Please check that this question paper contains 9 questions and 2 printed pages within first ten minutes.

[Total No. of Questions: 09] [Total No. of Pages: ...2..]

Uni. Roll No. .....

Program: B.Tech. (Batch 2018 onward)
Semester: 3rd
Name of Subject: Computer Networks
Subject Code: PCCS-102
Paper ID: 16011

MORNING
19 JUN 2023

Time Allowed: 03 Hours **Max. Marks: 60**

NOTE:

1) Parts A and B are compulsory
2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice
3) Any missing data may be assumed appropriately

Part – A **[Marks: 02 each]**

Q1.

a) Define bandwidth and Bit error rate
b) Outline the concept of guided media and unguided transmission media
c) Illustrate CSMA/CD in brief
d) Demonstrate the criteria required for an effective and efficient network
e) Elaborate how ARP requests impact network and host performance
f) Explain briefly why both MAC and IP addressing schemes are required in the same network

Part – B **[Marks: 04 each]**

Q2. Define Fast Ethernet and Gigabit Ethernet

Q3. State Leaky Bucket and Token Bucket algorithm with example

Q4. Illustrate circuit switching and packet switching

Q5. Write short note on - repeaters, routers and gateways

Q6. Differentiate between open loop and closed loop congestion control methods

Q7. Explain multiple access protocols- Pure ALOHA and Slotted ALOHA

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Part – C **[Marks: 12 each]**

Q8. List and explain different types of network topologies. Assume 6 devices are arranged in a mesh topology. How many cables are needed? How many ports are needed for each device?

OR

Illustrate error detection and error correction techniques

Q9. Elaborate Logical addressing with the help of IPv4 and IPv6 header format

OR

Explain responsibilities of Transport Layer in detail, also differentiate between TCP and UDP

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