

Reg No.: \_\_\_\_\_

Name: \_\_\_\_\_

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**  
SIXTH SEMESTER B.TECH DEGREE EXAMINATION(R&S), MAY 2019

Course Code: CS306

Course Name: COMPUTER NETWORKS

Max. Marks: 100

Duration: 3 Hours

**PART A***Answer all questions, each carries 3 marks.*

- |   |  | Marks |
|---|--|-------|
| 1 | Distinguish between interface, protocol and layer in network software. | (3)   |
| 2 | What are point to point and broadcast networks?                        | (3)   |
| 3 | Draw the different frame formats in HDLC.                              | (3)   |
| 4 | How does pure aloha and slotted aloha differ?                          | (3)   |

**PART B***Answer any two full questions, each carries 9 marks.*

- |   |  |     |
|---|--|-----|
| 5 | a) List the design issues of layered network software.     | (3) |
|   | b) Explain WAN and communication subnet?                   | (3) |
|   | c) Compare TCP/IP Reference model and OSI Reference model. | (3) |
| 6 | a) With neat diagram, explain OSI reference Model.         | (6) |
|   | b) Explain the working of CSMA/CD?                         | (3) |
| 7 | a) Explain how Token management is done in IEEE 802.5.     | (3) |
|   | b) Distinguish between switches and bridges.               | (3) |
|   | c) List the features of Gigabit Ethernet.                  | (3) |

**PART C***Answer all questions, each carries 3 marks.*

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|----|---|-----|
| 8  | List the network layer functions.                       | (3) |
| 9  | Differentiate between Flooding and broadcasting         | (3) |
| 10 | How token bucket algorithm performs congestion control? | (3) |
| 11 | List the private IP address ranges of class A, B and C? | (3) |

**PART D***Answer any two full questions, each carries 9 marks.*

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|----|---|-----|
| 12 | a) Explain how routing is performed using link state algorithm? Illustrate with an example. | (6) |
|    | b) Give the relevance of age field in a link state packet.                                  | (3) |
| 13 | a) Explain any two congestion control algorithms  | (5) |

- b) Discuss about the routing for mobile hosts. (4)
- 14 a) What is QoS? Explain any two methods to ensure QoS. (6)
- b) Subnet the Class C IP Address 206.16.2.0 so that you have 30 subnets. (3)
- What is the subnet mask for the maximum number of hosts?
- How many hosts can each subnet have?

**PART E**

*Answer any four full questions, each carries 10 marks.*

- 15 a) How does BGP avoid count to infinity problem? (3)
- b) Draw the IPv6 fixed header format. (3)
- c) Explain the role of ICMP. (4)
- 16 a) Define address resolution problem. Explain about RARP (6)
- b) Give the importance of BOOTP. (4)
- 17 a) Discuss about the issues with IPv6 (3)
- b) Explain how IGMP supports internet multicasting (7)
- 18 a) What are port numbers, give its importance in computer communication? (3)
- b) Distinguish between TCP and UDP header format. (7)
- 19 a) How FTP handles file transfer? (3)
- b) Explain various features of MIME? (4)
- c) What is the role of SMTP in E Mail message transfer? (3)
- 20 a) Explain DNS message types (4)
- b) List the components of SNMP? (3)
- c) Explain the procedure for calculating the UDP checksum? (3)

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