Goyal, S. K.; Giri, B. C.
The production-inventory problem of a product with time varying demand, production and deterioration rates. (English) Zbl 1026.90001
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Summary: We consider the production-inventory problem in which the demand, production and deterioration rates of a product are assumed to vary with time. Shortages of a cycle are allowed to be backlogged partially. Two models are developed for the problem by employing different modeling approaches over an infinite planning horizon. Solution procedures are derived for determining the optimal replenishment policies. A procedure to find the near-optimal operating policy of the problem over a finite time horizon is also suggested.

MSC:

90B05	Inventory, storage, reservoirs

Cited in **32** Documents

Keywords:

inventory; deterioration; time-varying demand; partial backlogging

Software:

Mathematica

Full Text: DOI

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