(Following Paper ID and Numbers to be filled in your Answer books)

Paper ID: | | | | | | |

Roll No: | | | | | | | | | | |

B.Tech

EXAMINATION, 2015-16

Subject: Data Communication Networks **Code: EEC702**

[Time: 3 Hours] **[Total Marks: 100]**

SECTION-A

Q.1 Attempt all parts. All parts carry equal marks. Write answer of each part in short. (2 x 10=20)

(a) What will be the number of crosspoints in a one-stage space division switch, if N = 200?
(b) Which multiplexing technique transmits analog signals?
(c) Which sublayer is responsible for the operation of the CSMA/CD access method and framing?
(d) What is difference between data element and signal element?
(e) What do you mean by layered protocol?
(f) What are various design issuse involved in Network Layer?
(g) What are the advantages of Hierarchical Routing?
(h) Why is CSMA/CD needed in wireless network?
(i) Write down the Responsibility of Session layer?
(j) Which techniques are used to increase the speed of router and switches?

SECTION-B

Note: Attempt any 5 questions from this section. (10 x 5=50)

Q.2 what are the difference between virtual circuit and datagram. Why packet switching is preferred in data network.
Q.3 Define address space of IPv4 address.
Q.4 Explain and compare the performance of different line coding scheme
Q.5 Explain the mechanism of Stop and wait ARQ error control
Q.6 Explain HDLC protocol with its frame structure.
Q.7 Write short note on the following.

(a) IEEE 802.11

(b) Bluetooth

Q.8 Write short note on Network Security.

Q.9 What are different transmission mode used in data communication?

SECTION-C

Note: Attempt any 2 questions from this section. (15 x 2=30)

Q.10 What is the various design issues involved in network layer? Explain the different routing algorithms used to rout the packet from source machine to the destination machine.

Q.11 Write short note on any of four of the following.

a. IGMP
b. ICMP
c. RARP
d. ARP
e. File Transfer
f. IP

Q.12 What is the difference between networking and internetworking connectivity devices? Explain with example in detail.