

Faculty of Engineering & Technology
M.C.A. (Third Year) Semester—I (CGS) Examination
SYSTEM ADMINISTRATION AND SECURITY
(15541)
Paper—5 MCA 3

Time : Three Hours]

[Maximum Marks : 80

INSTRUCTIONS TO CANDIDATES

- (1) All questions carry marks as indicated.
- (2) Due credit will be given to neatness and adequate dimensions.
- (3) Assume suitable data wherever necessary.
- (4) Illustrate your answers wherever necessary with the help of neat sketches.
- (5) Use pen of Blue/Black ink/refill only for writing the answer book.

1. (a) State and explain the various types of attacks. 7
- (b) What are the various security services needed for protection ? 6

OR

2. (a) Explain :
 - (i) Modification
 - (ii) Fabrication
 - (iii) Masquerading.6
- (b) What is internet society ? Explain working of :
 - (i) IAB
 - (ii) IETF
 - (iii) IESG. 7
3. (a) What is MAC ? Explain the structure and working of MD5. 7
- (b) State and explain the structure and working of Diffie-Hellman key exchange algorithm. 7

OR

4. (a) State and explain the structure and working of DES. 7
(b) Explain :
(i) Feistel Cipher structure
(ii) Public key encryption. 7
5. (a) State and explain the various functions of S/MIME. 7
(b) State and explain the structure and working of Kerberos. 7

OR

6. (a) What is PGP ? State its various functions. 7
(b) Explain the structure and functions of X.509 authentication certificates. 7
7. (a) State and explain the various applications of IPsec. 6
(b) Explain the structure and working of IPV₄. 7

OR

8. (a) State and explain the architecture of SSL. 7
(b) Explain the scope of AH authentication. 6
9. (a) What is SNMP ? Explain SNMP concept along with 'Manager' and 'Agents'. 6
(b) State and explain VACM (view based access control model). 7

OR

10. (a) Compare SNMP_{v₁} and SNMP_{v₂} protocol data units (PDU's). 7
(b) Distinguish between SMI and MIB. 6
11. (a) What is firewall ? Explain in brief goals, capabilities and limitations of firewall. 7
(b) What are the password selection strategies ? Explain. 6

OR

12. (a) What is virus ? What are its parts ? Explain the phases of operation of a virus. 7
(b) Explain the concept of "Trusted System". 6