

MCA (Revised)

Term-End Examination

June, 2013

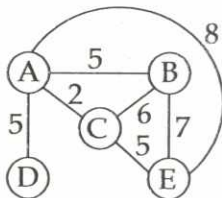
MCS-042 : DATA COMMUNICATION AND
COMPUTER NETWORKS

Time : 3 hours

Maximum Marks : 100

Note : Question number one is compulsory. Attempt any three questions from the rest.

1. (a) Draw Ethernet frame format and explain each field of the format. 10
- (b) What are different class of IP address ? 5
Explain through examples.
- (c) What is the maximum capacity of a noiseless channel whose bandwidth is 200 kHz and in which the value of the data transmitted may be indicated by one of 64 different amplitudes ? 5
- (d) Consider the following network with the indicated link cost. Use Dijkstra's shortest path algorithm to find the shortest path from source to node A to all other nodes. 10



- (e) Define Data rate and Signal rate. Write the expression to establish relation between them. 5
- (f) Derive the expression to establish relation between S and G in pure Aloho. 5
2. (a) Describe major problems by which transmission line suffer ? 7
- (b) Explain the advantages of having small fixed size cells in ATM. 7
- (c) Differentiate between Congestion Control and Flow Control. 6
3. (a) Define link state packet. Explain how link state Routing operates ? 10
- (b) Explain working of wireless LAN. 5
- (c) Differentiate between Star and Tree Topology. 5
4. (a) Explain IP address classes and list their purpose. 7
- (b) How MACA W is different from MAC A ? 6
- (c) Describe Exterior Gateway Routing protocol ? 7

5. (a) Draw TCP header format and discuss its each field. 7
- (b) Explain Dijkstra's algorithm for Shortest Path Routing with the help of an example. 7
- (c) Describe Asynchronous Communication and write its advantages and disadvantages. 6
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