



*University of Technology*  
*Department of Computer Sciences*  
*Final Examination 2011-2012*



*Subject: Network Security*  
*Division: Computer Security - 3<sup>rd</sup> Class*  
*Examiner: Dr.Mazin S. Ali*

*Year: 2011-2012*  
*Time: 3 Hours*  
*Date: 31 / 5 /2012*

*Answer 6 Questions Only (10 marks for each questions)*

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- Q1: A. Describe in brief the "Kerberos Authentication System".  
B. Describe in brief the "Microsoft's Authentication Schemes" (*Windows 2000 Authentication Scheme and Windows NT Authentication Scheme*).
- Q2: Define the "Firewall", and then describe in brief each type of Firewalls (*Packet Filtering Gateways or Screening Routers, Stateful Inspection, Application Proxies, Guards and Personal Firewalls*).
- Q3: Define the "Intrusion Detection System", and then describe in brief each type of Intrusion Detection Systems (*Signature-based and Heuristic Intrusion Detection Systems*).
- Q4: A. How can get the Message Confidentiality and Message Integrity requirements for Secure e-Mail.  
B. Define the following:  
1. IPsec (*Internet Protocol Security*).  
2. HTTPs (*HTTP Secure*).
- Q5: Compare between the following:-  
1- "Automatic Call-Back" and "Silent Modem" Port Protections.  
2- "Pad Traffic" and "Routing Control" Traffic Control.  
3- "Link Encryption" and "End-to-End Encryption".  
4- "Connectivity" and "Flooding" Denial of Service Attack.  
5- "Session Hijacking" and "Man-in-the-Middle Attack" Spoofing Attack.
- Q6: A. Compare between "Passive" and "Active" Wiretapping, then describe in details the wiretapping on Cable, Microwave and Optical Fiber Cable.  
B. Describe in details the security involving programs based "Information Access Problems" (*Trapdoors, Trojan Horse, Salami Attack and Programs that leak Info*).
- Q7: Describe in details (with figures) the "Distributed Denial of Service" Attack.