(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 2897 **Roll No.** | | | | | | | | | | |

B. Tech.

(SEM. VIII) THEORY EXAMINATION 2011-12

DATA COMMUNICATION NETWORKS

Time : 3 Hours *Total Marks : 100*

Note :– Attempt **all** questions. All questions carry equal marks.

1. Attempt any **four** parts : **(5×4=20)**

   (a) Differentiate between circuit switching and packet switching using suitable diagram.

   (b) Write short note on Ethernet.

   (c) Explain OSI reference model with suitable diagram.

   (d) Differentiate between FDM and TDM giving suitable examples.

   (e) Write short note on transmission media.

   (f) What do you understand by connection oriented services ? Compare it with connectionless services giving suitable examples.

2. Attempt any **four** parts : **(5×4=20)**

   (a) Why do we use layered protocols ? Give at least two reasons.

   (b) Explain in short IEEE standard 802 for LAN.

(c) Write short notes on error control and flow control.

(d) Explain framing in detail.

(e) What are the major problems in allocating the channel ?

(f) Explain ALOHA in detail.

3. Attempt any **two** parts : **(2×10=20)**

(a) Explain in detail virtual circuit and datagram subnets.

(b) What do you understand by Routing Algorithms ? Write and explain any one of Routing Algorithm.

(c) Explain in detail different types of Bridges. Write short notes on Routers and Gateways.

4. Attempt any **two** parts : **(2×10=20)**

(a) What are the different elements of transport protocols ? Also explain how do we establish a connection.

(b) Explain with the help of suitable diagram the TCP Segment Header. Also explain TCP Connection Management.

(c) Discuss design issues for the Transport Layer.

5. Attempt any **two** parts : **(2×10=20)**

(a) Explain the relationship between Data Rate and Bandwidth. Also explain synchronous data communication with relevant examples.

(b) What is the use of Bit stuffing in data ? What do you mean by pipe lining ? Explain it with suitable examples.

(c) Write short notes on DNS and HTTP.