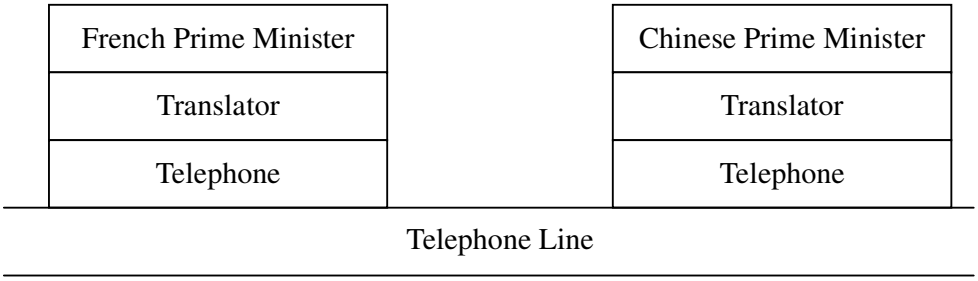
EE3009 Tutorial 3 (Solution)

Question 1



Question 2

It takes y msec. to set up the TCP connection and another $y + t$ msec. to request and receive the object. Hence, the total time is $t + 2y$ msec.

Question 3

p=17, q=5, e=61,
N=17*5=85, phi(N)=16*4=64, d=21
$c=32^{61}$ ***mod*** *85 =* $(32^{56})(32^{4})(32)$ ***mod*** *85 =(16*32)* ***mod*** *85 = 2.*
(32 **mod** 85 =32, 32^2 **mod** 85 =4,
32^4 **mod** 85 $=4^2$ **mod** 85 =16,
32^8 **mod** 85 $=16^2$ **mod** 85 =1,
32^{56} **mod** 85 =1 **mod** 85 =1)

m'=2^{21} **mod** 85 = (2^{20})(2)**mod** 85 =(16*2) **mod** 85 =32.
m'=m=32!
(2 **mod** 85 =2, 2^{10} **mod** 85 =4 , 2^{20} **mod** 85 =16)

Question 4

a) 99 bytes
b) 391 bytes