



October 2012

Fundamental IT Engineer Examination (Afternoon)

Answers and Marks(in blue)

Q1

Subquestion 1


- A g) $\langle 1 \gg 0 \rangle$ 3
B h) $\langle 1 \rangle$ 3
C h) $\langle 1 \rangle$ 3

Subquestion 2

- D a) the output F on the clock cycle $c-1$ was 0 3

Q2

Subquestion 1

- A a) Customer 1
B b)  2
C b) Member 1
D c) $\ll include \gg$ 2
E a) $\ll extend \gg$ 2

Subquestion 2

- F f) One-to-one association relationship 1
G e) One-to-many association relationship 1
H c) Generalization relationship 2

Q3

Subquestion 1

- | | | |
|---|-----------------------|---|
| A | a) one-to-one | 1 |
| B | b) one-to-many | 1 |
| C | d) no relationship | 2 |
| D | a) ITEM_ID and LOT_NO | 2 |

Subquestion 2

- | | |
|---|---|
| a) An INSERT to DELIVERY table . . . in ITEM table. | 2 |
|---|---|

Subquestion 3

- | | | |
|---|----------------------|---|
| E | e) QTY_DLV – QTY_REL | 1 |
| F | d) ORDER BY | 1 |
| G | a) ASC | 2 |

Q4

Subquestion

- | | | |
|---|--|---|
| A | a) setting the IDS sensor between Firewall and LAN | 3 |
| B | e) 192.168.99.0/24 10.0.0.20/8 ... | 3 |
| C | d) traceroute | 3 |
| D | b) blocking ICMP at the Firewall | 3 |

Q5

Subquestion 1

- A e) name, address, phone number, permit class 2
- B g) registration date 1
- C c) issue date 1
- D b) card number, issuing bank, issue date, card expiry date 2

Subquestion 2

- E f) Renew permit 2
- F g) Renewed 1
- G a) Checking of expired permits 2
- H d) Expired 1

Q6

Subquestion 1

- A d) $Fault \leftarrow Fault + 1$ 3
- B b) $Count[j] > Count[Found]$ 3
- C e) $Frame[Found] \leftarrow NextPage$ 3
- D e) $j = Found$ 3

Subquestion 2

- E c) 3 2
- F e) 4 1 3 3 1 4 3
- G c) 4 1 2 4 2 1 3

Q7

Subquestion 1

- A c) `ch != EOF` 3
- B f) `ch == ' ' || ch == '\n' || ch == EOF` 3
- C d) `word_pos++` 3
- D e) `tolower(ch)` 3
- E b) `isdigit(ch)` 2

Subquestion 2

- F b) On line ← (1), ... program works correctly. 3
- G f) When the words ... program works correctly. 3

Note: Answers for F and G can be exchanged.

Q8

Subquestion

- A c) `count == 0` 3
- B e) `node != null && j < i` 3
- C e) `instanceof` 3
- D f) `LinkedList` 3
- E c) `node.refNext = n.refNext` 3
- F f) `protected` 2
- G c) `Node` 3