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BIELE-016

**B.Tech. - VIEP - ELECTRONICS AND
COMMUNICATION ENGINEERING**

(BTECVI)

Term-End Examination, 2019

**BIELE-016 : DATA COMMUNICATION AND
NETWORK**

Time : 3 Hours]

[Maximum Marks : 70

Note : Attempt any seven questions. All questions carry equal marks. Use of scientific calculator is permitted. Missing data, if any, may be suitably assumed.

1. Which are the two important types of transmission technology that are most widely used ? Explain briefly their architectures. [2+4+4=10]
2. With the help of neatly labelled diagram, differentiate Metropolitan Area Networks (MANs) and Wide Area Networks (WANs). [10]
3. What are the differences between Circuit Switching and Packet Switching ? Explain with the help of suitable example. [10]

4. Data Link Protocols almost always put the CRC in a trailer rather than in a header. Why ? Explain with suitable example. [10]
5. Consider the delay of pure ALOHA with that of a SLOTTED ALOHA at low load. Which one is less and why ? Explain. What is the baud rate of standard 10 Mbps ETHERNET ? [2+6+2=10]
6. What properties do the WDMA and GSM channel access protocols have in common ? Six stations, A to F, communicate via MACA protocol. Is it possible that two transmissions take place simultaneously ? Explain. [5+5=10]
7. Discuss the advantages and disadvantages of Credits Vs Sliding window protocols. Why does UDP exist ? Would it not have been enough to just let user processes send raw IP packets ? [4+4+2=10]
8. Many business computers have 3 distinct and worldwide unique identifiers. What are they ? DNS uses UDP instead of a TDP. If a DNS packet is lost, then there is no automatic recovery. Does it cause problem, and if so, how is it solved ? [3+7=10]

9. Explain two applications where connection-oriented service is appropriate and two applications where connectionless service is best. [10]
10. Write short notes on any two of the following :[5+5=10]
- (a) Manchester Encoding
 - (b) Nagle's Algorithm
 - (c) Time Division Multiplexing (TDM)

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