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Code No. : 41513

**VASAVI COLLEGE OF ENGINEERING (Autonomous), HYDERABAD**  
**B.E. (I.T.) IV Year I-Semester Main Examinations, December-2017**

**Information Security**

Time: 3 hours

Max. Marks: 70

*Note: Answer ALL questions in Part-A and any FIVE from Part-B*

**Part-A (10 × 2 = 20 Marks)**

1. List out the various threats in information security.
2. Sketch the CIA triangle
3. Differentiate between a policy and a law
4. Define Standard of due care and due diligence
5. Distinguish various authentication factors
6. List out the various stages in BIA that were conducted by contingency planning team
7. Consider the below scenario and Assume you are the Bob.

Alice generates two keys. One for her, the other for Bob.

Assume Alice will have Bob's key only when needed.

Alice encrypts a Blob using her own and Bob's key.

Bob's key alone cannot decrypt Alice Blob.

Alice's key alone cannot decrypt her own blob.

Eve has access to Alice's key and Blob. Even cannot decrypt Alice's blob.

Which Cryptosystem, if any does this scenario portray or does such a system exist or can you recommend a best practice for this scenario.

8. State the factors that are to be considered while measuring the effectiveness of IDPS system
9. What is separation of duties? How can it be used to improve an organization's information security practices?
10. What are the key qualifications and requirements for the CISA position?

**Part-B (5 × 10 = 50 Marks)**

11. a) Discuss in detail about the different characteristics of information. [5]  
b) Describe the four important information security functions that were performed for an organization. [5]
12. a) What is the another name for the Kennedy-Kassebaum Act(1996) and why is it important to organizations that are not in the health care industry? [5]  
b) Describe why periodic review must be a part of the process in risk management strategies [5]
13. a) How is an application layer firewall different from a packet-filtering firewall? Why is an application layer firewall sometimes called a proxy server. [7]  
b) Describe the importance of security education. [3]
14. a) Consider a plain text "Can you see me tomorrow at 10PM to talk about PKI", where Alex at XYZ Corporation wants to send an message to Rachel at ABC Corporation.  
Describe the process of Encryption and Decryption of message using the technique of Transposition Cipher (Bit Level and Byte Level) by considering Key pattern as  
1->4, 2->8, 3->1, 4->5, 5->7, 6->2, 7->6, 8->3. [5]  
b) Demonstrate about any two protocols for secure communications. [5]

Contd...2

- 15. a) List and describe the three major steps in executing the project plan. [6]  
b) What is job rotation, and what benefits does it offer an organization? [4]
- 16. a) Explain the security problems faced during software development. [5]  
b) Illustrate the risk control cycle. [5]
- 17. Answer any **two** of the following:
  - a) Explain MAC layer firewall. [5]
  - b) Compare the IDPS detection methods. [5]
  - c) Discuss certification vs Accreditation. [5]

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