Register Number: ……..

B.E/ B.TECH DEGREE EXAMINATIONS: APRIL/MAY 2014

(Regulation 2009)

Fifth Semester

ITY104: COMPUTER NETWORKS

(Common to CSE / IT)

Time: Three Hours **Maximum Marks: 100**

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Which of the following is the fastest media of data transfer?
   a) Co-axial Cable b) Untwisted Wire
   c) Telephone Lines d) Fibre Optic
2. The topology in which each node is connected to every other node by direct links is
   a) ring topology b) tree topology
   c) mesh topology d) bus topology
3. In CRC Encoder, if the left most bit is 1, then the divisor bits are _____.
   a) 000 b) 111
   c) 100 d) 011
4. Process of checking errors in communication transmissions by combining vertical error checking and _____ error checking.
   a) cyclic b) longitudinal
   c) checksum d) parity bit
5. A device that forwards data packet from one network to another is called a
   a) Bridge b) Switch
   c) Hub d) Gateway
6. Identify the class of IP address 157.143.252.207
   a) Class A b) Class B
   c) Class C d) Class D
7. UDP and TCP are both _____ layer protocols
   a) Physical b) Data link
   c) Network d) Transport
8. A flow- based QoS model designed for IP is called _____.
   a) Integrated Services b) Differentiated Services
   c) RSVP d) Multicast trees

9. Which one of the following protocols work a companion protocol of SMTP?
   a) POP3 b) DNS
   c) HTTPS d) FTP
10. FTP does not use
    a) Two transfer mode. b) Control connection to remote computer before file can be transferred.
    c) User Datagram Protocol. d) Authorization of a user through login and password verification

PART B (10 x 2 = 20 Marks)

11. Define the term protocol and give its key elements.
12. List any two demerits of ring topology.
13. What is the necessity of flow control?
14. Categorize two types of data frames in FDDI.
15. List the two forms in which virtual circuit packet switching is implemented.
16. Name the contents of a classful IP routing table.
17. Name any four flags that are present in TCP header.
18. Define the term socket address.
19. Why HTTP is called a stateless protocol?
20. Define the term, 'cryptology'.

PART C (5 x 14 = 70 Marks)

21. a) (i) Compare and contrast star and bus topologies. (4)
    (ii) Explain about Coaxial cable and Fiber Optics media for communication. (10)

    (OR)

    b) (i) Explain the Layers of ISO /OSI model with neat sketch. (8)
    (ii) Perform a comparative study between the ISO OSI model and TCP/IP protocol suite. (6)

22. a) Discuss the three mechanisms that handle flow and error control in data link layer.

    (OR)

    b) (i) In the Hamming code, for a data unit of m bits, how do you compute the number of redundant bits r needed? (4)
    (ii) Explain the frame format of IEEE 802.3 and IEEE 802.5 in detail. (10)

23.	a)	(i)	With a suitable topology that contains 6 nodes and 10 links, trace the steps involved in distance vector routing.	(10)
		(ii)	State the major difference between Distance Vector Routing and Link State Routing.	(4)
			(OR)	
	b)	(i)	What is subnetting? Discuss. Also state which classes of IP address can be subnetted.	(8)
		(ii)	Explain about special IP addresses in detail.	(6)
24.	a)	(i)	Highlight the features of UDP and briefly discuss the same.	(7)
		(ii)	Discuss the strategies TCP uses to avoid congestion.	(7)
			(OR)	
	b)	(i)	Discuss how TCP provides reliability using error control.	(7)
		(ii)	Show how TCP improves QoS criteria.	(7)
25.	a)	(i)	Discuss how does Simple Mail Transfer Protocol (SMTP) work? Can multimedia messages be transmitted using SMTP? Discuss.	(10)
		(ii)	Discuss on Communication over Data Connection related with FTP.	(4)
			(OR)	
	b)	(i)	State how DNS organizes the name space and how the domain name space is divided into. Also distinguish between a fully qualified domain name and a partially qualified domain name.	(10)
		(ii)	List and discuss the types of DNS records.	(4)

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