Question 5 Page 1.

a) Option A: PW = -upfront costs + annuity + salvage

upfront costs = 50 000

annuity = [9000 (P/A, 10%, 8)] (P/F, 10%, 1)
= [9000 (5.3349)] (0.9091)
= $43 649.62

Salvage = 8000 (P/F, 10%, 9)
= 8000 (0.4241)
= $3 392.80

PW = -50 000 + 43649.62 + 3 392.80

Option A PW = $-2957.58

Option B: PW = -upfront costs + annuity - maintenance

upfront costs = $35000

annuity = 6000 (P/A, 10%, 9)
= 6000 (5.7590)
= $34 554.00

maintenance = 3500 (P/F, 10%, 3) + 3500 (P/F, 10%, 6) + 3500 (P/F, 10%, 9)
= 3500 [0.7513 + 0.5645 + 0.4241]
= $6 089.65

PW = -35 000.00 + 34 554.00 - 6 089.65

Option B PW = $-6 535.65

b) Option A is better because its present worth is greater than that of option B. -2957.58 > -6 535.65

c) Neither project should be selected as with a minimum acceptable rate of return at 10%, neither option has a present worth greater than zero. Meaning the risks are not worth the return, and the money would be better invested elsewhere.