BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)

CLASS: BE **SEMESTER : V**
BRANCH: CSE **SESSION : MO/18**

SUBJECT: CS6107-COMPUTER NETWORKS

TIME: 03:00 HRS. **FULL MARKS: 60**

INSTRUCTIONS:
1. The question paper contains 7 questions each of 12 marks and total 84 marks.
2. Candidates may attempt any 5 questions maximum of 60 marks.
3. The missing data, if any, may be assumed suitably.
***4*. Before attempting the question paper, be sure that you have got the correct question paper.**
5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.

Q.1(a) Define the terms Bandwidth and Latency. [2]
(b) List the metrics that influence the performance of computer Networks. [4]
(c) With a neat sketch, explain the architecture of an OSI Seven Layer Model. [6]

Q.2(a) Define DC component. [2]
(b) We want to digitize the human voice. What is the bit rate, assuming 8 bits per cycle? [4]
(c) Assume a data stream is made of ten 0's. Encode this stream, using the following encoding scheme: [6]
i) NRZ-L
ii) NRZ-I
iii) Manchester
iv) Differential Manchester
v) AMI
vi) B8ZS

Q.3(a) What is Ethernet? [2]
(b) Given a 10 bit sequence 1010011110 and a divisor of 1011, find the CRC. [4]
(c) Discuss the working of CSMA/CD Protocol. [6]

Q.4(a) Differentiate between Circuit Switching and Packet Switching. [2]
(b) Explain in detail Distance Vector Routing [4]
(c) Discuss the principle of Stop and Wait flow control algorithm. Draw time line diagrams and explain how loss of a frame and loss of an ACK are handled. What is the effect of delay-Bandwidth product on link utilization? [6]

Q.5(a) What is Multicast Routing? [2]
(b) What is the subnetwork address if the destination address is 19.30.80.5 and the mask is 255.255.192.0? [4]
(c) Write a note on any one multicast routing protocol. [6]

Q.6(a) What is tunneling? [2]
(b) Explain in detail about the simple demultiplexing and reliable byte stream. [4]
(c) Illustrate and explain UDP and its Packet format. [6]

Q.7(a) What is the difference between Congestion Control and Flow Control? [2]
(b) Differentiate between Open loop congestion control and Closed loop congestion control. [4]
(c) What do you mean by QoS? Explain the approaches to improve QoS? [6]

********30.11.18******E**