Q1:

g(x) = x^3 + x + 1 => G = 1011 => r = 000

D = 1001 => D + r = 1001000

1001000 1011

1011 1010

001000

1011

00110

=> Codeword: 1001110

Q3:

Generator polynomial = x^3 + 1 => G = 1001 => r = 000

D = 10011101 => D + r = 10011101000

10011101000 1001

1001 10001100

00001101

1001

01000

1001

000100

=> R = 100

Codeword = 10011101100

Q4:

a.

135.46.63.10 = 10000111.00101110.00111111.00001010

First ID address = 135 => subnet mask 22

=> We have: 10000111.00101110.00111100.00000000 = 135.46.60.0

=> ID address 135.46.63.10 Interface 1

b.

135.46.57.14 = 10000111.00101110.00111001.00001110

First ID address = 135 => subnet mask 22

=> We have: 10000111.00101110.00111000.00000000 = 135.46.56.0

=> ID address 135.46.57.14 Interface 0

Q5:

a. Time download = (1024\*1024)/(32\*10^3) = 32 s

b.

c.