



SS – 682

36
V Semester B.C.A. Examination, November/December 2018

(CBCS) (F+R)

(2016 – 17 & Onwards)

COMPUTER SCIENCE

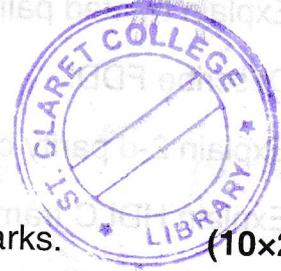
BCA – 501 : Data Communication and Networks

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.
