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**17CS52**

## Fifth Semester B.E. Degree Examination, July/August 2021 Computer Networks

Time: 3 hrs.

Max. Marks: 100

**Note: Answer any FIVE full questions.**

- 1 a. Explain the interface between the process and the computer Network socket with diagram. (10 Marks)  
 b. Describe persistent and non-persistent connections of HTTP. (10 Marks)
- 2 a. Explain the services offered by DNS and also explain the DNS record and message format. (10 Marks)  
 b. Define File Transfer Protocol, its connections and working. Writ about FTP commands and replies also. (10 Marks)
- 3 a. Explain connection oriented multiplexing and de-multiplexing. (08 Marks)  
 b. Alice wants to communicate Bob over a TCP connection. Design a model showing different stat transition they undergo during i) Connection establishment ii) Data transfer iii) Connection termination. (08 Marks)  
 c. Define rdt\_send ( ) and rdt\_rcv ( ). (04 Marks)
- 4 a. Explain TCP segment and its services with a diagram. (10 Marks)  
 b. What is congestion in a network? How TCP handles congestion. (10 Marks)
- 5 a. What is routing? Explain the structure of router with a neat diagram. (10 Marks)  
 b. Explain the spanning tree algorithm and give its advantages and disadvantages. (10 Marks)
- 6 a. Discuss the IPV6 packet format. (08 Marks)  
 b. Describe Network layer services briefly. (06 Marks)  
 c. How does router determine the replacement VC number for a packet traversing the router? (06 Marks)
- 7 a. Define 5 elements of mobile network architecture. (10 Marks)  
 b. Explain Indirect and Direct Routing to Mobile node. (10 Marks)
- 8 a. What is hand off? What are the steps in accomplishing hand off? (10 Marks)  
 b. Compare mobile IP and GSM mobility. (05 Marks)  
 c. Explain Agent Discovery with diagram. (05 Marks)
- 9 a. Explain PCM Encoder and PCM Decoder. (07 Marks)  
 b. Briefly explain properties of Video and Audio. (07 Marks)  
 c. Describe the DiffServ Internet Architecture. (06 Marks)
- 10 a. Illustrate the interaction between Client and Server for HTTP streaming for Audio and Video. (08 Marks)  
 b. Explain content Distribution Network. (08 Marks)  
 c. Mention limitations of Best – Effort IP service. (04 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
 2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.