

- 64.** A maintenance contract on a hotel promises to replace burned out light bulbs at the end of each year for three years. The hotel has 10,000 light bulbs. The light bulbs are all new. If a replacement bulb burns out, it too will be replaced with a new bulb.

You are given:

- (i) For new light bulbs, $q_0 = 0.10$
 $q_1 = 0.30$
 $q_2 = 0.50$
- (ii) Each light bulb costs 1.
- (iii) $i = 0.05$

Calculate the expected present value of this contract.

- (A) 6700
- (B) 7000
- (C) 7300
- (D) 7600
- (E) 8000