(Following Paper ID and Roll No. to be filled in your Answer Book)										
PAPER ID: 2727 Roll No.	.									

#### B.Tech.

# (SEM. VII) ODD SEMESTER THEORY EXAMINATION 2013-14



#### **DATA COMMUNICATION NETWORKS**

Time: 3 Hours

Total Marks: 100

Note: - Attempt all questions. Each question carries equal marks.

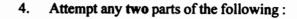
- 1. Attempt any four parts of the following:
  - (a) Discuss various performance parameters of data communication networks.
  - (b) Differentiate between circuit switching and packet switching.
  - (c) What is line coding technique? Explain and compare performance of different line coding techniques.
  - (d) Classify data communication networks by scales.
  - (e) What are various IEEE standards used for Networking? Explain IEEE standard 802 for LAN.
  - (f) What are broadcast Networks? Explain the working advantages and disadvantages of slotted ALOHA.

## 2. Attempt any four parts of the following:

- (a) What do you understand by error control network architecture? Also describe the elements of flow control.
- (b) Explain working of Point to Point Protocol.
- (c) What is Fixed Routing? What are the advantages and disadvantages of adaptive routing?
- (d) Which protocol is used to transport Internet messages?
  With relevant example explain the working of virtual circuit networks.
- (e) What do you understand by framing? Explain in detail.
- (f) What are major problems in allocating the channel?

### Attempt any two parts of the following:

- (a) How do we say collision detection in analog process? Why do we prefer CSMA over ALOHA?
- (b) What is Fixed Routing? Discuss the functions of bridges, routers and gateways.
- (c) What do you understand by address resolution? Determine the contents of the first byte of an IP header if the IP protocol is IPv4 and header has eight bytes of option.



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- (a) Explain infrastructure of Internet in detail. Compare TCP/IP and OSI reference model.
- (b) What do you understand by Multiplexing? Explain use of Multiplexing in the context of a transport protocol.
- (c) What is the use of Bit stuffing in data? Explain features of pipelining with suitable diagrams.

## 5. Attempt any two parts of the following:

- (a) What are the main characteristics of DNS? Explain the functions of HTTP.
- (b) What do you understand by ATM ? Explain cell header format in ATM and briefly describe the four service classes of ATM.
- (c) What is Cryptography? Differentiate between symmetric key cryptography and asymmetric key cryptography.



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