Reg. No.										

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KNOWLEDGE IS POWER

FOURTH SEMESTER B.Tech. (CCE) DEGREE MAKEUP EXAMINATION JUNE/JULY 2016
SUBJECT: TCP/IP PROTOCOL SUITE – ICT 2254
(REVISED CREDIT SYSTEM- NEW SYLLABUS)

TIME: 3 HOURS 07/07/2016 **MAX. MARKS: 50**

Instructions to candidates
Answer **ALL** the questions.
Missing data, if any, may be suitably assumed.

1A. Why do we need ARP? Explain the different cases where we need the services of ARP.

1B. Explain the CSMA/ CA flow diagram for wireless local area network

1C. Message of size 100 byte is sent through a private internet using TCP/IP protocol suite. If the protocol adds a 10-byte header at each layer, what is efficiency of the system? Ignore the trailer part. (Hint: The ratio of number of useful bytes to the number of total bytes)

[5+3+2]

2A. Calculate the checksum for the UDP packet given in Figure Q.2A.

153.18.8.105		
171.2.14.10		
0	17	15
1087		13
15		0
0101010001000101 0100100101001110		0101001101010100 0100011100000000

Figure: Q.2A

2B. An organization is granted a block 130.34.12.64/26. The organization needs 4 subnets of equal size. Write the network address and mask for each group. If one of the hosts is identified with 130.34.12.252 identify the following:

i. Subnet id to which this address is allocated ii. Last address of that subnet

iii. Limited broadcast address

2C. Explain two ways of mapping logical address to physical address.

[5+3+2]

3A. With a neat diagram explain each fields in the IPv4 Packet format.

3B. TCP opens a connection using an initial sequence number of 14534. The other party opens the connection with an initial sequence number of 21732.

i) Show the TCP segments during the connection establishment

ii) Assume that 500 bytes of data is transmitted along each direction after connection establishment. Show the content of the segments during connection termination.

3C. Compare and contrast OSPF with RIP

[5+3+2]

4A. Which algorithm is used to find routing tables in distance vector routing? Show initial and final routing table for router A (given in Figure Q.4A) using distance vector routing algorithm.

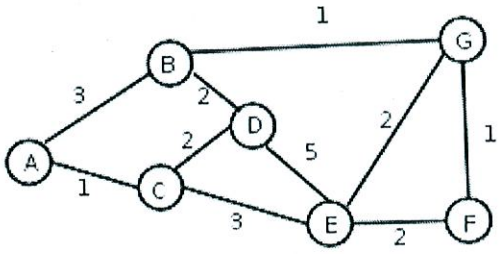

Figure: Q.4A

4B. With a suitable example, explain how TCP takes care of flow control.

4C. Explain any two ICMP query messages.

[5+3+2]

5A. How is error control achieved in TCP? Explain in detail.

5B. Why do we need DNS? Also explain how DNS is used in the internet.

5C. Explain the different QoS parameters used to calculate the performance of the network.

[5+3+2]