

R15

Code No: 127BY

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year I Semester Examinations, January/February - 2023

COMPUTER NETWORKS

(Electronics and Communication Engineering)

Time: 3 Hours

Max. Marks: 75

Note: i) Question paper consists of Part A, Part B.

ii) Part A is compulsory, which carries 25 marks. In Part A, Answer all questions.

iii) In Part B, Answer any one question from each unit. Each question carries 10 marks and may have a, b as sub questions.

PART – A

(25 Marks)

- 1.a) List out the protocols used in data link layer. [2]
- b) What are the applications of Microwave transmission? [3]
- c) What is pure aloha? [2]
- d) What is the difference between a router and a gateway? [3]
- e) What is flooding? [2]
- f) What is congestion? Write down the challenges of the congestion control algorithm. [3]
- g) What are the advantages of CIDR? [2]
- h) How crash recovery happens at transport layer? [3]
- i) What are the basic functions of email? [2]
- j) What is the function of application layer? [3]

PART – B

(50 Marks)

2. Draw the layered architecture of OSI reference model and write the services provided by each layer of the model. [10]

OR

- 3.a) Explain about the Fiber optic cable. [5]
- b) Define the terms: piggybacking, sending window and receiving window. Explain One-Bit sliding window protocol. [5]

4. Explain about the Carrier Sense Multiple Access (CSMA) protocol with Collision Detection (CD). [10]

OR

- 5.a) Explain about Spanning tree bridge. [5]
- b) Explain about Adaptive tree walk protocol. [5]

6. Explain about the Hierarchical routing algorithm with an illustrative example. [10]

OR

7. Explain about the token bucket algorithm in detail with an example. [10]

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8. Describe about Dynamic Host Configuration Protocol (DHCP).

[10]

OR

9.a) Explain the design issues of Transport layer.

b) Write about various services provided by Transport layer to its upper layer.

[5+5]

10.a) Explain the TCP Segment structure and justify the importance of its field values

b) Explain the header format of Real Time Transport protocol.

[5+5]

OR

11.a) Explain about the HTTP request and reply message.

b) Differentiate between TELNET and FTP.

[5+5]

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