



UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER I
SESSION 2017/2018**

COURSE NAME : INFORMATION SECURITY
MANAGEMENT
COURSE CODE : BIS 30503
PROGRAMME CODE : BIS
EXAMINATION DATE : DECEMBER 2017 / JANUARY 2018
DURATION : 3 HOURS
INSTRUCTION : ANSWER ALL QUESTIONS

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THIS QUESTION PAPER CONSISTS OF **EIGHT (8)** PAGES

SECTION A

Choose the BEST answer for each of the following questions.

Q1 To protect confidentiality of information, a number of measures may be used, including:

- i. Information classification
- ii. Information Storage
- iii. Secure document storage
- iv. Application of general security policies
- v. Education of information custodians and end users

- A. i, ii, iii and iv.
- B. i, ii, iii and v.
- C. i, iii, iv and v.
- D. i, iii, iv and v.

Q2 Which of the following are Integrity tools for managing Information Security:

- i. Event Log Analyzer
- ii. Event Correlation and Alerting
- iii. File Integrity Monitoring
- iv. User Monitoring
- v. Log Forensics
- vi. Compliance Reports

- A. i, ii, iii, iv and v.
- B. i, ii, iii, iv and vi.
- C. i, iii, iv and v.
- D. All of the above.

Q3 “Information is to be used only for purposes known to the data owner. This does not focus on freedom from observation, but rather that information will be used only in ways known to the owner”. The statement refers to which specific issues in Information Security?

- A. Confidentiality.
- B. Integrity.
- C. Privacy.
- D. Secrecy.



- Q4** _____ and _____ are essential to establishing the level of access or authorization that an individual is granted.
- A. Identification, authentication
 - B. Authentication, verification
 - C. Password, token
 - D. Password, challenge response
- Q5** After the identity of a user is authenticated, a process called _____ provides assurance that the user (whether a person or a computer) has been specifically and explicitly authorized by the proper authority to access, update, or delete the contents of an information asset.
- A. approval
 - B. granted
 - C. authorization
 - D. verification
- Q6** A control that provides assurance for every activity undertaken can be attributed to a named person or automated process.
- This statement refers to which security characteristic?
- A. Accessibility.
 - B. Accountability.
 - C. Integrity.
 - D. Availability.
- Q7** Peer entity authentication, data origin authentication, data integrity and non-repudiation services can be associated with which of the following service?
- A. Encipherment.
 - B. Digital signature.
 - C. Access control.
 - D. Data Integrity.

A red rectangular stamp with a double border, containing the word "TERBUKA" in bold, uppercase, sans-serif font.

- Q8** Risk management is one of the key responsibilities of every _____ within the organization.
- A. Programmer
 - B. System Analyst
 - C. Manager
 - D. Database Designer
- Q9** Social engineering, Physical Break in, Dumpster Diving and Google Web Searches are examples of _____.
- A. Internet Attack
 - B. Reconnaissance
 - C. Distributed Denial Of Service (DDOS) Attack
 - D. Remote Connection Tools
- Q10** Which of the following component is **NOT** used in Advanced Encryption Standard (AES)?
- A. MixRows.
 - B. MixColumns.
 - C. Fiestel Structure.
 - D. Substitution and Permutation Network (SPN).
- Q11** _____ and _____ are two important principles used in the design of block cipher.
- A. Confusion, Add Key
 - B. Confusion, Diffusion
 - C. Confusion, Multiple Rounds
 - D. Confusion, Shift Rows

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- Q12** Router configuration that allow or block unwanted packets into the network is called _____.
- A. Packet Filtering Routers
 - B. Screened-Host Firewall Systems
 - C. Dual-Homed Host Firewalls
 - D. Screened-Subnet Firewalls (with DMZ)
- Q13** _____ combine the packet filtering router with a separate, dedicated firewall such as an application proxy server.
- A. Packet Filtering Routers
 - B. Screened-Host Firewall Systems
 - C. Dual-Homed Host Firewalls
 - D. Screened-Subnet Firewalls (with DMZ)
- Q14** _____ consists of one or more internal bastion hosts located behind a packet filtering router, with each host protecting the trusted network.
- A. Packet Filtering Routers
 - B. Screened-Host Firewall Systems
 - C. Dual-Homed Host Firewalls
 - D. Screened-Subnet Firewalls (with DMZ)
- Q15** Which of the following are some duties of a Public Key Infrastructure.
- i. Certificates' issuing, renewal and revocation.
 - ii. Keys' storage and update.
 - iii. Providing services to other protocols.
 - iv. Providing access control.
- A. i, ii and iii.
 - B. i, iii and iv.
 - C. ii, iii and iv.
 - D. All of the above.

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- Q16** An employee illegally broadcast confidential business data from the company database can be executed under which Malaysian Law?
- A. Sedition Act 1949.
 - B. Companies Act 1965.
 - C. Copyright Act 1987.
 - D. Computer Crime Act 1997.
- Q17** A watermark image belong to a Printing Company has been used without permission from the owner. This type of offence can be procecuted under which Malaysian law?
- A. Company Crime Act 1997.
 - B. Copyright Act 1965.
 - C. Sedition Act 1949.
 - D. Pool Betting Act 1967.
- Q18** Which of the following offence is **NOT** related to Malaysian Electronic commerce Act 2006?
- A. Online fraud.
 - B. Defamation.
 - C. Fake Online Website.
 - D. Direct Sales.
- Q19** Computer hacking can be procecuted under which Malaysian Law?
- A. Company Crime Act 1997.
 - B. Copyright Act 1965.
 - C. Sedition Act 1949.
 - D. Pool Betting Act 1967.
- Q20** Access Control List (ACL) are used to do the following **EXCEPT** _____.
- A. filter packet movement from inside and outside of the network
 - B. allowing or restricting traffic from network users
 - C. control the collision domain
 - D. control traffic based on transport layer

(40 marks)

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CONFIDENTIAL

SECTION B

Q21 Based on Figure Q21, SWITCH_1 is located in First Floor, SWITCH_2 is in Second Floor and SWITCH_3 is located in the Third Floor.

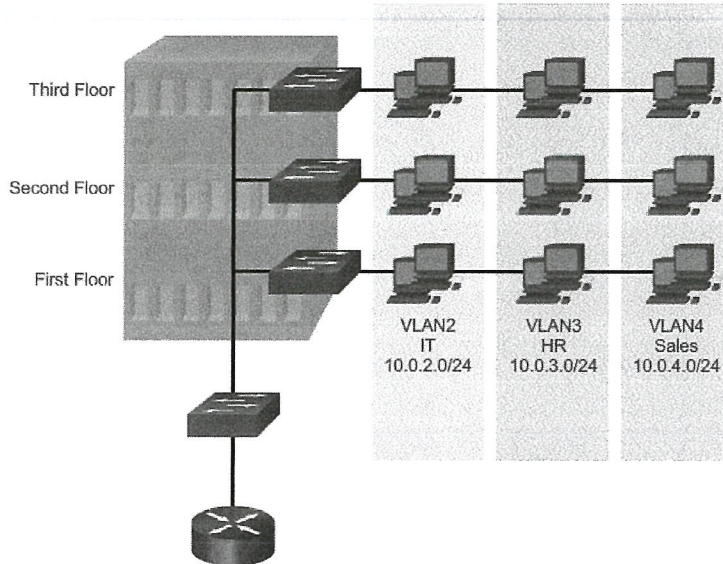


FIGURE Q21

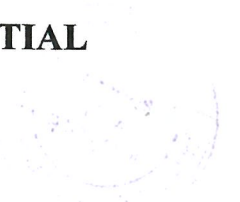
- (a) Describe **TWO (2)** advantages of using Virtual Local Area Network (LAN) for an organization network. (4 marks)

- (b) Write Internetwork Operating System (IOS) commands for creating VLAN2, VLAN3 and VLAN4 for SWITCH_1, SWITCH_2 and SWITCH_3. (6 marks)

- (c) Write IOS commands for assigning Port 1 to Port 8 for VLAN2, Port 9 to Port 16 for VLAN3 and Port 17 to port 24 for VLAN4. (6 marks)

- (d) Write IOS commands for creating TRUNK ports for SWITCH_1, SWITCH_2 and SWITCH_3. (4 marks)

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Q22 Assuming that you have been appointed as a new security administrator for an Information Center, Universiti Tun Hussein Onn Malaysia (UTHM). You have been asked to prepare a Risk Management Guidelines for the university.

Prepare a Risk Management Guidelines which includes **FIVE (5)** risk factors important for the survival of the organization in long run.

(20 marks)

Q23 Consider the following scenario.

WATER_MALAYSIA Sdn. Bhd. is responsible for managing the production, processing and distribution of clean water to all states in Malaysia. The company is also responsible for managing various water catchments area (dams) and water treatment plants. Integrated Online Water Billing System (IBS) is used to manage customers water billing transactions.

Based on the given scenario, answer the following questions.

(a) Describe **FIVE (5)** Digital Assets for Water Malaysia Sdn. Bhd. (5 marks)

(b) Describe **THREE (3)** International Standards for managing the overall information security for Water Malaysia Sdn. Bhd. (5 marks)

(c) Illustrate a diagram for implementing a secure computer network for this organization. (5 marks)

(d) Discuss **FIVE (5)** information security risks that can damage the company reputation and business. (5 marks)

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- END OF QUESTION -

