Ministry of Higher Education and Scientific Research

Al-Mustaqbal University College

Chemical Engineering and Petroleum Industries Department

Chemical Engineering Economics
Fourth Stage
Lecture No.8

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The declining balance method

It is a method that are used to write off the initial cost rate in the early years of the useful life, than the later years. Therefore, it overcomes one of the deficiencies of the straight line method. In the declining or *diminishing balance* method, also known as the *Matheson Formula* or *Constant Percentage* method, a fixed percentage of the book value of an asset is written off annually.

It is possible to calculate the declining balance percentage of depreciation;

$$f = 1 - \left(\frac{Vs}{V}\right)^{1/n}$$

Example

The primary cost of a certain equipment is 22000$ with its installation until it is on service. The salvage value at the end of 10 years as considered its service life is estimated 2000$. calculate the book value after 5 years using the declining balance method.

$$f = 1 - \left(\frac{2000}{22000}\right)^{1/10}$$

f= 0.2131

the value the equipment after 5 years =

Vs = V(1-f)^5 = 22000(1-0.2131)^5 = 6650 $

Home Work:

If a business purchases a new car, they would expect the car to have a resale value at the end of its useful life for the business.

A business purchases a car for £8,000 and is expecting to use it for 3 years; they are also estimating it will have a resale value of £2,000 (residual value) at the end of the 3 years using the Straight line method and declining balance method.