Depreciation, alternate investment and profitability analysis

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INTENDED AUDIENCE : It is a core course for UG

INDUSTRIES APPLICABLE TO : All manufacturing industry where financial decisions are taken

COURSE OUTLINE :

ABOUT THE COURSE

In the analysis of costs and profits for business operation the cost of physical assets decrease in value with age due to physical deterioration, technological advances, changes in economic environment, or other similar factors which ultimately will cause retirement of the property. The reduction in value of the physical assets due to any of the above causes is a measure of the depreciation. In the present MOOC different depreciation methods such as: St. line method, Declining balance method, Double-declining balance method, Sum-of-the-digits method, : Sinking fund method & Repair provision method, Accelerated cost recovery method –I&II are discussed.

The common problem confronted in engineering economics are those where alternative comparison between two or more mutually exclusive alternative investments compete involving different series of Capital disbursement. The present module demonstrates how to apply the profitability measures to select the best alternative out of a set of mutually exclusive alternatives properly. The module contains different methods such as: Annual Cost method, Present Worth Method, Perpetuity Method, Rate of Return Method, Incremental Rate of return Method and Minimum Return as a cost Method.

Resources required to carry out a project are often less than that available for it. Hence, all investments must be carried out carefully and should be evaluated towards its economic feasibility based on some profitability standards. A number of methods such as : Payback period, Return on investment, Net Return, Discounted cash flow-I & II are employed for computation of profitability in the economic analyses and are presented in this MOOC.

ABOUT INSTRUCTOR :

Prof. Bikash Mohanty is a professor in Chemical engineering department at Indian institute of technology Roorkee. He has developed and taught the course "Chemical Engineering plant design and economics" for more than a decade to chemical engineers. He has also developed a course on "Chemical Engineering Plant Design and Economics" for the project "National Mission Project on Education through ICT-developing pedagogical methods for various classes, intellectual calibres and research in e-learning" executed by IIT Kharagpur.

COURSE PLAN :

Week 01 : Introduction to course, depreciation: St. line method, Declining balance method,Double-declining balance method, Sum-of-the-digits method. Along with the above two tutorials will be conducted

Week 02 : Sinking fund method & Repair provision method, Accelerated cost recovery method –I&II, Introduction to alternate investment: Annual cost method. Along with the above two tutorials will be conducted.

Week 03 : Present worth method, Rate of return method, Incremental rate of return , Perpetuity method, Minimum return as cost. Along with the above two tutorials will be conducted.

Week 04 : Introduction to profitability analysis and Payback period, Return on investment, Net Return, Discounted cash flow-I & II. Along with the above two tutorials will be conducted.