Time: 3 hours Max. Marks: 80 **INSTRUCTIONS** (1) Question 1 is compulsory. (2) Attempt any **three** from the remaining questions. (3) Draw neat diagrams wherever necessary. 5 marks eac Q1 Explain Security Services and mechanisms to implement it a) Compare HMAC and CMAC b) Explain different NAC enforcement methods c) Explain SSH protocol stack in brief d) 10 marks each $\mathbf{Q2}$ Explain Playfair cipher with example a) Describe different Block Cipher modes b) 10 marks each Q3 a) State firewall design principles and its types with advantages. Describe different types of protocol offered by SSL. b) Q4 10 marks each What is Network access control? Discuss the elements present in this context. a) Explain Kerberos Protocol in detail. b) Q5 10 marks each Explain the working of IPsec in its different mode. a) What is Network Management Security? Explain SNMP V3. b) 10 marks each Q6 Explain IDS and its types in detail. Define Malware. Explain at least five types with example.

25760 Page 1 of 1