



V Semester B.C.A. Examination, November/December 2018  
(CBCS) (F+R)  
(2016 – 17 & Onwards)  
**COMPUTER SCIENCE**

**BCA – 501 : Data Communication and Networks**

Time : 3 Hours

Max. Marks : 100

**Instruction : Answer all Sections.**

**SECTION – A**

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

- 1) Mention four network topologies.
- 2) What is telnet ? How it differs from FTP ?
- 3) What is meant by protocol and internet protocol suite ?
- 4) Define encoding and decoding.
- 5) What is piggybacking ? What is its purpose ?
- 6) What is the difference between ethernet and fast ethernet ?
- 7) Define bit rate and baud rate.
- 8) What do you mean by Nyquist signalling rate ? Explain.
- 9) What is CSMA and CSMA/CD ?
- 10) What do you mean by IEEE 802.11 standards ?
- 11) What do you mean by flooding ? Explain.
- 12) Define datagram and packet.

**P.T.O.**



## SECTION - B

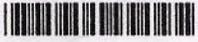
II. Answer **any five** questions. **Each** question carries **five** marks. (5×5=25)

- 13) Explain circuit switching.
- 14) How many layers are there in TCP/IP model ? Mention the function of each layer.
- 15) Explain twisted pair cable as transmission medium.
- 16) Describe FDDI.
- 17) Explain 2-d parity check for error detection.
- 18) Explain HDLC frame structure.
- 19) Explain the differences between connection and connectionless services.
- 20) Explain the role of the following network devices :
  - i) Hub
  - ii) Switch
  - iii) Bridge
  - iv) Router
  - v) Repeater.

## SECTION - C

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

- 21) a) Explain digital representation of information.  
b) Write a note on polynomial code with suitable example. (7+8)
- 22) a) Explain optical fibre as transmission medium.  
b) Explain different types of bridges in computer networks. (7+8)
- 23) a) Explain stop and wait ARQ with a neat diagram.  
b) Explain ALOHA and Slotted ALOHA. (7+8)



24) a) Explain frequency division multiple access and time division multiple access.

b) Explain sliding window method of flow control. (8+7)

25) a) Explain LLC and MAC sublayers of data link layer.

b) What do you mean by peer-to-peer protocol ? Compare PPP with HDLC. (8+7)

SECTION – D

IV. Answer **any one** question. **Each** question carries **ten** marks. (1×10=10)

26) Explain OSI reference model in detail.

27) Explain any two routing algorithms.