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BIEL-021

B.Tech. ELECTRONICS AND COMMUNICATION ENGINEERING (BTECVI)

00097

Term-End Examination

June, 2014

BIEL-021 : COMPUTER COMMUNICATION NETWORKS

Time : 3 hours *Maximum Marks : 70*

Note : *Attempt any **seven** questions. All questions carry equal marks.*

1. (a) Discuss the major design issues for the layered architecture of data communication. How do two layers exchange information ? *5*

(b) How are OSI and ISO related to each other ? *5*

2. (a) What is the noiseless channel ? *5*

(b) Define framing. What is the need of framing ? *5*

3. (a) Explain the control field of HDLC protocol. Why is this protocol sometimes called super set of all link level protocols ? *5*

(b) Write short notes on error control and flow control. *5*

4. (a) Compare the IEEE 802 protocol layers with OSI reference model. *3*

(b) How does the IEEE 802·3 standard differ from Ethernet ? *3*

(c) Draw the format of IEEE 802·3 CSMA/CD frame and give its address field. *4*

5. (a) What is the difference between network layer delivery and transport layer delivery ? *5*

(b) Write a short note on Hub and how it is related to repeater ? *5*

6. (a) What are the basic features of a routing algorithm ? *3*

(b) Give the Bellman-Ford routing algorithm, and illustrate by an example. *4*

(c) What is count to infinity problem ? *3*

7. What are the various design issues involved in the network layer ? Explain the different routing algorithms used to route the packets from source machine to the destination machines. *10*

8. (a) Write a short note on unicasting, multicasting and broadcasting. *5*

(b) What is the difference between router and gateway ? *5*

9. (a) Show the fields that make up the header of a TCP segment and explain the function of each. *5*

(b) Why and how is TCP pseudo header used ? *5*

10. (a) Differentiate between TCP and UDP. *5*

(b) Why do we need a DNS system ? What is DNS server ? *5*
