

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

PAPER ID : 2727

Roll No.

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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 ?
3. 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.

4. Attempt any **two** parts of the following :

- (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.