

02 PSC - Protection, Security, Privacy & C Aneka Soal Ujian Sistem Operasi Rahmat M. Samik-Ibrahim et.al.

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1. **2016-1**

Circle or cross: " \mathbf{T} " if True – " \mathbf{F} " if False.

- T / F Principle of least privilege: programs, users and systems should be given unlimited privileges to perform their tasks.
- **T** / **F** Computer system objects may be hardware or software.
- **T** / **F** Breach of confidentiality involves unauthorized reading of data.
- T / F Breach of integrity involves preventing legitimate use of the system.
- **T** / **F** Breach of availability involves unauthorized destruction of data.
- T / F An attack is always malicious and never accidental.
- T / F Script kiddies are persons who write scripts or codes to crack into computers.

2. **2016-2**

Circle or cross: "T" if True - "F" if False.

```
$ ls -al
total 12
drwxr-xr-x 3 demo demo 4096 Oct 17 17:05 .
drwxrwxrwt 8 root root 4096 Oct 17 17:04 ..
dr-x--x--x 2 demo demo 4096 Oct 17 17:06 tmp
```

- T / F All users can enter directory tmp/.
- T / F Only user demo can read directory tmp/.
- ${f T}$ / ${f F}$ A cyber breach occurs when someone accesses a database through an insufficiently secured network connection.
- **T** / **F** A physical breach occurs when an unauthorized person is able to physically access a piece of equipment.
- T / F "Security" is an internal problem. On the other hand, "protection" also requires consideration of the external environment.
- **T** / **F** A backdoor is a method of bypassing normal authentication.
- **T** / **F** A trojan horse is an example of a backdoor.
- **T** / **F** A Keylogger is the action of recording (covertly) a keyboard.

3. **2017-1**

Circle or cross: "T" if True – "F" if False.

- T / F Security is a mechanism for controlling processes or users to resources (Yakoob et. al.).
- **T** / **F** Operating Systems automatically apply permissions to files and folder, however users can manually apply them too (Yakoob et. al.).
- T / F Symmetric cryptography is much faster than asymmetric one.
- **T** / **F** Protection is strictly an internal problem. On the other hand, security is strictly an external problem.
- **T** / **F** The security mechanisms control access to a system. On the other hand, protection system prevents unauthorized access.
- **T** / **F** The three aspects to a protection mechanism are authentication, authorization, and access enforcement.
- **T** / **F** In GNU/Linux, users can be organized into groups, with a single Access Control List (ACL) for an entire group.
- **T** / **F** Trojan horses are often computer games software infected with viruses.
- **T** / **F** An access list is a list of objects and the operations allowed on those objects for each domain (OSC9).
- **T** / **F** If users are allowed to perform their own I/O operation, system integrity will be guaranteed (OSC9).

```
C Programing
001 /*
                                               010 int tambah(int ii, int jj) {
002 * (c) 2017 Rahmat M. Samik-Ibrahim
                                               011
                                                      return ii + jj;
003 * This is free software.
                                               012 }
                                               013
    * REV01 Thu Mar 30 17:32:33 WIB 2017
005
    * START Thu Mar 30 12:13:58 WIB 2017
                                               014 void main() {
006
    */
                                               015
                                                      int ii = 4;
007
                                                      printf("The return of tambah is %d\n", tambah(1,ii));
                                               016
008 #include <stdio.h>
                                               017 }
```

Program Output (Line 016):



4. **2017-2**

Principle of least (01) dictates that programs, users, and even systems be given just enough privileges to perform their tasks (OSC9). (02) is strictly an internal problem (OSC9). (03) requires also consideration of the external environment within which the system operates (OSC9). A system is (04) if its resources are used and accessed as intended under all circumstances (OSC9). Security is often deployed for (05) against external threats (OSC9). Breach of (06) involves unauthorized reading of data (OSC9). Breach of (07) involves unauthorized modification of data (OSC9). Breach of (08) involves unauthorized destruction of data (OSC9). (09) of service involves unauthorized use of resources (OSC9).

(10) of service involves preventing legitimate use of the system (OSC9). (11) is when one participant in a communication pretends to be someone else (OSC9). In a session (12), an active communication session is intercepted (OSC9). A code segment that misuses its environment is called a (13) (OSC9). (14) are self-replicating and are designed to infect other programs (OSC9). A (15) is a process that uses the spawn mechanism to duplicate itself (OSC9). In a (16) encryption algorithm, the same key is used to encrypt and to decrypt (OSC9). In an (17) encryption algorithm, there are different encryption and decryption keys (OSC9). (18) are very useful in that they enable anyone to verify the authenticity of the message (OSC9). (19) is the ability of an individual or group to seclude themselves, or information about themselves, and thereby express themselves selectively (WIKI).

Match the number of the sentence above with these following phrases:

Asymmetric	Availability		Confidentiality	Denial
] Digital Signatures	Hijacking		Integrity	Masquerading
Privacy	Privilege	[Protection	Protection
Secure	Security		Symmetric	Theft
Trojan Horse	Viruses		Worm	

	C Programing						
001 /*		013 char* getGlobal(void) {					
002 * (c) 2017 Rahmat M. Samik-Ibrahim		014 char* charPTR=&globalChar					
	003 * http://rahmatm.samik-ibrahim.vlsm.org/	/ 015 printf("getGlobal1 %c\n", globalChar);					
	004 * This is free software.	016 *charPTR='b';					
	005 * REV00 Mon Oct 16 21:15:03 WIB 2017	<pre>017 printf("getGlobal2 %c\n", *charPTR);</pre>					
	006 * START Mon Oct 16 21:15:03 WIB 2017	018 return charPTR;					
	007 */	019 }					
008		021 void main (void) {					
	009 #include <stdio.h></stdio.h>	022 char localChar='c';					
	010	023 printf("==== main1 %c\n", localChar);					
	011 char globalChar='a';	024 localChar=*getGlobal();					
		025 printf("==== main2 %c\n", localChar);					
	012	026 }					

012	020
Program Output:	
Program Output:	