Name:

For a group of individuals all age x, you are given: (i) 25% are smokers (s); 75% are nonsmokers (ns).

(ii)

k	q^s_{x+k}	q^{ns}_{x+k}
0	0.10	0.05
1	0.20	0.10
2	0.30	0.15

(iii) i = 0.02

Calculate 10,000 $A^1_{x:\,\overline{2}|}$ for an individual chosen at random from this group.

(A) 1690

(B) 1710

(C) 1730

(D) 1750

(E) 1770

For a whole life insurance on (40) with varying benefits, you are given: • Death benefits are payable at the end of the year of death.
• The benefit amount is:

(i) 100 in the first 5 years of death,

(ii) decreasing to 50 for the following 10 years,

(iii) decreasing further to 10 for the following 10 years, and

(iv) decreasing even further to 5 after that until death.

Mortality follows the Illustrative Life Table. i=0.06

Calculate the actuarial present value for this insurance.

Good luck