For any construction project to be successful, it must be technically sound and the resulting benefits must exceed the cost associated with the project. This course “Construction Economics and Finance” basically aims at describing various aspects of engineering economics. The field of construction economics and finance deals with the systematic evaluation of cost and benefit associated with different projects. The topics in this course cover principles of engineering economy followed by basic methods for carrying out economic studies considering the time value of money. The other topics include the demonstration of different methods namely present, future and annual worth method, rate of return, break-even comparison, capitalized-cost and cost-benefit analysis for the comparison of alternatives. In addition, other topics those will be covered are different methods of depreciation, taxes, and cost analysis of construction equipments followed by cost estimating. Further, topics on financial management namely construction accounting, financial statements, financial ratios and working capital management are also included in this course. The topics will be developed in a logical sequence. For clear illustration of concepts, a number of problems will be solved. This course will definitely help the students and teachers in understanding the underlying principles and concepts in construction economics and finance.


COURSE DETAIL

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Topic</th>
<th>No. of Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Engineering economics : Basic principles – Time value of money, Quantifying alternatives for decision making, Cash flow diagrams, Equivalence- Single payment in the future (P/F, F/P), Present payment compared to uniform series payments (P/A, A/P), Future payment compared to uniform series payments (F/A, A/F), Arithmetic gradient, Geometric gradient.</td>
<td>08</td>
</tr>
<tr>
<td>2</td>
<td>Comparison of alternatives: Present, future and annual worth method of comparing alternatives, Rate of return, Incremental rate of return, Break-even comparisons, Capitalized cost analysis, Benefit-cost analysis.</td>
<td>16</td>
</tr>
<tr>
<td>3</td>
<td>Depreciation, Inflation and Taxes: Depreciation, Inflation, Taxes.</td>
<td>05</td>
</tr>
<tr>
<td>4</td>
<td>Equipment economics: Equipment costs, Ownership and operating costs, Buy/Rent/Lease options, Replacement analysis.</td>
<td>05</td>
</tr>
<tr>
<td>5</td>
<td>Cost estimating: Types of Estimates, Approximate estimates – Unit estimate, Factor estimate, Cost indexes, Parametric estimate, Life cycle cost.</td>
<td>04</td>
</tr>
</tbody>
</table>
6


05

Total

43

References:


