School of Information Technology
IIT Kharagpur

Course Id: IT60112 Information and System Security   **Class Test 2**

Date: March 27, 2007   **Total Time: 1 Hour**
Max. Marks: 20

For the following questions, one or more options may be correct. Each correct answer carries 2 marks. 1 mark will be deducted for every wrong answer. An answer will be considered correct if all the correct and only the correct choices have been selected.

Clearly state any reasonable assumption you make.

In your answer script, simply write the choice(s) against each question no.   **[10×2=20 Marks]**

1. In Kerberos (Ver. 4), a client has to contact the Ticket Granting Server
   a. Once for each session
   b. At least once for each session
   c. At least once for each application server
   d. At most once for each service request

2. In Kerberos (Ver. 4) with two realms A and B, a secret key is shared between
   a. The authentication server of A and the authentication server of B
   b. The authentication server of A and the ticket granting server of B
   c. The ticket granting server of A and the ticket granting server of B
   d. The authentication server of A and each application server of A

3. In Kerberos (Ver. 4), a session key is shared between
   a. A client and the authentication server
   b. The authentication server and the ticket granting server
   c. A client and the ticket granting server
   d. A client and each application server that it accesses

4. In Kerberos (Ver. 4), authenticators help to
   a. Prove the identity of the client to the ticket granting server
   b. Prove the identity of the client to the authentication server
   c. Prove the identity of the client to the application server
   d. Establish reverse authentication

5. In Role Based Access Control (RBAC), the User Assignment (UA) relation maps
   a. Users to roles
   b. Users to permissions
   c. Permissions to roles
   d. Roles to permissions

6. In RBAC, in each session there can be
    a. Only a single user
    b. Multiple users
    c. Multiple roles
    d. Multiple permissions

7. In RBAC role hierarchy
    a. Permissions of the lower level roles (inherited roles) are available with the higher level roles (inheriting roles)
    b. Permissions of the higher level roles are available with the lower level roles
    c. Higher level roles can have permissions other than those of the lower level roles
    d. Higher level roles cannot have permissions other than those of the lower level roles

8. An example of secure system design using the Principle of Complete Mediation would be
    a. Use of authenticator each time a service request is made in Kerberos
    b. Separation of email server and database server by Amazon.com
    c. Making default setting of Windows Account Creation form as "Password never expires"
    d. Asking for current password whenever a password is changed in Linux.

9. Security functional requirements and assurance requirements are both specified in
    a. TCSEC
    b. ITSEC
    c. CC
    d. Any methodology for evaluating secure systems

10. Examples of assurance techniques include use of
    a. Extensive Configuration Management
    b. Discretionary Access Control
    c. Mandatory Access Control
    d. Formal verification