

R22

Code No: 185BB

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year I Semester Examinations, January - 2025

COMPUTER NETWORKS

(Common to CSE, CE(SE), CSE(AI&ML), CSE(DS), AI&DS, AI&ML, CSD)

Time: 3 Hours

Max. Marks: 60

Note: This question paper contains two parts A and B.

i) Part- A for 10 marks, ii) Part - B for 50 marks.

- Part-A is a compulsory question which consists of ten sub-questions from all units carrying equal marks.
- Part-B consists of ten questions (numbered from 2 to 11) carrying 10 marks each. From each unit, there are two questions and the student should answer one of them. Hence, the student should answer five questions from Part-B.

PART- A

(10 Marks)

- 1.a) What is Coaxial Cable? [1]
- b) List out the two sub layers of data link layer. [1]
- c) What is the purpose of Aloha protocols? [1]
- d) What is channel allocation problem? [1]
- e) Define congestion in a network. [1]
- f) What is Interworking? [1]
- g) What is UDP? [1]
- h) What is process to process delivery? [1]
- i) Define WWW. [1]
- j) What is MPEG? [1]

PART - B

(50 Marks)

2. Explain in detail about TCP/IP network reference model with neat diagram. [10]
- OR**
- 3.a) Describe the functionalities provided by data link layer. [5]
 - b) Explain fiber optic communication in detail. [5]
4. Describe sliding window protocol using selective repeat mechanism. [10]
- OR**
5. Explain the concept of data link layer switching in detail. [10]
- 6.a) Explain the design issues in network layer. [5]
 - b) Explain congestion control mechanisms at network layer. [5]
- OR**
- 7.a) Describe the multicast routing in detail. [5]
 - b) Discuss about network layer in the Internet. [5]

QA QA QA QA QA QA QA G

- 8.a) Describe the functionalities of transport layer.
- b) Give a brief note on connection management at transport layer. [5+5]

QA QA QA QA QA QA QA G

- OR**
- 9.a) With a neat architecture, explain TCP in detail.
 - b) Enumerate the differences between TCP and UDP. [5+5]

- 10.a) Explain in detail about HTTP operation.
- b) Summarize the functions performed by of DNS. [5+5]

QA QA QA QA QA QA QA G

- OR**
- 11.a) Describe the message format, message transfer and the underlying protocol involved in the working of the electronic mail.
 - b) Give a short note on audio streaming at application layer. [5+5]

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