

### Answer on Question #54399-Management-Other

Calculate on the basis of mortality table given below. Net annual premium at 5% rate of interest for a five years term insurance for \$1000 effective at the age of 60 years:-

Age -----Number of Living -----Number of Dying

60 1000 20

61 980 2

62 958 25

63 933 33

64 900 40

65 860 45

### Solution

Age	Amount of insurance	Probability of death	Present Value of \$1 at 5%	Cost of Insurance
60	\$1000 ×	20/1000 ×	0.95238	\$ 19.05(year 1)
61	\$1000 ×	2/1000 ×	0.907029	1.81(year 2)
62	\$1000 ×	25/1000 ×	0.863838	21.60(year 3)
63	\$1000 ×	33/1000 ×	0.822702	27.15(year 4)
64	\$1000 ×	40/1000 ×	0.783526	31.34(year 5)
	NSP=\$100.95			

Age				
60				\$ 1
61	980/1000 ×	\$ 1	0.95238	0.93
62	958/1000 ×	\$ 1	0.907029	0.87
63	933/1000 ×	\$ 1	0.863838	0.81
64	900/1000 ×	\$ 1	0.822702	0.74
	PVLAD of \$1=\$4.35			

Net annual level premium is

$$NALP = \frac{NSP}{PVLAD \text{ of } \$1} = \frac{\$100.95}{4.35} = \$23.21.$$