

299. For a special 20-year term life insurance on (40), you are given:

- (i) The death benefit is 10,000.
- (ii) The death benefit is payable at the moment of death.
- (iii) During the 5th year the gross premium is 150 paid continuously at a constant rate
- (iv) The force of mortality follows Gompertz's law with $B = 0.00004$ and $c = 1.1$
- (v) The force of interest is 4%.
- (vi) Expenses are:
 - 5% of premium payable continuously
 - 100 payable at the moment of death
- (vii) At the end of the 5th year the expected value of the present value of future losses random variable is 1000.

Euler's method with steps of $h = 0.25$ years is used to calculate a numerical solution to Thiele's differential equation.

Calculate the expected value of the present value of future losses random variable at the end of 4.5 years.

- (A) 975
- (B) 962
- (C) 949
- (D) 936
- (E) 923