

4. **Attempt any one part of the following:** **10 x1 = 10**
- (a) For a Diffie-Hellman scheme with common prime $q = 11$, and primitive root $\alpha = 2$, generate a set of public key and private key pairs between two users A and B. Make your own assumptions.
 - (b) Explain the term traffic confidentiality with suitable example.
5. **Attempt any one part of the following:** **10x1 = 10**
- (a) What do you understand by message authentication code? How it differs from one way hash function?
 - (b) Describe DSA (Digital Signature Algorithm).
6. **Attempt any one part of the following:** **10x1 = 10**
- (a) What is Pretty Good privacy (PGP)? Give the structure of Pretty Good privacy? Also explain the concept of key rings with their formats
 - (b) What are the major security aspects in the security of electronic mail system.
7. **Attempt any one part of the following:** **10x1 = 10**
- (a) What services does IPSec provide? What is the difference between transport mode and tunnel mode?
 - (b) What are the important features of Oakley Key exchange algorithm used for key exchange in the context of IPsec? What are the improvements in Oakley algorithm over Diffie Hellman Key exchange algorithm?