

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
TEST -3 EXAMINATION- December 2019
M.Tech.-I Semester

COURSE CODE: 10M1WCI131

MAX. MARKS: 35

COURSE NAME: SYSTEM AND NETWORK SECURITY TECHNIQUES

COURSE CREDITS: 03

MAX. TIME: 2Hr.

Note: All questions are compulsory. Carrying of mobile phone during examination will be treated as case of unfair means.

Que.1: [5 Marks; CO6] The Internet Control Message Protocol (ICMP) provides a mechanism for reporting TCP/IP communication problems, as well as utilities for testing IP layer connectivity. Provide your arguments that it is an invaluable tool when troubleshooting network problems.

Que.2: [5 Marks; CO6] Answer the following questions-

- (A) What are the definitions of passive and active attacks? Explain with examples.
- (B) What is side channel attack? What are the different ways to perform it? Explain each one.

Que.3: [5 Marks; CO7] Answer the following questions-

- (A) Draw the program dependency graph for the following piece of code and edge:

<pre>program Main sum:=0; i:=1; while i<11 do sum:=sum+i; i:=i+1; od end(sum, i)</pre>	<p>Edge Key</p> <ul style="list-style-type: none">→ control dependence→ loop-independent flow dependence→ loop-carried flow dependence→ def-order dependence
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- (B) Explain SVM. How it is deployed to detect intrusions? Provide an appropriate explanatory example.

Que.4: [10 Marks; CO7] Explain the following terms-

- (A) SQL Injection
- (B) Cookies and Session Management
- (C) Integer Overflow Attack
- (D) J2EE Authentication
- (E) IPSec

Que.5: [5 Marks; CO8] In case of remote access, explain the possible remote access setups that represents how the client handles the network connection for the virtual tunnel.

Que.6: [5 Marks; CO9] Answer the following questions-

- (A) Explain the possible 802.11 and 802.15 Data-Link Layer Vulnerabilities and threats.
- (B) What are the possible wireless network hardening practices and recommendations? Explain in brief.