

**TOPIC**

Economics – Section VI – Question 6

**QUESTION**

A highway engineer is considering two possible alternatives for repairing a damaged pavement. The analysis period is 20 years. The first alternative, A, involves a simple periodic resurfacing every five years. This alternative has an initial cost of \$15,000, an annual maintenance of \$700 per year, and no salvage value at the end of its five-year useful life. The second alternative, B, involves replacing the damaged pavement and costs \$30,000. There is no maintenance cost in the first year, there is a maintenance cost of \$200 in the second year, and the maintenance cost increases \$200 per year in all subsequent years. There is an anticipated \$5,000 salvage value at the end of the 20-year analysis period. If the interest rate is 6%, the alternative the engineer should select is

- (A) Alternative A
- (B) Alternative B
- (C) Neither A or B are good alternatives
- (D) Both A and B are equally good alternatives

**CONTRIBUTOR**

Ram Pendyala