B. E. Fifth Semester (Computer Technology) / SoE–2014–15 Examination

Course Code : CT 1340/CT 340 **Course Name : Computer Networks**

Time : 3 Hours] [Max. Marks : 60

Instructions to Candidates :—

(1) All questions carry marks as indicated.
(2) Assume suitable data wherever necessary.
(3) Illustrate your answers wherever necessary with the help of neat sketches.

1.	(A1)	Explain in detail about layers in OSI reference Model.	5(CO2)
	(A2)	Write a difference between service and protocols. Also list the different service primitives.	3(CO1)
	(A3)	Draw the different WAN Topologies.	2(CO1)
		OR	
	(B1)	Explain TCP/IP model in detail.	5(CO2)
	(B2)	Differentiate between Computer Networks and distributed system.	3(CO1)
	(B3)	Write a design issues of OSI model layer.	2(CO2)
2.	(A1)	Write a short note on Propagation modes of optical fiber.	4(CO2)
	(A2)	Explain circuit switched network.	4(CO2)
	(A3)	Compare baseband and broadband coaxil cable.	2(CO2)
		OR	
	(B1)	Write short note on twisted pair cable.	4(CO2)
	(B2)	Write short note on RS-232C.	4(CO2)

(B3) Explain the concept of Modulation and Demodulation with suitable diagram. 2(CO2)

3. (A1) A bit stream 10011101 is transmitted using standard CRC method where the generator polynomial is $X^3 + 1$. Suppose the third bit from left is inverted during transmission. Show that error is detected at receiver end. 4(CO3)

(A2) Write and explain the simplex step and wait protocol. 4(CO2)

(A3) Write design issues of data link layer. 2(CO2)

OR

(B1) Write and explain the GO Back N protocol. 4(CO2)

(B2) What is the significance of hamming distance ? How is it used for error correction ? Explain with example. 4(CO1)

(B3) Enlist different framing techniques. 2(CO1)

4. (A1) Differentiate between Pure ALOHA and Slotted ALOHA. 4(CO1)

(A2) Discuss key assumption in dynamic channel allocation in LAN or MAN. 3(CO1)

(A3) Explain the l-persistent, p-persistent and non-persistent protocol. 3(CO2)

OR

(B1) Explain 1-bit Bitman protocol. 3(CO2)

(B2) Draw and explain format of IEEE 802.4 standard. 5(CO1)

(B3) Write short note on CSMA/CD. 2(CO2)

5. (A1) How the congestion can be defined ? What are the factors that can cause it ? 4(CO2)

(A2) Write and explain Leaky Bucket Algorithm. 4(CO2)

(A3) Differentiate static Vs Dynamic routing. 2(CO2)

OR

(B1) Explain Link State Routing protocol. 5(CO2)

(B2) Write a short note on Optimality Principle in routing. 3(CO2)

(B3) Draw IP header format. (IPV4) 2(CO2)

6. (A1) Explain connection establishment using 3-way hand shaking in TCP. 4(CO2)

(A2) Discuss in brief different Quality Of Service (QOS) parameters used in transport layer. 4(CO1)

(A3) Write a short note on UDP. 2(CO2)

OR

(B1) Write short note on TCP with its header format. 5(CO2)

(B2) Compare TFTP and FTP. 3(CO2)

(B3) Enlist elements of transport protocol. 2(CO2)