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UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II
SESSION 2014/2015**

COURSE NAME : SOFTWARE QUALITY ASSURANCE
COURSE CODE : BIE 30703
PROGRAMME : 3 BIP
EXAMINATION DATE : JUNE 2015 / JULY 2015
DURATION : 2 HOURS AND 30 MINUTES
INSTRUCTION : ANSWER ALL QUESTIONS

THIS QUESTION PAPER CONSISTS OF **FOUR (4)** PAGES

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- Q1** (a) Define independent testing. (2 marks)
- (b) Describe **TWO (2)** advantages of independent test. (4 marks)
- (c) Describe **TWO (2)** disadvantages of independent test. (4 marks)
- Q2** (a) Discuss **THREE (3)** potential risks in using tools to support testing. (6 marks)
- (b) List **FOUR (4)** benefits of using test tool. (4 marks)
- (c) Suggest **FIVE (5)** tips for a successful Roll-Out of a tool. (10 marks)
- Q3** (a) Determine equivalence classes for the following scenarios:
- (i) If you are less than 18, you are too young to be insured. Between 18 and 30 inclusive, you will receive a 20% discount. Anyone over 30 is not eligible for a discount. (4 marks)
- (ii) One of the fields on a form contains a text box which accepts numeric values in the range of 18 to 25. (4 marks)
- (b) Determine test conditions required for the following scenarios using boundary analysis technique:
- (i) Password field which accepts minimum of 6 characters and maximum of 12 characters. (6 marks)

(ii) If a purchase is in the range of RM5 up to RM60 has no discount, a purchase over RM60 and up to RM150 has a 5% discount, and purchases of RM151 and up to RM400 have a 10% discount, and purchases of RM401 and above have a 15% discount.

(6 marks)

(c) Determine test conditions for the scenario in Figure Q3(c) using decision table.

(10 marks)

Flight Search

Roundtrip
 Oneway
 Multi-City

*From *Depart on

*To *Return on

I must travel on these dates
 My travel dates are flexible

Cabin Class Economy Class

*Passengers (Maximum total passenger: 9)

Adult	Child	Infant
1	0	0

[Do you have a coupon?](#)

Rule 1: When destination for both *From* and *To* are not set, the *Search* button is disabled.

Rule 2: When *From* destination is set but *To* is not set, *Search* button is disabled.

Rule 3: When *From* destination is not set but *To* destination is set, *Search* button is disabled.

FIGURE Q3(c)

Q4 Questions **Q4(a)** – **Q4(c)** are based on the scenario in Figure **Q4**.

```
1 PROGRAM maxsum ( maxint, value : INT )
2 INT result := 0 ; i := 0 ;
3 IF value < 0
4 THEN value := - value ;
5 WHILE ( i < value ) AND ( result <= maxint )
6     i := i + 1 ;
7     result := result + i ;
8 IF result <= maxint
9 THEN OUTPUT ( result )
10 ELSE OUTPUT ( "too large" )
11 END.
```

FIGURE Q4

- (a) Derive a flow graph. (15 marks)
- (b) Define the maximum number of test cases needed to provide statement coverage. For each test case, give an example set of input. (5 marks)
- (c) Define the maximum number of test cases needed to provide branch/condition coverage. For each test case, give an example set of input. [Show your works] (10 marks)

- END OF QUESTION -