

- N.B. (1) Question No. 1 is compulsory.  
(2) Attempt any four questions out of the remaining six questions.

QUE1(A) Explain the circuit switching adaptive routing algorithm. [10]

QUE 1 (B) What is packet switching ? Give the flooding algorithm. [10]

QUE 2 (A) Write detailed note on: HDLC data link control. [10]

QUE 2 (B) Explain network channel signaling and routing control in telephone network. [10]

QUE3 (A) Explain performance issues in ARQ ? [10]

QUE 3 (B) Using the CRC-CCITT polynomial, generate the 16 bit CRC code for a message consisting of 1 followed by 15 0's [10]

(a) use a long division

(b) Use the shift register mechanism

(c) For  $P = 110011$  and  $M = 11100011$ , find the CRC.

QUE4 (A) Explain the standardized protocol architectures for LANs, which encompasses physical, medium access control and logical link control layers. [10]

QUE 4(B) Explain the spanning tree algorithm with reference to frame forwarding, address learning, and loop resolution. [10]

QUE5 (A) In switching network for  $N=4$ ,  $l = 3200$ ,  $b = 9600$ ,  $P = 1024$ ,  $H = 16$ ,  $S = 0.2$ ,  $D = 0.001$ . compute the end to end delay for circuit switching, virtual-circuit packet switching and data gram packet switching. Assume that there are no acknowledgements. [10]

QUE5 (B) Give the Bellman ford algorithm for finding the least cost path from a specified node S to a specified node T. [10]

QUE 6 (A) Explain IP with reference to data gram format, IP packet, IP addressing, IP fragmentation and reassembly. [10]

QUE 6 (B) Explain UDP and TCP in detail. [10]

QUE 7 Write detailed note on ( any two) [20]

(a) Hubs, Bridges and Switches.

(b) Multicast routing

(c) ATM traffic management