**Justification for the usage of algorithms:**

I’ve used AES to encrypt the text data and then encrypted the AES key using RSA to achieve the combination of symmetric with asymmetric encryption. AES is strong symmetric algorithm whose only downside is that its symmetric, but its very fast to implement and thus bulky data can be encrypted using this encryption. RSA is a very secure being a public key cryptography, its downside though is that its very slow thus I use it to only encrypt the AES key which is decrypted by the receiver using their private key.

This combination of algorithms assures good performance while not sacrificing security.

**Key Sizes and Modes:**

I use a 256 bit key (32 bytes) for the AES encryption which makes it very secure and I use a 2048 bit key for RSA which is considered a reasonably good size for an RSA key. I used the CFB8 mode with AES to ensure that extra padding problems would not be an issue.