

These prime numbers  
are usually larger

$$P=7 \quad Q=13$$

$$N=91$$

$$R=22 \quad (p-2)(q-2)$$

$$k=145$$

$$e=5$$

$$d=29$$

Relatively prime

$$e \cdot d \cdot r = 1$$

Message

= 'HI'

$$\text{ASCII} = 72 \quad 73$$

Because P and Q were small numbers and N is a low value each ascii value of the string will need to be smaller than N.

$$\text{Encrypt} \left\{ \begin{array}{l} I(72)^5 \% 91 = 47 \\ H(73)^5 \% 91 = 11 \end{array} \right.$$

$$\text{decrypt} \left\{ \begin{array}{l} (47)^{29} \% 91 = 72 \text{ (ascii I)} \\ (11)^{29} \% 91 = 73 \text{ (ascii H)} \end{array} \right.$$