L9

Q1a)

Let driver\_present be A, buckled\_up be B, Ignition switch be C and warning light be X

Active High inputs

A B C X

0 0 0 0

0 0 1 0

0 1 0 0

0 1 1 0

1 0 0 0

1 0 1 1

1 1 0 0

1 1 1 0

X= AB’C

Q2

Active Low Inputs

A B C X

0 0 0 1

0 0 1 1

0 1 0 0

0 1 1 1

1 0 0 1

1 0 1 1

1 1 0 1

1 1 1 1

X = A\*+B\*’+C\*

Q3

Active low A and B, Active high C and Active high X

A B C X

0 0 0 0

0 0 1 0

0 1 0 0

0 1 1 1

1 0 0 0

1 0 1 0

1 1 0 0

1 1 1 0

X = A’B\*C

Q4

Inputs: A,B,C\*,D\*

Output: F

A B C\* D\* F

0 0 0 0 1

0 0 0 1 0

0 0 1 0 0

0 0 1 1 0

0 1 0 0 0

0 1 0 1 1

0 1 1 0 0

0 1 1 1 0

1 0 0 0 0

1 0 0 1 0

1 0 1 0 1

1 0 1 1 0

1 1 0 0 0

1 1 0 1 0

1 1 1 0 0

1 1 1 1 1

F(A,B,C\*,D\*) = ∑m(0,5,10,15)