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Course Code: 201CS5T01

# ADITYA ENGINEERING COLLEGE (A)

B. Tech – V Semester End Examinations Regular (AR20) – DEC 2022

## COMPUTER NETWORKS

(Common to CSE & IT)

Time: 3 Hours

Max. Marks: 70

Answer ONE question from each unit

All Questions Carry Equal Marks

All parts of the questions must be answered at one place only

### UNIT – I

- 1 a Compare Bus topology and Star topology. K2 CO1 [7M]  
b List and explain layer functions of OSI reference model. K2 CO1 [7M]

OR

- 2 a List and explain layer functions of TCP/IP reference model. K2 CO1 [7M]  
b Compare Guided Media with Unguided Media in Physical Layer K2 CO1 [7M]

### UNIT – II

- 3 a Write CRC algorithm. Use it to demonstrate the method of error checking. K2 CO2 [7M]  
b Explain the concept of G0-Back-N sliding window protocol with example. K2 CO2 [7M]

OR

- 4 a Calculate CRC, if the message is 110101001 and the generator is 1011. K3 CO2 [7M]  
b Describe stop and wait protocol with neat sketch. K2 CO2 [7M]

### UNIT – III

- 5 a Describe the working principle of Carrier sense multiple access with collision Detection (CSMA/CD). K2 CO3 [7M]  
b What is polling? What are the assumptions related to it? What are the pros and cons? K2 CO3 [7M]

OR

- 6 a Compare Pure ALOHA and Slotted ALOHA K2 CO3 [7M]  
b Explain about the 802.11 Architecture. K2 CO3 [7M]

### UNIT – IV

- 7 a Differentiate between Adaptive and Non Adaptive Routing. K2 CO4 [7M]  
b Explain the prevention policies of congestion. K3 CO4 [7M]

OR

- 8 a Describe Broadcast routing in detail. K2 CO4 [7M]  
b Discuss the process of distance vector routing. Explain count-to-infinity. K3 CO4 [7M]

### UNIT – V

- 9 a How is connection established and terminated in TCP using three-way handshaking mechanism? Explain. K2 CO5 [7M]  
b Describe in brief about the architecture of Email. K2 CO5 [7M]

OR

- 10 a Compare and contrast the UDP header and TCP header. K4 CO5 [7M]  
b Explain how DNS service maps domain names to IP addresses. K2 CO5 [7M]

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