**Unit IV- CAST ESTIMATION**

**Session 1**

**Recap:**

 Addressing the concept of cost estimation procedure.

**Session objective:**

 After studying this session the learner will be able to understand the concept of Types of Cost estimates.

**Suggested activity:**

 **PPT**

**TYPES OF ESTIMATE**

Estimates can be developed in a variety of different ways depending upon the use of the estimates

and the amount of detail provided to the estimator.Importance of understanding estimating methods. Every estimator should understand every estimating method and when to apply each, because no one estimating method will solve all estimating problems.

* Preliminary estimates
* Final cost estimates

**Conclusion:**

 At the end of this session the learners should understand the concept of cost types of estimates.

**Website URL:**

<http://www.octs.com/inventhelp/mfrcost.htm>

g.arizona.edu/arec/pubs/dmkt/Estimating.pdf

**Session 2**

**Recap:**

 Addressing the concept of types of estimates.

**Session objective:**

 After studying this session the learner will be able to understand the concept of

 method of Cost estimates.

**Suggested activity:**

 **PPT**

**METHODS OF ESTIMATES**

 **Computer Estimating**

Computer estimating has become very popular in recent years primarily because of the advent of the micro computer. Early efforts of computer estimating date back to the early 1970s but were cumber some to use because they were on a mainframe and were card-driven. No less than 15U.S. companies now offer estimating software for a microcomputer. Because the computer estimating industry is new, there are no real standards for estimating programs. Some programs are nothing more than a way to organize the calculations of an estimate, while others calculate all the details of the estimate.

* Conference method
* Comparison method
* Detailed analysis method

**Conclusion:**

 At the end of this session the learners should understand the concept of method of estimates.

**Website URL:**

<http://orfe.princeton.edu/~jqfan/fan/classes/524/notes2.pdf>

**Session 3**

**Recap:**

 Addressing the concept of types of estimates.

**Session objective:**

 After studying this session the learner will be able to understand the concept of

 method of Cost estimates.

**Suggested activity:**

 **PPT**

**METHODS OF ESTIMATES**

**Computer Estimating**

Computer estimating has become very popular in recent years primarily because of the advent of the micro computer. Early efforts of computer estimating date back to the early 1970s but were cumber some to use because they were on a mainframe and were card-driven. No less than 15U.S. companies now offer estimating software for a microcomputer. Because the computer estimating industry is new, there are no real standards for estimating programs. Some programs are nothing more than a way to organize the calculations of an estimate, while others calculate all the details of the estimate.

* Conference method
* Comparison method
* Detailed analysis method

**Conclusion:**

 At the end of this session the learners should understand the concept of method of estimates.

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**Session 4**

**Recap:**

 Addressing the concept of method of estimates.

**Session objective:**

 After studying this session the learner will be able to understand the concept of

 Data requirement and data sources for cost estimates.

**Suggested activity:**

 **PPT**

**STANDARD DATA**

Standard data are defined as standard time values for all the manual work in an estimate standard data provide the opportunity for the estimator to be consistent in developing an estimate.

**How Standard Data are Developed?**

Standard data are developed in a variety of ways depending on the industry that uses them.Experience shows that it is easier to develop standard data for machinery operation as compared with fabrication operation. This is because machinery operations can be calculated by using speeds,feeds and lengths of cut to determine time values. Most of the work content of a fabrication

**Operation is manual effort rather than machine time**

**Past History**

Many companies use past history or actual performance on joules produced to develop standard data. Developing standard data this way rarely considers the best method of organizing work. This method is popular in smaller companies that do not have industrial engineers or time study engineers.

 **Time Study**

Larger, well-organised companies will develop standard data from stop-watch time studies. Time studies are used to establish rates of production. However, when time studies are also used to establish standard data, care must be taken in defining element content so work content can be isolated. Time study engineers must be taught how to establish the element content of their studiesin a way that will permit the development of standard data.

**Predetermined Time Standards**

Another approach in the development of standard data is to use one of the many predetermined time standard systems like MTM or MOST. This method has its advantages and disadvantages.The chiefly advantage is consistency of data, and the chief disadvantage is the amount of time

necessary to develop the data. Some predetermined time standard systems are now computerized,which shortens the development time.

**Conclusion:**

 At the end of this session the learners should understand the concept of Data requirement and data sources for cost estimates.

**Website URL:**

http://www.epa.gov/dfe/pubs/pwb/ctsa/ch4/ch4-2.pdf

**Session 5**

**Recap:**

 Addressing the concept of Data requirement and data sources for cost estimates.

**Session objective:**

 After studying this session the learner will be able to understand the concept of Collection of cost in estimates.

**Suggested activity:**

 **PPT**

**CONSTITUENTS OF A JOB ESTIMATE**

The various constituents of estimating the cost of a product may be sub-divided as under:

(a) Design time.

(b) Drafting time.

(c) Method studies, time studies, planning and production time.

(d) Design, procurement and manufacture of special patterns, cores, core boxes,

flasks, tools, dies, jigs and fixtures etc.

(e) Experimental work.

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(f) Materials.

(g) Labour.

(h) Overheads.

**Design time**

The time required for designing a product is estimated either on the basis of similar product previously manufactured or on the judgement of the designer. This time is generally considerable in quantity. It should be taken as the important.

(i) Repairs and maintenances expenses of machines and tools.

(ii) Insurance premium on building and plants.

(iii) Expenses of power such as steam, gas, electricity, etc.

(iv) Depreciation on building, furniture and equipment.

(v) Administrative overhead or expenses: These expenses include the salaries of high officials,

persons working in general office, telephone telegraph, stationary etc.

(vi) Selling expenses: These expenses include the salaries of salesman, commission to salesman,

advertising, publicity expenditure.

**Drafting time**

The next step after the design of the component is the preparation of its drawing to be used by theworker during production. An experienced draughtsman is required to prepare them. He also estimates the time and cost of drafting a new product.

**Conclusion:**

At the end of this session the learners should understand the concept of collection of cost in estimates.

**Website URL:**

http://www.epa.gov/dfe/pubs/pwb/ctsa/ch4/ch4-2.pdf

**Session 6**

**Recap:**

 Addressing the concept of Collection of cost in estimates.

**Session objective:**

 After studying this session the learner will be able to understand the concept of allowances of cost estimation.

**Suggested activity:**

 **PPT**

**ALLOWANCES IN ESTIMATION**

A worker cannot work continuously without rest. His efficiency decreases as time passes due to fatigue etc. He also requires time for tool sharpening checking measurements and for personal calls. All these allowance are called miscellaneous allowances. The allowances amount to 15% of total time.Miscellaneous allowances are classified as personal fatigue, tool changing of grinding, checking, oiling and cleaning allowances, filling coolant reservoir and disposing off scraps and surplus, stock, etc.

* Relaxation allowances
* Contingency allowances
* Process allowances
* Special allowances

**Conclusion:** At the end of this session the learners should understand the concept of allowances of cost estimation.

**Website URL:**

http://www.epa.gov/dfe/pubs/pwb/ctsa/ch4/ch4-2.pdf