Note: Answer Five questions. (10) Marks for each question.

Q1/ Write a complete program for encryption and decryption using ELGamal public key cryptography method. (In any language)

Q2/ Encrypt the message "computer" using AES block cipher algorithm, the secret key is "science". (for only R₀, R₁ Rounds)

Q3/ Explain the following in detail. (Choose Only Two)
   - Compare between the S-Box in DES and Blowfish algorithms.
   - Digital signature in RSA. (with Example).
   - McEliece Encryption Algorithm.

Q4/ Find the Results:
   1- Find $\Phi(3^3)$. (Euler's)
   2- GCD(48,180) and LCM(48,180)
   3- (-4) mod 7
   4- (-5²) mod 3

Q5/ Answer the following:
   - Give your opinion to enhancement block cipher algorithm. (depend on public key algorithm)

Q6/ Explain the following:
   - F-function in DES algorithm.
   - Key generation in Blowfish algorithm.

Good Luck