

**Q1: Choose the correct answer: 5 Marks.**

#	1	2	3	4	5	6	7	8	9	10
Answer										

1. Minimize the size, quantity, and complexity of what is to be protected, and limit externally facing points of attack.

- a) Minimization
- b) Simplicity
- c) Access control
- d) Complexity

2. the degree to which the elements of the module are functionally related, and every aspect of the component is tied to the component's single purpose.

- a) Coupling
- b) Modularization
- c) Cohesion
- d) Minimization

3. Information doesn't change or is only allowed to change in specific, authorized ways.

- a) Confidentiality
- b) Availability
- c) Integrity
- d) Traceability

4. The process of dividing a task into subtasks, based on logical or functional use, and each model performs a separate, independent part of the task

- a) Minimization
- b) Simplicity
- c) Modularization
- d) Complexity

5. The system users should only have the necessary privileges to complete their required tasks

- a) Separation of Duties
- b) High Coupling
- c) Low Cohesion
- d) Principle of Least Privilege

6. The bane of security administrators.

- a) Trustworthy
- b) Simplicity
- c) Trust
- d) Complexity

7. \_\_\_\_\_ refers to the bundling of fields and methods inside a single class.

- a) Cyber Safety
- b) Information Hiding
- c) Cyber security
- d) Encapsulation

8. a kind of black box, with certain well-defined inputs and outputs and a well-defined function.

- a) Cyber Safety
- b) Information Hiding
- c) Cyber security
- d) Encapsulation

9. A good software design will have \_\_\_\_\_ cohesion and \_\_\_\_\_ coupling.

- a) Low/High  
b) High/Low  
c) High/High  
d) Low/ Low

10. The state of being simple, uncomplicated. The quality of being easy to understand or use

- a) Minimization  
b) Simplicity  
c) Modularization  
d) Complexity

**Q2: Put (T) for correct sentences and (F) for wrong sentences: 5 Marks**

#	Question	Answer
1	In Separation of Duties, one person should oversee an entire critical task from beginning to end.	F
2	Hardening a system means that all unnecessary services off by default.	T
3	A strong focus on traditional approach lets you create code that's more secure compared to the design approach.	F
4	Complex software is likely to have many more bugs and security holes than simple software.	T
5	The worst enemy of security is simplicity.	F
6	Encapsulation and information hiding are fundamental principles of software engineering.	T
7	The principle of least privilege can't support the separation of duties.	F
8	One of the Design approach advantages is that non-security experts can naturally write a secure code.	T
9	Without modules, complexity will destroy productivity.	T
10	In the modular design a module's interface should be easy to use, easy to understand and easy to ensure correctness.	T

**Commented [R.1]:** No one person

**Commented [R.2]:** A strong design focus lets you create code that's more secure compared to the traditional approach to software security.

**Commented [R.3]:** complexity

**Commented [R.4]:** The principle of least privilege can support the separation of duties.

**Q3: Match the correct answer from column A to column B: 7 Marks**

#	A	The answer	B
1	Confidentiality, integrity, availability, and traceability.	7	Reuse
2	Means data is at hand in a timely manner.	6	Cyber security
3	Trace the shipment process of a product, trace patient medical files example of:	5	Choke point
4	The guiding principle for how a system is built and is applicable on all levels, from code to architecture.	1	Security concerns
5	It is a centralized piece of code through which control must pass.	2	Availability
6	focuses on protecting computer systems from unauthorized access or being otherwise damaged or made inaccessible.	3	Traceability
7	A module developed for one purpose can often be reused in other systems.	4	Design

**Q4: Answer the following: 3 Marks.**

- 1) What are the advantages of simplicity?
  1. The software is more secure.
  2. This is all built on the concept that the less functionality one must look at in a given application, the less security exposure and vulnerability that piece of software will have.
  3. Software that is simple will be easier to test and keep secure.
- 2) What are the disadvantages of Modular Design?
  1. Requires documentation to be thorough and well communicated.
  2. Designed to be used primarily for large systems and considered less effective unless used on a large scale.
  3. More effective when several people are sharing work.

