

**6E6021****6E6021**

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**B.Tech. VI Semester (Main/Back) Examination, April/May - 2017**  
**Computer Sc. & Engg.**  
**6CS1A Computer Networks**  
**CS, IT**

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**Time : 3 Hours****Maximum Marks : 80**  
**Min. Passing Marks : 26****Instructions to Candidates:**

*Attempt any five questions, selecting one question from each unit. All Questions carry equal marks. (Schematic diagrams must be shown wherever necessary. Any data you feel missing suitable be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.*

**Unit - I**

1. a) What is Distance vector Routing? Explain count to Infinity problem and give its solution? (8)
- b) Explain Flooding and shortest path routing and describe how and when they are used in link state routing. (8)

**OR**

1. a) What are the basic design issues of a Network layer? Also explain what are the services provided by the network layer to the transport layer? (8)
- b) Differentiate between the static and dynamic routing with their pros and cons. Give examples of some routing protocol used in both type of routing. (8)

**Unit - II**

2. a) Explain the concept of fragmentation. Why fragmentation is done and how? (8)
- b) What do you understand by layering and protocol? Explain your answer using the Internet architecture. (8)

**OR**

2. a) Define Network address translation. How the outgoing and incoming packets are made to reach to its destination in the presence of a NAT box? Explain. (8)
- b) Explain the difference between IPV4 and IPV6. (8)

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3. a) Describe why an application developer may choose to run its application over U.D.P rather than TCP and draw the format of UDP header. (8)
- b) Write short note on : rtuonline.com (4+4)
- 1) Addressing in Transport layer.
  - 2) Flow control and Buffering.

**OR**

3. Explain the working of Go-Back-N protocol and compare it with selective repeat protocol. (16)

#### Unit - IV

4. Explain the TCP connection management. What is the significance of sequence number and acknowledgement number fields of TCP segment. Explain with example. (16)

**OR**

4. a) Explain the concept of Round Trip Time (RTT) and Retransmission Time Out (RTO). (6)
- b) Explain working of Transport layer in the Internet. (6)
- c) Consider sending a series of packets from sending host to receiving host over a fixed route. Explain delay components encountered in the end to end delay for single packet? (4)

#### Unit - V

5. a) What is Proxy server and how it is related to HTTP. (6)
- b) What is URL and what are its components? Explain. (4)
- c) In electronic mail, what is MIME? (6)

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**OR**

5. a) Compare SMTP with HTTP. (8)
- b) What is DNS? Explain how DNS works. (8)

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