Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

SIXTH SEMESTER B.TECH DEGREE EXAMINATION(S), DECEMBER 2019

Course Code: CS306

Course Name: COMPUTER NETWORKS

Max. Marks: 100 Duration: 3 Hours

PART A

Answer all questions, each carries 3 marks. Marks

1		What are service primitives in computer networks?	(3)
2		Differentiate between 1 persistent and p-persistent CSMA.	(3)
3		Draw the frame format of Ethernet.	(3)
4		List the features of LAN.	(3)

PART B

Answer any two full questions, each carries 9 marks.

5	a)	Explain Stop-and-wait, Go-Back-N and Selective Repeat ARQ techniques.	(6)
	b)	Differentiate between connection oriented and connectionless services.	(3)
6	a)	How computer networks are categorized based on transmission technology and scale? Explain the features of each network.	(6)
	b)	Distinguish between bit stuffing and character stuffing in framing.	(3)
7	a)	Explain about the MAC protocol in Ethernet.	(5)
	b)	With the TCP/IP protocol stack, explain TCP/IP Reference model.	(4)

PART C

Answer all questions, each carries3 marks.

8		List the features of RIP.	(3)
9		List the message types in OSPF.	(3)
10		What is IP subnetting? Illustrate with example.	(3)
11		List the IP address ranges and subnet masks of class A, class B and class C.	(3)

PART D

Answer any two full questions, each carries9 marks.

12	a)	Illustrate distance vector routing algorithm with an example.	(5)
	b)	Differentiate classfull and classless addressing schemes	(4)
13	a)	Explain OSPF routing algorithm.	(5)
	b)	Discuss about any two congestion control algorithms.	(4)
14	a)	How routing is handled in mobile hosts?	(4)

b) Subnet the Class C IP Address 195.1.1.0 So that you have 10 subnets each with a maximum 12 hosts on each subnet. (5)

PART E

Answer any four full questions, each carries10 marks.

15 a) Draw and explain the message format for the ICMP echo request and echo reply messages. (5)

b) Explain about the controversies regarding IPv6 (5)

16 a) How BOOTP performs when the client and the server are on different networks? (5)

b) What is multicasting? Mention the role of IGMP in IP multicasting. (5)

17 a) How the routing updates are communicated among different Autonomous systems? Give the features of any one Exterior Gateway Protocol. (6)

b) Draw and explain IPv6 header format. (4)

18 a) List the transport layer functions. (3)

b) Differentiate between TCP and UDP. (7)

19 a) How SMTP handles a mail transfer from Alice to Bob? (4)

b) Give the importance of MIME. What are the different MIME types? (6)

20 a) What is the role of SNMP? Explain its components. (7)

b) Differentiate between DNS query and response messages. (3)

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