ITS 413 – QUIZ 3

First name: _____   Last name: _____

ID: _____   Total Marks: _____
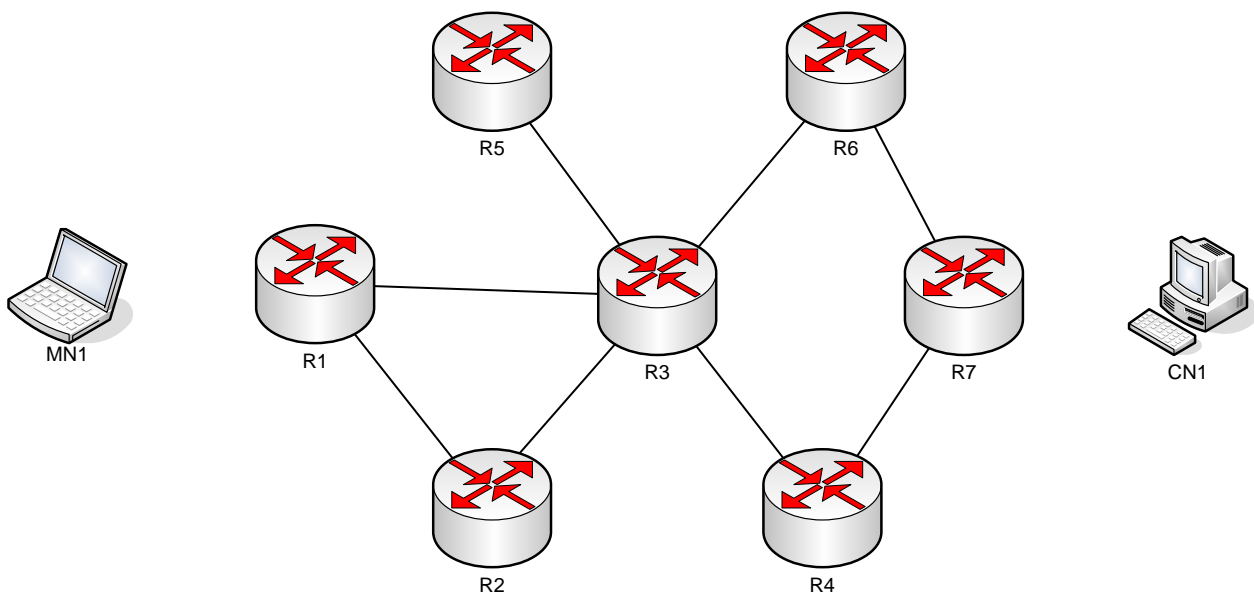   out of 10

Question 1 [3 marks]

a) Explain a reason why network throughput *may* be lower when using IEEE 802.11 RTS/CTS, as opposed to Basic Access.

b) Explain a reason why network throughput *may* be higher when using IEEE 802.11 RTS/CTS, as opposed to Basic Access.

Question 2 [7 marks]

Consider the following IP network consisting of 7 routers. Mobile Node MN1 (which implements Mobile IP) is initially in its home network attached to router R1. Correspondent Node CN1 is attached to router R7. If referring to IP addresses, you can refer to the name: e.g. IP address of MN1 is MN1; IP address of R3 is R3.
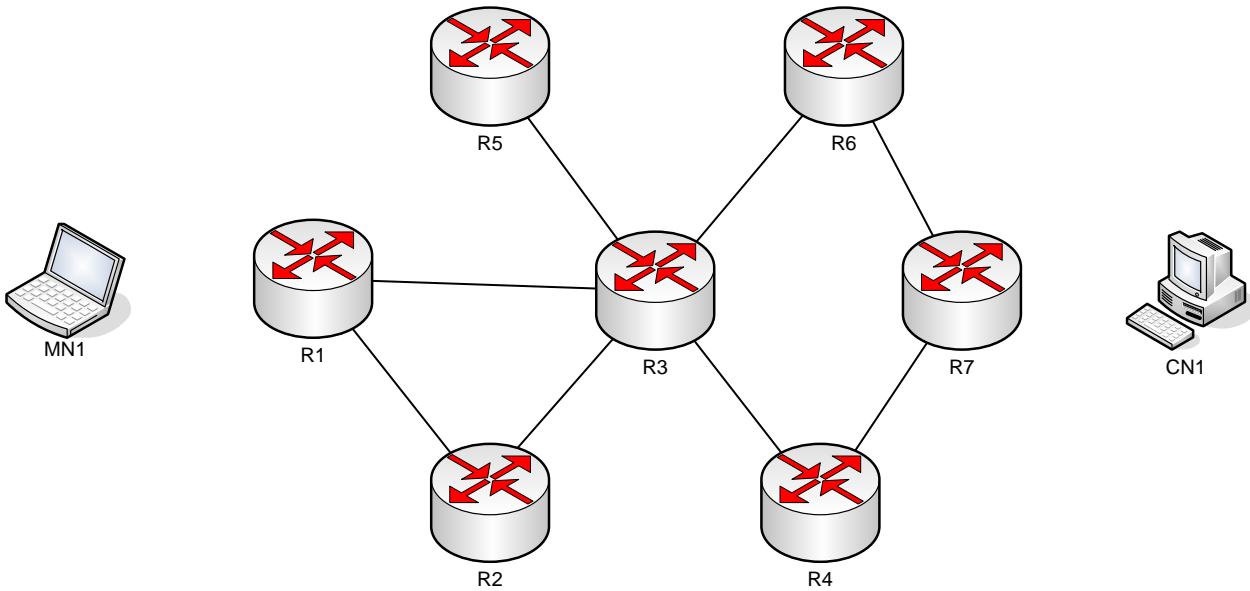
a) If MN1 wants mobile Internet access as it moves from R1 to the access network of R5, where must the following be deployed:

    a. Mobile IP Home Agent?   _____

    b. Mobile IP Foreign Agent?   _____

b) Illustrate on the diagram the 4 messages (including their names) used by Mobile IP to process the handover from R1 to R2. You may redraw MN1.

c) The Home Agent and Foreign Agent each contain tables of information for Mobile IP. Explain what they will contain (with respect to MN1) *after* the handover.

Home Agent Table

Foreign Agent Table

d) On the diagram below (which is identical to the previous), illustrate the path of a packet from CN1 to MN1 after the handover is complete. You may redraw MN1 and choose any valid path.

e) For the path chosen from part (d), what are the following IP addresses:

    a. Destination IP address of packet forwarded by R7? _____

    b. Destination IP address of packet received by the FA? _____

    c. Source IP address of packet received by MN1? _____

    d. Destination IP address of packet sent by FA? _____