

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
FIFTH SEMESTER B.TECH DEGREE EXAMINATION, APRIL 2018

Course Code: IT307

Course Name: COMPUTER NETWORKS (IT)

Max. Marks: 100

Duration: 3 Hours

PART A

Answer any two full questions, each carries 15 marks

Marks

- | | | |
|---|---|------|
| 1 | a) Classify Network types based on its size and explain each. | (5) |
| | b) Compare OSI model with TCP/IP reference model. | (10) |
| 2 | a) Explain the use of networking devices used in physical layer and data link layer. | (7) |
| | b) Describe any three Data Link Layer Design issues in detail. How are they solved? | (8) |
| 3 | a) Illustrate the Errors and Recovery with Go Back N Sliding window protocol. | (8) |
| | b) The message 10111011010110 is to be transmitted using CRC error detection algorithm. Assuming the CRC polynomial to be x^4+x^2+x+1 , determine the message that should be transmitted. If the second left most bit is corrupted, show that it is detected by the receiver. | (7) |

PART B

Answer any two full questions, each carries 15 marks

- | | | |
|---|--|------|
| 4 | a) Compare Pure ALOHA with Slotted ALOHA. Analyse the efficiency of these protocols. | (8) |
| | b) Illustrate the three types of CSMA protocol. | (7) |
| 5 | a) Write the security issues associated with the promiscuous mode of Ethernet. | (3) |
| | b) Write notes on 10-gigabit Ethernet. | (4) |
| | c) Describe any two Congestion Control Algorithm. | (8) |
| 6 | a) Explain the Optimality principle in routing. | (5) |
| | b) Describe Distance vector routing algorithm and its shortcomings. How are they solved? | (10) |

PART C

Answer any two full questions, each carries 20 marks

- | | | |
|---|---|------|
| 7 | a) Explain the use of Remote Procedure Call in Network applications. | (5) |
| | b) Explain the need of Multiplexing in transport Layer. | (5) |
| | c) Describe the Connection establishment and Release of a TCP connection with a state diagram. Why are the TIME-WAIT states required? | (10) |
| 8 | a) Differentiate between Persistent and non-persistent Connections. | (5) |
| | b) Explain P2P sharing with its advantages and disadvantages. | (5) |
| | c) Differentiate between TCP and UDP protocol along with the segment structures. | (10) |
| 9 | a) Explain the use of Multipurpose Internet Mail Extensions in internet. | (5) |
| | b) Explain the use of Cookies and Web Cache. | (5) |
| | c) Explain the Domain Name System in detail. | (10) |
