

***Solution: Black-Box Testing***

**Exercise 4**

A university is admitting students in a professional course subject to the following conditions:

- (a) Marks in Java  $\geq 70$
- (b) Marks in C++  $\geq 60$
- (c) Marks in OOAD  $\geq 60$
- (d) Total in all three subjects  $\geq 220$  OR Total in Java and C++  $\geq 150$

If the aggregate mark of an eligible candidate is more than 240, he will be eligible for scholarship course, otherwise he will be eligible for normal course. The program reads the marks in the three subjects and generates the following outputs:

- (i) Not eligible
- (ii) Eligible for scholarship course
- (iii) Eligible for normal course

Design test cases for this program using decision table testing.

***Solution***

ENTRY										
	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10
C1: marks in Java $\geq 70$	T	T	T	T	F	I	I	I	T	T
C2: marks in C++ $\geq 60$	T	T	T	T	I	F	I	I	T	T
C3: marks in OOAD $\geq 60$	T	T	T	T	I	I	F	I	T	T
C4: Total in three subjects $\geq 220$	T	F	T	T	I	I	I	F	T	T
C5: Total in Java & C++ $\geq 150$	F	T	F	T	I	I	I	F	T	T
C6: Aggregate marks $> 240$	F	F	T	T	I	I	I	I	F	T
A1: Eligible for normal course	X	X							X	
A2: Eligible for scholarship course			X	X						X
A3: Not eligible					X	X	X	X		

Test Case ID	Java	C++	OOAD	Aggregate Marks	Expected Output
1	70	75	60	224	Eligible for normal course
2	75	75	70	220	Eligible for normal course
3	75	74	91	242	Eligible for scholarship course
4	76	77	89	242	Eligible for scholarship course
5	68	78	80	226	Not eligible
6	78	45	78	201	Not eligible
7	80	80	50	210	Not eligible
8	70	72	70	212	Not eligible
9	75	75	70	220	Eligible for normal course
10	76	80	85	241	Eligible for scholarship course