

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
0520MCA104072102
Second Semester MCA (2 Year) Degree Examination July 2021

Course Code: 20MCA104

Course Name: ADVANCED COMPUTER NETWORKS

Max. Marks: 60

Duration: 3 Hours

PART A

Answer all questions, each carries 3 marks.

Marks

- | | | |
|----|--|-----|
| 1 | What is protocol layering? What are the reasons for using Layered Architecture in Computer Networks? | (3) |
| 2 | What is the role of SMTP in E-Mail message transfer? | (3) |
| 3 | Demonstrate the significance of sequence numbers in stop and wait ARQ. | (3) |
| 4 | Explain the TCP segment header format. | (3) |
| 5 | Compare datagram network with virtual circuit network. | (3) |
| 6 | Explain multicast routing. | (3) |
| 7 | Explain how parity is used to achieve error detection in data communication. | (3) |
| 8 | Explain the working of CSMA/CD? | (3) |
| 9 | Explain Network Address Translation. | (3) |
| 10 | What is VPN? List different types of VPN. | (3) |

PART B

Answer any one question from each module. Each question carries 6 marks.

Module I

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|----|---|-----|
| 11 | Explain the working of File Transfer Protocol (FTP) and its features. | (6) |
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OR

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| 12 | Explain the two predominant network architecture used in modern network applications with diagrams. | (6) |
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Module II

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| 13 | Outline in detail the two well-known data transport protocols provided by the Internet transport layer. | (6) |
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OR

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| 14 | Explain why TCP congestion control is referred as Additive increase Multiplicative decrease form of congestion control. | (6) |
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Module III

- 15 Describe the format of IPv6 datagram with the help of a diagram, highlighting the significance of each field. (6)

OR

- 16 Explain the significance of routing in networking. Illustrate distant vector routing algorithm used in network routing. (6)

Module IV

- 17 a) What are channel partitioning protocols? Indicate the difference between each category of channel partitioning protocol. (3)

- b) Draw the Ethernet frame structure and mention the purpose of fields in it.

(3)

OR

- 18 What are the different error detection techniques used at the data link layer? (6)

Module V

- 19 Explain Bluetooth with its architecture and layers. (6)

OR

- 20 Explain Network management and highlight the role of network administrator. (6)
