

Answers for Midterm Exam

Multiple Choice Questions

1. a
2. b
3. c
4. c
5. b
6. c
7. b
8. c
9. b
10. a
11. b
12. b
13. c
14. a
15. b
16. b
17. b
18. d
19. b
20. b
21. b
22. d
23. b
24. b
25. c

Answer the Questions

1. availability. (Without reason -1)
2. Least Privilege: C
Fail-Safe Defaults: D
Complete Mediation: B
Economy of Mechanism: A

3. (1) Subject: Alice (2) Object: file (3) Action: delete a file

4.

Subjects	EmployeeRecords	BudgetReport	ResearchData	StrategicPlan
Alice	R,W			W
Bob		RW		W
Carol	R		R	
Dr. Park	R	R	R	R

5.

Request	*Result* (Allowed/Denied)	*Violated Model(s)* (If Result is allowed, you can leave it blank.)
Alice reads O1	Denied	Biba
Alice reads O2	Denied	Chinese Wall
Bob writes O3	Allowed	-
Carol reads O4	Denied	Chinese Wall, BLP, Biba
Dave writes O5	Denied	BLP, Biba
Bob reads O6	Denied	Biba

6. LXFOPV

7. $\frac{2^{30}}{2 \cdot 2^8} = 2^{21} = 2 \text{ million}$

8. $\frac{2^{30 \cdot 2}}{2 \cdot 2^{128}} = \frac{1}{2^{69}}$

9. a) $2^5 \text{ mod } 17 = 15$

b) $2^7 \text{ mod } 17 = 9$

c) $9^5 \text{ mod } 17 = 8$