

Ajay Kumar Garg Engineering College, Ghaziabad

Department of ECE

Sessional Test-2

Course: B.Tech
 Session: 2017-18
 Subject: DCN
 Max Marks: 50

Semester: VII
 Section: EC-1, EC-2, EC-3
 Sub. Code: NEC-702 B
 Time: 2 hour

Note : Answer all the sections.

Section-A

A. Attempt all the parts. (5x2=10)

1. Explain communication problems.
2. Explain bit stuffing in data with suitable examples.
3. List the assumptions for Dynamic channel allocation.
4. Draw the block diagram of communication model.
5. Explain communication channel and their characteristics.

Section-B

B. Attempt all the parts. (5x5 = 25)

6. Explain hidden station problem.
7. How do we say collision detection is analog process? Why do we prefer CSMA over ALOHA? Prove that maximum efficiency of ALOHA is $1/e$.
8. Explain the mathematical model for communication channels.
9. What do you mean by Wavelength Division Multiple Access Protocols?
10. What are multiple access techniques? Explain FDM in details.

Section-C

C. Attempt all the parts. (2x7.5 = 15)

11. Prove that link budget equation = $P_{TXdBm} + G_{TXdB} + G_{RXdB} - L_{pathdB}(R)$ where $L_{pathdB}(R)$ is path loss.
12. Explain controlled access method and discuss CSMA/CA random access method.

25/19