



October 2017

Fundamental IT Engineer Examination (Afternoon)

Answers and Marks(in blue)

Q1

Subquestion 1

3 A d)

A1	A2	A3
SHA-1	RSA algorithm	Decompression algorithm

Subquestion 2

2 B g) Session key

2 C d) Receiver's public key

2 D c) Receiver's private key

Subquestion 3

3 E a) 4.5

Q2

Subquestion

2 A c) P0

2 B a) 0

2 C b) 1

3 D c) P0 attempts to access the shared data;
however, P1 has no more need to access it.

3 E c) P0 sets flag0 to 1, and P1 sets flag1 to 1 simultaneously.

Q3

Subquestion 1

- 2 A b) `SUM(B.NetIncome) - SUM(B.ExpectedIncome)`
2 B d) `C.CourseCode = T.CourseCode`

Subquestion 2

- 2.5 C a) GROUP BY
2.5 D b) HAVING

Subquestion 3

- 3 d) Create a new table that consists of BatchCode and StudentID columns.

Q4

Subquestion 1

- 2 A a) e0

Subquestion 2

- 2 B c) 13
2 C c) The DNS server has been configured with the broadcast address of the subnet.

Subquestion 3

- 2 D c) 10.1.2.0 0.0.0.127
2 E c) 80
2 F b) e1

Q5

Subquestion 1

- 2 A a) BookingID
- 2 B e) Seat.SeatStatus \leftarrow "available"
- 2 C a) Booking.SeatStatus \leftarrow "canceled"

Subquestion 2 Note: Answers for E and F can be exchanged

- 2 D g) Bus.DepartureDate = &TodayPlus2
- 2 E/F b) Booking.BusNo = Bus.BusNo
- 2 F/E d) Booking.SeatStatus = "held"

Q6

Subquestion 1

- 3 A b) $I \leq N$
- 4 B b) $J \leq N$ and $\text{Sum} \leq T$
- 3 C a) $\text{Seg} \leftarrow \text{Seg} + 1$

Subquestion 2

- 3 D f) 6
- 3 E j) 10

Subquestion 3

- 4 F d) 26

Q7

Subquestion 1

- 2 A f) `p[i].name`
- 2 B d) `weight, height`
- 3 C d) `p[i].bmi`
- 3 D b) `sortByBMI(p, 0, n - 1)`
- 3 E f) `sortByName(p, from, from + numPerson[i] - 1)`

Subquestion 2

- 3 F b) 8
- 4 G c) 5

Q8

Subquestion 1

- 2 A h) `numbers.length`
- 2 B g) `length++`
- 3 C b) `temp.length / 2`
- 3 D d) `temp.length / 2 - 1`
- 3 E d) `j`
- 3 F a) `Arrays.copyOf(numbers, length)`

Subquestion 2

- 2 G d) 35.0
- 2 H c) 30.0