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Following Paper ID and Roll No. to be filled in your Answer Book.

PAPER ID : 21114 Roll No.

BCA Examination 2018-19

(Third Semester)

COMPUTER COMMUNICATION AND COMPUTER NETWORK

Time : Three Hours] [*Maximum Marks* : 60

Note : Attempt all questions.

SECTION 'A'

1. Attempt all parts of the following : 1×8=8

   (a) Explain the terms bit rate.

   (b) What do you mean by channel bandwidth?

   (c) What do you mean by topology?

   (d) In which layer of OSI model the function of bridges in applicable.

   (e) What do you mean by framing?

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(f) Explain bit stuffing.

(g) Which layer of OSI model is responsible for establishing dialogue between sender and receiver?

(h) What do you mean by congestion?

SECTION 'B'

Note : Attempt any two parts of the following : 6×2=12

2. (a) Explain digital to digital conversion schemes.

(b) What do you understand by network topology? Compare and contrast different network topologies used in LAN.

(c) Compare two data link layer protocals. Go back N and selective repeat in terms of flow control, eror recovery and packet loss.

(d) With neat sketch explain connection establishment and release using 3-way handshaking in transport layer.

SECTION 'C'

Note : Attempt all question from this section. Attempt any two question : 8×5=40

3. (a) For a bandwidth of 3100 Hz and SNR of 30 dB, calculate channel capacity.

   (b) What do you mean by multiplexing? Explain the frequency division multiplexing (FDM).

   (c) What do you mean by data transmission? How many type of data transmission are ther, explain briefly.

4. Attempt any two question :

   (a) Discuss the services of each layer of OSI reference model.

   (b) What is physical layer specification? Explain briefly.

   (c) Draw the layer diagram of TCP/ IP protocal suit and explain it briefly.

5. Attempt any two question :

   (a) Generate CRC code for 1101011011, where $G(x)=x^4+x+1$.

(b) What are the functions of data link layer in OST model?

(c) What do you mean by routing? Write the two most popular routing algorithms.

6. Attempt any two question :

(a) Write the difference between TCP and UDP.

(b) Write the functioning of application layer.

(c) Write short notes on the following :

(i) Telnet

(ii) SMTP

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