

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- September 2017

R.Tech/M.Tech VII/I Semester

COURSE CODE: 10M11CI112

MAX. MARKS:15

COURSE NAME: Advanced Computer Networks

COURSE CREDITS: 3

MAX. TIME: One Hr

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

**Question 1:** Why media access control (MAC) is one of the important features of Datalink layer? IEEE 802.11 and IEEE 802.3 uses which MAC techniques (for collision) and why? Is there any scenario when wireless devices unable to sense collisions? [3 Marks]

**Question 2:** Write the algorithm and difference between the CSMA/CD and CA? [4 Marks]

**Question 3:** A signal with 200 milliwatts power passes through 10 devices, each with an average noise of 2 microwatts. What is the SNR? What is the SNR<sub>dB</sub>? [2 Marks]

**Question 4:** What is the total delay (latency) for a frame of size 8 million bits that is being sent on a link with 12 routers each having a queuing time of 4  $\mu$ s and a processing time of 2  $\mu$ s. The length of the link is 3000 Km. The speed of light inside the link is  $2 \times 10^8$  m/s. The link has a bandwidth of 8 Mbps. Which component of the total delay is dominant? Which one is negligible? [4 Marks]

**Question 5:** Convert the following AMI encode to Pseudoternary encode. [2 Marks]

