorithm. 3



24. With a neat diagram explain the following :

- a) Leaky Bucket algorithm. 7
- b) Token Bucket algorithm. 8

25. Explain in detail the following CSMA protocols :

- a) 1 – persistent
- b) Non – persistent
- c) P – persistent. (5+5+5)

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 CRC with an example. 10
 - 27. Explain OSI reference model with neat diagram. 10
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