

Roll No

CS-6004 (CBGS)**B.E. VI Semester**

Examination, May 2018

Choice Based Grading System (CBGS)**Computer Networks***Time : Three Hours**Maximum Marks : 70***Note:** i) Attempt any five questions.

ii) All questions carry equal marks.

iii) Assume suitable data if missing.

1. a) Explain the principles that were applied at the time of seven layer architecture design of ISO-OSI reference model. rgpvonline.com 7
- b) What is queuing theory? Explain the queuing system M/M/1? 7
2. a) Two networks each provide reliable connection oriented service. One of them offers a reliable byte stream and the other offers a reliable message stream. Are these identical? If so, why is distinction made? If not, given an example of how they are differ? 7
- b) Write the goals of computer networking with its classification? 7
3. a) Compare and contrast SDLC with HDLC? 7
- b) What is the mechanism of sliding window flow control? Explain with example. 7

4. a) If the start and end header is 100001 and the following data stream is to be stuffed: 7
100110001100001110000011
What will be the frame after bit stuffing?
- b) Write the different types of ARQ techniques. 7
5. a) What are the performance measuring metric for a computer network? Define each of them? 7
- b) A large population of ALOHA users manage to generate 50 request/sec including both originals and retransmissions. Time is slotted in units of 40 msec. 7
 - i) What is the chance of success in the first attempt?
 - ii) What is the probability of exactly k collisions and then success?
6. a) Make a comparison between pure ALOHA, slotted ALOHA and CSMA/CD? 7
- b) Explain the frame format of IEEE 802.4 (token bus) protocol? 7
7. a) Describe the working of bellman ford algorithm using suitable example. 7
- b) Write the general principles of congestion control? 7
8. Write short notes on: 14
 - i) HTTP
 - ii) Packet format of UDP
 - iii) SMTP
