

Code No: 154CG

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**B. Tech II Year II Semester Examinations, September/October - 2023****COMPUTER NETWORKS****(Common to CSE (CS), CSE(N))****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) What is star topology? [2]
- b) What are the uses of twisted pair cable? [3]
- c) What are the advantages and disadvantages of stop and wait flow control? [2]
- d) What is Channel allocation problem? [3]
- e) What is Tunneling? [2]
- f) List the steps involved in leaky bucket algorithm. [3]
- g) List out the services of SCTP. [2]
- h) How many ways of multiplexing can occur in transport layer? [3]
- i) What is the difference between WWW and internet? [2]
- j) List out the types of SNMP messages. [3]

PART – B**(50 Marks)**

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

OR

- 3.a) Differentiate between Fiber Optic cable and Coaxial cable.
- b) Explain the types of Network Hardwares used in computer networks. [5+5]
- 4.a) How CSMA/CA differs from CSMA/CD? Discuss the various Data Link Control (DLC) services with a neat sketch.
- b) Explain about the sliding window protocol using selective repeat. [5+5]

OR

- 5.a) What do you mean by random access protocols? Explain slotted ALOHA in brief.
- b) A Bit stream 100100 is to be transmitted using standard CRC method with divisor value x^3+x^2+1 . Generate the CRC code word. [5+5]

- 6.a) Explain the Distance Vector Routing protocol with an example.
- b) Explain the types of Internetworking. [5+5]

OR

7. Explain the techniques to improve the QoS in the network layer. [10]

- 8.a) Explain the three way handshake protocol for connection establishment in TCP. [5+5]
b) Differentiate between TCP and UDP.

OR

9. Explain the services of Transport layer with illustrations. [10]

- 10.a) Explain the working of E-mail service with a diagram.
b) What are the two main categories of DNS messages? Explain. [5+5]

OR

- 11.a) What is audio streaming? How does it works?
b) Describe the HTTP request header. [5+5]

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