

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI  
(MID SEMESTER EXAMINATION)**

**CLASS: BE  
BRANCH: CSE**

**SEMESTER: V  
SESSION : MO/2018**

**SUBJECT : CS6107 COMPUTER NETWORKS**

**TIME: 1.5 HOURS**

**FULL MARKS: 25**

**INSTRUCTIONS:**

1. The total marks of the questions are 30.
2. Candidates may attempt for all 30 marks.
3. In those cases where the marks obtained exceed 25 marks, the excess will be ignored.
4. Before attempting the question paper, be sure that you have got the correct question paper.
5. The missing data, if any, may be assumed suitably.

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- Q1 (a) Differentiate between the communication and transmission. [2]  
(b) Why it is necessary to have layering in a network? [3]
- Q2 (a) How network performance is measured? [2]  
(b) Draw and explain TCP/IP reference model. [3]
- Q3 (a) Differentiate between bit rate and baud rate. [2]  
(b) Draw the signal waveform for the bit stream 11000000010001 using different Scrambling techniques. [3]
- Q4 (a) Imagine a communication link that that is experiencing interference so every 18<sup>th</sup> bit is changed from 0 to 1 or 1 to 0. Does a parity check detect all the errors? [2]  
(b) Explain CRC. Generate CRC code for the data word 1010001011 using the divisor 11101. [3]
- Q5 (a) Consider a channel with a 1MHz bandwidth. The SNR for this channel is 63; What is the appropriate bit rate and signal level? [2]  
(b) Discuss the mechanism of stop and wait flow control technique. Derive the relation  $U=1/1+2a$  [3]
- Q6 (a) What is ring wrapping in FDDI? [2]  
(b) With the help of flow diagram explain CSMA/CD? How is it different from CSMA/CA? [3]

::: 12/90/2018 :::E