

Dr. Hari Singh

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST-1 EXAMINATION- February, 2019

B. Tech VI Semester (CSE & IT)

COURSE CODE: 10B11CI611

MAX. MARKS: 15

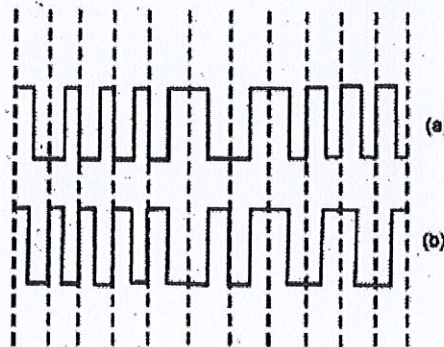
COURSE NAME: Computer Networks

COURSE CREDITS: 3

MAX. TIME: One Hour

*Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.*

1. What are the design issues of Physical Layer in OSI Model? (CO1)[3 marks]
2. Consider a scenario that a communication link has a bandwidth of 10 Mbps with 20 routers and each router having a  $3\mu\text{s}$  queuing delay and  $2\mu\text{s}$  processing delay. The length of cable is 3000 Km and speed inside the link is equal to speed of light. Then what is total delay to send a packet of size 25 million bits? (CO1)[3 marks]
3. Compare circuit-switched and datagram network in detail. (CO2) [3 marks]
4. In the waveform (a) given below, a bit stream is encoded by Manchester encoding scheme. The same bit stream is encoded in a different coding scheme in wave form (b). What is the bit stream and the coding scheme?



5. A 20 Kbps satellite link has a propagation delay of 400 ms. The transmitter employs the "Go-Back-N ARQ" scheme with N set to 10. Assuming that each frame is 100 bytes long, what is the maximum data rate possible? (CO3) [3 marks]