

Code No: 155AV

R18

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year I Semester Examinations, March - 2021

DATA COMMUNICATIONS AND NETWORKS

(Electronics and Communication Engineering)

Time: 3 Hours

Max. Marks: 75

**Answer any five questions
All questions carry equal marks**

- 1.a) How does information get passed from one layer to the next in the Internet model? Explain.
- b) Illustrate how CDMA works in wireless LAN. [7+8]
- 2.a) What is Cyclic Code? Explain the CRC error detection technique.
- b) Give a detail note on the Random Access protocols. [8+7]
- 3.a) Explain the functionality of ICMP protocol.
- b) What is the format of IPv4 header? Describe the significance of each field. [7+8]
- 4.a) Describe why an application developer might choose to run an application over UDP rather than TCP.
- b) Demonstrate three way handshake connection establishment in TCP. [7+8]
- 5.a) Is an application's architecture different from the network architecture? Defend your answer.
- b) What is DNS? Explain how DNS works. [8+7]
- 6.a) Explain the categories of networks.
- b) Demonstrate Go Back-N sliding window Protocol with an example. [7+8]
- 7.a) Explain IEEE 802.11 standard for Ethernet with the help of frame format.
- b) Differentiate between pure ALOHA and slotted ALOHA. [8+7]
8. Write a short note on:
 - a) SMTP
 - b) HTTP. [8+7]