Scheme of Valuation/Answer Key

(Scheme of evaluation (marks in brackets) and answers of problems/key)

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

SIXTH SEMESTER B.TECH DEGREE EXAMINATION, APRIL 2019

Course Code: CS306

Course Name: COMPUTER NETWORKS

Max. Marks: 100		Duration: 3 Hours

PART A

		Answer all questions, each carries3 marks.	Marks
1		Define interface, protocol and layer in network software.	(I mark each Total-3marks)
2		point to point and broadcast networks	(1 ½ marks each Total-3marks))
3		frame formats in HDLC.-information, supervisory and unnumbered frames	(1 mark each Total-3marks)
4		pure aloha and slotted aloha	(1 ½ marks each Total-3marks))

PART B

Answer any two full questions, each carries9 marks.

5	a)	List the design issues of layered network software.(any three)	(I mark each Total-3marks)
	b)	Explain WAN and communication subnet?	(1 ½ marks each Total-3marks))
	c)	Compare TCP/IP Reference model and OSI Reference model.(any three)	(I mark each Total-3marks)
6	a)	With neat diagram, explain OSI reference Model.	Diagram-2 marks Layer functions-4marks
	b)	the working of CSMA/CD	(3 marks)
7	a)	Token management is done in IEEE 802.5.priority bits and reservation bits management	(3 marks)
	b)	switches and bridges.(any three)	(3 marks)

	c)	the features of Gigabit Ethernet.(any three)	(3 marks)
PART C			
Answer all questions, each carries3 marks.			
8		List the network layer functions.(any three)	(3 marks)
9		Flooding and broadcasting	(1 ½ marks each Total-3marks))
10		token bucket algorithm for congestion control	(3 marks)
11		List the private IP address ranges of class A, B and C? A - 10.0.0.0 to 10.255.255.255 B – 172.16.0.0 to 172.31.255.255 C – 192.168.0.0 to 192.168.255.255	(3 marks)
PART D			
Answer any two full questions, each carries9 marks.			
12	a)	Explanation of link state algorithm.	(Explanation - 4 marks Example – 2 marks)
	b)	Relevance of age filed in LS packet	(3 marks)
13	a)	any two congestion control algorithms	(2*2.5=5 marks)
	b)	Routing for mobile hosts	(4 marks)
14	a)	What is QoS. Explain any two methods to ensure QoS?	QoS-definition-2 marks Two methods-4marks
	b)	Subnet the Class C IP Address 206.16.2.0 so that you have 30 subnets. What is the subnet mask for the maximum number of hosts? How many hosts can each subnet have? Ans: Current mask= 255.255.255.0 Bits needs for 30 subnets =5 =2^5 =32 possible subnets Bits left for hosts = 3 = 2^3 -2 = 8-2=6 possible hosts. So our mask in binary =11111000= 248 decimal Final Mask =255.255.255.248	(3 marks)
PART E			
Answer any four full questions, each carries10 marks.			
15	a)	How does BGP avoid count to infinity problem? BGP keeps track on path in addition to cost	(3marks)

	b)	Draw the IPv6 fixed header format.	(3 marks)
	c)	Explain the role of ICMP in Internet	(4 marks)
16	a)	Define address resolution problem. Explain about RARP	6 marks
	b)	Give the importance of BOOTP.	(4 marks)
17	a)	Discuss about the issues with IPv6	(3 marks)
	b)	Explain how IGMP supports internet multicasting?	(7 marks)
18	a)	What are port numbers and give its importance in computer communication?	(3 marks)
	b)	Distinguish between TCP and UDP header format.	(3 ½ marks each Total-7 marks))
19	a)	How FTP handles file transfer?	(3 marks)
	b)	Explain various features of MIME?	(4 marks)
	c)	What is the role of SMTP in E Mail message transfer?	(3 marks)
20	a)	Explain DNS message types.	(4 marks)
	b)	List the components of SNMP?	(3 marks)
	c)	Explain the procedure for calculating the UDP checksum?	(3 marks)
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