THE OPEN UNIVERSITY OF SRI LANKA
B.Sc. DEGREE PROGRAMME: LEVEL 05
NO BOOK TEST 2 - 2011/2012
CPU3245 – COMPUTER NETWORKS AND SECURITY
DURATION: One and Half hours

**Date: 09/04/2012** | **Time: 11.00am – 12.30pm**

Answer All Questions

QUESTION 1

1.1) List the differences between adaptive and non adaptive routing algorithms in point form. Give one example each for the above two (2) algorithm types.

1.2) How many bits are used in an IPv4 IP address? Give all the IP classes in IPv4 addressing scheme with their starting IP address and the ending IP address.

1.3) You need to subnet an IP block to four (4) branch offices of your company located in Kandy, Matara, Anuradhapura and Jaffna. Stating all the assumptions you make divide the IP block (192.220.70.0/24) to proper subnets and give the following information for each subnet. Show your calculations.

    i) Network address
    ii) Subnet mask and the maximum number of hosts allowed
    iii) IP addresses of First and Last Host
    iv) Broadcast address of the subnet

QUESTION 2

2.1) Write the appropriate CLI commands to be used in each router of the following figure to configure the given topology with static routing. Suggest two IP addresses for the PC1 and PC2.
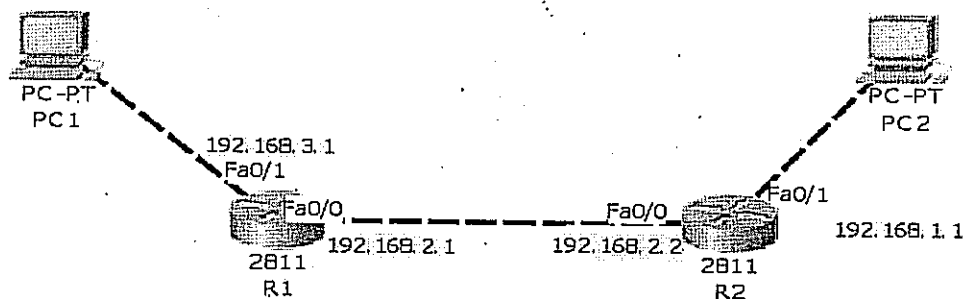
QUESTION 3

3.1) What is a Choke packet in a congestion control mechanism? How does the choke packet control the congestion in a network?

3.2) A user Palitha belongs to a domain mycompany.com and a user Kumara belongs to the domain bbc.com. Palitha sends an email to Kumara. Explain the processes that are taking place in appropriate severs. Draw diagrams if necessary.

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