



October 2016

Fundamental IT Engineer Examination (Afternoon)

Answers and Marks(in blue)

Q1

Subquestion 1

- 2 A f) server's public key
- 2 B e) server's private key
- 2 C c) 64k bytes
- 2 D e) server's private key

Subquestion 2

- 2 a) Both a client and a server can send heartbeat requests. Thus, it is possible that a malicious user on the server side can read data from the client's memory as well.
- 2 c) It is difficult to investigate an attack because an attacker only reads the contents of the memory and the attack leaves no trail of damage.

Q2

Subquestion 1

- 2 A c) 100011011
- 3 B c) $(M_s \wedge Q_s)$
- 3 C b) 00000110

Subquestion 2

- 2 D b)  (OR gate)
- 2 E e)  (NOR gate)

Q3

Subquestion 1

- 2 A e) `OwnerName IN (SELECT OwnerName FROM PetTable
GROUP BY OwnerName HAVING(COUNT(OwnerName)>1))`

Subquestion 2

- 2 B e) `PetTable`
1 C c) `ownerID`
1 D c) `ownerID`
2 E d) `ownerTable`

Subquestion 3

- 2 F a) `COUNT(DogID) AS NoOfDogs,
SUM(BalanceDue) AS TotalAmount, Township`
2 G d) `ownerTable INNER JOIN PetTable
ON ownerTable.OwnerID = PetTable.OwnerID`

Q4

Subquestion 1

- 3 A d) The gateway addresses of PC21 to PC30 were assigned to 192.168.1.11/24 instead of 192.168.1.1/24.
3 B h) The IP addresses of PC31 to PC50 were wrongly configured to 192.168.2.xxx instead of 192.168.3.xxx.
3 C b) The DNS server address was not configured in any of the PCs.

Subquestion 2

- 3 D c) change his PC's IP address to 192.168.1.132 and default gateway to 192.168.1.1

Q5

Subquestion 1

- 2 A c) $b < 20$ and $d > 10$ are not evaluated
2 B g) all single conditions are evaluated

Subquestion 2

- 1 C a) (3)
1 D d) (6)
1 E f) (10)
1 F e) (8)

Subquestion 3

- 2 G b) 3
2 H e) 6

Q6

Subquestion 1

- 2 A c) J
3 B c) $K = 0$
3 C h) $C - B[K]$
3 D d) K
3 E c) $B[K] + A[I]$

Subquestion 2

- 2 F d) 1 2 3 4 5 5 6 6 6 6
2 G b) 1 2 1 3 4 1 4 2 3 3
2 H b) 1 2 1 3 4 1 4 2 3 3

Q7

Subquestion

- 4 A c) `i < power`
- 4 B a) `input_number != 0`
- 4 C d) `input_number = input_number / 10`
- 4 D d) `calc_power(remainder, digits)`
- 4 E e) `n_input == sum`

Q8

Subquestion

- 4 A c) `enum`
- 4 B c) `char[]`
- 4 C b) `earnedBadge, earnedBadge.getValue()`
- 4 D d) `score += 50`
- 4 E d) `checkQuiz(quiz.getAnswers(), student.getAnswers())`