

Hall Ticket Number:

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Code No. : 16404 N

VASAVI COLLEGE OF ENGINEERING (Autonomous), HYDERABAD
B.E. (ECE: CBCS) VI-Semester Main Examinations, May-2019

Computer Networks

Time: 3 hours

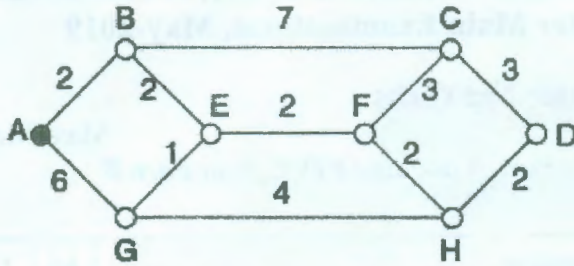
Max. Marks: 70

Note: Answer ALL questions in Part-A and any FIVE from Part-B

Q. No.	Stem of the question	M	L	CO	PO
Part-A (10 × 2 = 20 Marks)					
1.	Assume 6 networking devices are arranged in a mesh topology. How many cable links are needed? How many ports are needed for each device?	2	3	1	1,2
2.	A bit stream 1101011011 is to be transmitted using the standard CRC method. The generator polynomial is x^4+x+1 . What is the actual bit string transmitted?	2	3	2	1,2
3.	Describe the principle of CSMA/CA protocol.	2	2	2	1
4.	Consider the delay of pure ALOHA versus slotted ALOHA at low load. Which one is having less delay? Justify your answer.	2	2	2	1
5.	Define Flooding in the context of routing.	2	1	4	1
6.	Write the IP address 222.1.1.20 mask 255.255.255.192 in CIDR notation.	2	2	4	1
7.	What is the purpose of Keep alive timer in TCP?	2	2	3	1
8.	Discuss AIMD.	2	2	4	1
9.	Consider Message bits: 1001001 0100000, Pad bits: 1010010 1001011. Calculate the Cipher text.	2	3	5	1,2
10.	Give the purpose of HTML tags : <hr>, <h1>.	2	2	4	1
Part-B (5 × 10 = 50 Marks)					
11. a)	Compare OSI and TCP/IP reference Models	5	2	2	1
b)	Consider the data unit to be transmitted is: 10011001111000100010010010000100 Compute 8 bit Checksum.	5	3	1	1,2
12. a)	Explain IEEE 802.3 frame format.	5	2	2	1
b)	Describe Bluetooth Architecture.	5	2	2	1

Contd...2

13. a)



Compute the distance from A to D using shortest path routing algorithm for the above network topology.

5 3 4 1,2

b) An organization is granted the IP block 16.0.0.0/8. The administrator wants to create 500 fixed-length subnets. Find the subnet mask and number of addresses in each subnet.

5 3 4 1,2

14. a) Discuss UDP protocol architecture with the help of neat sketch.

4 2 3 1

b) If the TCP round-trip time, RTT , is currently 30 msec and the following acknowledgements come in after 26, 32, and 24 msec, respectively, Calculate the new RTT estimate using the Jacobson algorithm? Use $\alpha = 0.9$.

6 3 3 1,2

15. a) Create HTML for any formatted page (Your choice) using at least 5 tags.

5 3 3 1,2

b) Describe the key features of Data Encryption Standard (DES).

5 2 5 1

16. a) Create a LAN for the small company of capacity 24 users. 12 nodes are in first building. 12 nodes are in second building (Building to building distance is 1200meters).

6 6 1 2,3

b) Analyse and compare important parameters of various CSMA techniques.

4 2 2 1

17. Answer any *two* of the following:

a) Describe Distance Vector Routing Algorithm.

5 2 4 1,2

b) Discuss Elements of Transport protocols.

5 2 3 1

c) Describe SMTP.

5 2 3 1

M: Marks; L: Bloom's Taxonomy Level; CO: Course Outcome; PO: Programme Outcome

S. No.	Criteria for questions	Percentage
1	Fundamental knowledge (Level-1 & 2)	60
2	Knowledge on application and analysis (Level-3 & 4)	34
3	*Critical thinking and ability to design (Level-5 & 6) (*wherever applicable)	06