R15

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech III Year I Semester Examinations, May - 2018
COMPUTER NETWORKS
(Common to CSE, IT)

Time: 3 hours   Max. Marks: 75

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A

(25 Marks)

1.a)	What is Internet. Differentiate it from intranet.	[2]
b)	Discuss the design issues of data link layer.	[3]
c)	When do we use hubs?	[2]
d)	What are main functionalities of routers? What is purpose of using multiprotocol routers?	[3]
e)	What is optimality principle?	[2]
f)	Discuss congestion control algorithms on brief.	[3]
g)	What is CIDR addressing	[2]
h)	Discuss the principles of internetworking.	[3]
i)	What is silly window syndrome?	[2]
j)	Draw TCP and UDP headers.	[3]

PART - B

(50 Marks)

2.   Compare and contrast OSI and TCP/IP reference models. Critique on each model.   [10]

OR

3.a)   Explain sliding window protocol.
  b)   Describe go back N protocol.   [5+5]

4.   Define collision. Explain collision free protocols. Mention advantage of each protocol.
                                                                                                        [10]

OR

5.   Explain the following:
        a) Bridges
        b) Gateways
        c) Repeaters.   [10]

6.a)   The major problem with distance vector routing algorithm is 'count to infinity'. How exchange complete path form router to destination instead of delay, helps in solving count to infinity problem.
  b)   Explain the design issues of network layer.   [5+5]

OR

7.   Discuss the hierarchical routing with examples.   [10]

8. Given a network address of 192.168.100.0 and a subnet mask of 255.255.255.192.
   a) How many subnets are created?
   b) How many hosts are there per subnet? [5+5]

OR

9.a) Discuss ICMP Messages.
  b) Explain Tunneling in Internet layer. [5+5]

10. Illustrate the TCP connections, TCP releases with state transition diagram. [10]

OR

11. Describe DNS with diagrams and real-time examples. [10]

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