Question 9.1

Using the LR1132 design procedure, design a suitable pavement for a road with the following characteristics:

AADT   = 17500 (5.5% commercial vehicles)
Growth rate = 5%
Design rate   = 30 years
Completion Year 2010

Use bituminous pavement

CBR of subgrade = 5%

Solution 9.1

Tn	= 365 x (17500 x 0.55) x ((1.05^{30} - 1)/0.05)
	= 23.34 million
Mid-year	= 2010 - 15 = 2025
t	= 80 years
Fm	=17500 x 0.055 x 1.05^{15} = 2076
D	= 4.117 – (3.112)(0.162) = 3.61
Design vol.	= 3.61 x 23.34 = 84 msa

395 say 400 mm surfacing

(100 w/c = b/c + 300 r/b)
+
225 sub-base