Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_

G:\logo and QP Template\logo 3 Feb 2018 final.tif

**End Semester Examination – Nov/Dec – 2018**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
| **Code :** | **17CS3053** | **Duration :** | **3hrs** |
| **Sub. Name :** | **NETWORK SECURITY** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. |  | With neat sketch explain the working of SHA-512. | CO1 | 20 |
| (OR) | | | | |
| 2. | a. | User A and User B holds the public key YA = 9 and YB = 3 respectively. If the common prime q = 11 and primitive root alpha  = 2, Calculate the shared secret key K. | CO1 | 10 |
| b. | Alice sends a message x = “Transfer $1000 to Mark” in the clear and also sends MAC(x) to Bob. Oscar intercepts the message and replaces “Mark” with “Oscar”. Will Bob detect the change and How? | CO1 | 10 |
|  |  |  |  |  |
| 3. |  | Discuss briefly the following web security services.   1. Secure socket Layer. 2. Transport Layer security. | CO2 | 20 |
| (OR) | | | | |
| 4. | a. | Explain the IP Traffic processing model for inbound and outbound packets. | CO3 | 10 |
| b. | List the various types of IKE payload types and its associated parameters. | CO3 | 10 |
|  |  |  |  |  |
| 5. | a. | Outline various applications of SNMP v3. | CO3 | 10 |
| b. | Explain the view based access control mechanism. | CO3 | 10 |
| (OR) | | | | |
| 6. | a. | What are the three class of intruders? | CO4 | 5 |
| b. | Summarize the intruders behavior patterns. | CO4 | 5 |
| c. | Examine ways to detect and prevent such intrusions. | CO4 | 10 |
|  |  |  |  |  |
| 7. |  | Design suitable packet filter ruleset to satisfy the below policy requirements:  a. E-mail may be sent using SMTP in both directions through the firewall, but it must be relayed via DMZ mail gateway that provides header sanitization and content filtering.  b. Users inside may retrieve email from DMZ mail gateway, using either POP3 or POP3S protocol and authenticate themselves.  c. Web request are allowed from anywhere in the internet into the DMZ zone. | CO5 | 20 |
| (OR) | | | | |
| 8. | a. | Draw the network access control diagram and describe the principle components of access control. | CO5 | 10 |
| b. | Review the key terms of IEEE 802.11 standards. | CO5 | 10 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. |  | Discuss the various malware countermeasure approaches. | CO6 | 20 |