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**[4966]-4007**

**M.C.A. (Commerce Faculty) (Fourth Semester) EXAMINATION, 2016**  
**408 : ADVANCE NETWORKING**  
**(2013 PATTERN)**

**Time : Three Hours**

**Maximum Marks : 50**

- N.B. :—** (i) Neat diagrams must be drawn wherever necessary.  
(ii) Figures to the right indicate full marks.  
(iii) Attempt any **5** questions.

**1.** Attempt the following :

- (a) Explain the structure of a router. [4]  
(b) Explain the security handshake pitfalls. [4]  
(c) List any *two* key principles of security. [2]

**2.** Attempt the following :

- (a) Explain the fragmentation process of IPv4 datagram. [4]  
(b) Compare and contrast distance vector routing with link state routing. [4]  
(c) Discuss the reasons behind the significance of authentication. [2]

**3.** Attempt the following :

- (a) When is Demilitarized Zone (DMZ) required ? How is it implemented ? [4]

P.T.O.

- (b) Alice and Bob want to establish a secret key using the diffie-Hellman key exchange protocol using  $n = 11$ ,  $g = 5$ ,  $x = 2$  and  $y = 3$ . Find the values A and B and the secrete key. [4]
- (c) What is role of CA & RA ? [2]

**4.** Attempt the following :

- (a) What is the size of a RIP message that advertise only 1 network? What is the size of a RIP message that advertises N packets ? Device a formula that shows the relationship between the no. of networks advertised and the size of a RIP message. [4]
- (b) Describe the block modes of operations of DES with their advantages. [4]
- (c) Name the four key steps in creation of digital certificates. [2]

**5.** Attempt the following :

- (a) What is a Frame Relay ? Discuss its advantages. [4]
- (b) What are the key participants in SET ? [4]
- (c) How router forwards the datagram based on host specific method ? [2]

**6.** Attempt the following :

- (a) How is SHTTP different from SSL ? [4]
- (b) Given two prime numbers  $P = 07$  &  $Q = 17$  find out N, E & D in an RSA encryption process. [4]
- (c) Can we say UDP plus RTP is the same as TCP ? Why or Why not ? [2]

**7.** Attempt the following :

- (a) List the different technologies used to connect two remote devices in point to point WAN. Explain any *one* in detail.[5]
- (b) Why is anonymous offline money dangerous ? Discuss the double spending problem. [5]

**8.** Attempt the following :

- (a) Explain different strategies of transition from IPv4 to IPv6. [5]
- (b) What are the limitations of firewall ? [5]