DIWALIBA POLYTECHNIC, MAHUVA
SUBJECT: ESTIMATING, COSTING AND CONTRACTING

CHAPTER 1
INTRODUCTION

Need of costing is

To improvement in design when production cost is increased
To decide selling cost of production
To find out the proportion of wastages
all of above

Scope of costing is

To eliminate the nonproductive activities
To control the wastages and inefficiency
To provide information to government, trade unions etc.
all of above

To find out the actual cost of product by considering all the cost relevant to process involved in production is called costing.

True
False

Cost accounting is the process of calculating expenditure to decide the selling cost of product

True
False

Cost accounting

Decides the selling cost
Decides the all expenditures of production
Helps in budgeting
All of above

Cost estimating classified into

Product design, accuracy, and finish
Production cost and selling cost
Product delivery schedule
All of above

Cost estimator should have

Knowledge to interpret the drawings and blue prints
Understand the production process, operations and machineries
Knowledge of tools, jigs and fixtures
All of above

Cost estimation can help to control the production cost

True
False

Manufacturing of product will be beneficial or not is also known by the cost estimation.
True
False

Costing helps in deciding wages and overhead costs.
True
False

Costing does not provide a base for comparing estimated costs with actual cost.
True
False

Cost estimating is an art of finding the cost which is likely to be incurred on the production of an article before it is actually manufactured.

True
False

Scope of estimating is

To calculate labour cost using data of labour time and wage rates.
To calculate the cost of material to be purchased from the market.
Both (A) & (B)
None of above

Purpose of the estimating is

To decide selling price of a product
To decide amount of investment in equipment
To decide most economical process, tooling or material for producing a product
All of above

Objective of the estimating is

To conduct feasibility studies on possible new products.
To assist in long term financial planning.

To finalize a standard estimate of costs.
All of above
Factors for calculating probable cost of product are

Design time, amount of material required
Cost of material required; production time required
Labour charges, cost of machinery, overheads
All of above

Method of preparing cost estimates is

The group method
The detailed method
The comparison method
All of above

Under the group method, Cost estimation done by

Each department has to state his estimate for his part of the job
Preparing estimation for each item, sub assembly and main assembly
Comparing one equipment with another to elaborate the salient points of the cost
None of above

Under the detailed method, Cost estimation done by

each department has to state his estimate for his part of the job
preparing estimation for each item, sub assembly and main assembly
comparing one equipment with another to elaborate the salient points of the cost
None of above

Under the comparison method, Cost estimation done by

each department has to state his estimate for his part of the job
preparing estimation for each item, sub assembly and main assembly
comparing one equipment with another to elaborate the salient points of the cost
None of above

The contract is a legally binding agreement between two or more parties

True
False

Condition kept in engineering contract is

To prevent the use of poor materials and workmanship
To prevent the delay of work and avoid slow progress of work

For maintaining the material supplied by the owner and to return the excess material
All of above
Condition kept in engineering contract is

of machinery provided on hire to contractor
for solving the dispute if any arise by way of the arbitration
Both (A) and (B)
None of above

The agreement is done in writing by mentioning the condition related to

Monetary aspects
Specifications of work
Time to complete the work
All of above

Costing is the determination of actual cost of product while estimating is aimed to calculate the probable cost of the product before the manufacturing starts.

True
False

Costing requires a highly technical knowledge hence costing is done by engineer.

True
False

Estimating requires a highly technical knowledge hence estimating is done by engineer.
True
False

Costing requires the knowledge of accounts hence costing is done by accountant.

True
False

Indirect materials are

Nonproductive materials
Productive materials
Both (A) & (B)
None of above

Direct materials are

Nonproductive materials

Productive materials
Both (A) & (B)
None of above

Indirect labour includes

The machinist cutting gear teeth in machine shop
The painter painting the body of an automobile
Job inspector who inspect the job
The molder making moulds in a foundry

Direct labour includes

Foreman of a tool room
The painter painting the body of an automobile
Job inspector who inspect the job
Labour welfare officer who looks after welfare of the workers

Indirect labour includes

The black smith forging a job in forging shop
Charge man of a particular shop supervising the work of the supervisor
The turner turning a job on lathe machine
The operator shaping a job on shaping machine

Direct labour includes

The operators assembling the parts of a product
Maintenance staff carrying out repair of plant and equipment
Crane drivers who drive the cranes for shifting heavy components
Foreman of a machine shop who supervise the charge man working under him

Direct expenses include

Expenses incurred for conducting experiments to find out best and cheapest method of production
Expenses incurred on making special types of patterns
Expenses incurred on procuring special type of jigs & fixtures
All of above

Direct expenses include

Expenses incurred on administrative members of the staff
Expenses incurred on preparing lay-outs, designs for producing particular product
Expenses incurred on purchase stores and sales staff
Expenses incurred on services like water, steam, gas, electricity etc.

Indirect expenses include

Expenses incurred on dies, tools
Expenses incurred on preparing lay-outs, designs for producing particular product
Expenses incurred on insurance premium of factory building, plant and machineries
Expenses incurred on maintenance of equipments

Indirect expenses include

Expenses incurred on administrative members of the staff
Expenses incurred on purchase stores and sales staff
Expenses incurred on services like water, steam, gas, electricity etc.
All of above

Overheads include

Expenses incurred on indirect labour
Expenses incurred on quality control staff
Expenses incurred on stationary, telephone and postages etc.
All of above

Overheads doesn't include

Depreciation on buildings, plant and machineries
Expenses incurred on watch and ward staff
Both (A) and (B)
Hire of special tools & equipments

Fixed overheads include

Depreciation on buildings, plant and machineries
Internal transport expenses
Expenses on oils, grease and cotton waste
Expenses on steam, gas, electricity

Variable overheads include

Internal transport expenses
Expenses on oils, grease and cotton waste
Both (A) and (B)
The rent of factory building

Variable overheads don't include

The rent of factory building
Depreciation on buildings, plant and machineries
Salaries of the monthly paid employees
All of above

Factory overheads include

Expenses on oils, grease and cotton waste
Salaries of the monthly paid employees
Expenses incurred on advertising of products
Expenses incurred on the preparation of tenders

Administrative overheads are

Salaries of the monthly paid employees
Depreciation of office buildings and its equipments
Both (A) and (B)
Expenses incurred on the preparation of tenders

Factory cost equal to

Direct material cost + direct labour cost + other direct expenses
Prime cost + factory overheads
Direct material cost + factory overheads
None of above

Prime cost equal to

Direct material cost + direct labour cost + other direct expenses
other direct expenses + factory overheads
Direct material cost + factory overheads
None of above

Total cost equal to

Prime cost + factory overheads
Direct material cost + direct labour cost + other direct expenses
factory cost + administrative overhead
Production cost + sales & distribution expenses

Office cost equal to

Prime cost + factory overheads
Direct material cost + direct labour cost + other direct expenses
Factory cost + administrative overhead
Production cost + sales & distribution expenses

Selling price equal to

Factory cost + administrative overhead
Production cost + sales & distribution expenses
Total cost + profit
Selling price + discount

CHAPTER 5
Estimation of process cost

Process cost estimation sheet include

Material
Labour hour
Overhead
All of above

Process sheet is the summary of cost estimation for certain period

True
False

Process cost estimation sheet used as a basis for

Closing entries at the end of each month
Operating statement, without need to look up the ledger accounts
Both (A) & (B)
None of above

Systems of diesel generating sets are

Fuel storage & supply system, air supply system
Cooling system, lubrication system
Starting system, governing system
All of above

Thermal efficiency of diesel generating set reduces with the increase in load

True
False

Specific fuel consumption of diesel generating set increases with the increase in load

True
False

Power generation cost of diesel generating set include

Fuel costs
Cost of lubricating oil
Labour costs
All of above

Power generation cost of diesel generating set include

Interest & depreciation of capital investment
Fixed and running maintenance costs
Overhead costs
All of above

Variable cost for power generation by diesel generating set include

Fuel costs
Lubrication costs
Running maintenance costs
All of above

Fixed cost for power generation by diesel generating set include

Interest & depreciation of capital investment
Fuel cost
Lubrication cost
Running maintenance cost

Total cost for power generation by diesel generating set is equal to summation of fixed cost and running cost

True
False

For thermal power plant, estimation of power cost includes

Costs of land and building
Cost of Transmission lines
Cost of distribution lines
All of above

Thermal power plant needs capital investment of _____ approximately.

Rs. 1000/Kw
Rs. 1500/Kw
Rs. 1800/Kw
Rs. 2500/Kw

Variable cost for power generation by thermal power plant include

Management cost
Operating cost
Cost of fuel, lubricating oil, grease
All of above

Fixed cost for power generation by thermal power plant include

Interest
Insurance
Both (A) & (B)
None of above

Thermal power plant produces 80 mw to satisfy maximum demand. Thermal power plant needs capital investment of Rs. 1800/kw approx. operating cost of plant is Rs. 1.94/kwh. Then what will be the cost of capital for power plant?

14.4 Cr.
20 Cr.
15.5 Cr.
34.4 Cr

Thermal power plant produces 80 mw to satisfy maximum demand. Thermal power plant needs capital investment of Rs. 1800/kw approx. operating cost of plant is Rs. 1.94/kwh. Considering interest & depreciation rate is 12% then what will be the interest and depreciation cost of power plant?

14.4 Cr
1.72 Cr
1.86 Cr
20 Cr

Thermal power plant produces 80 mw to satisfy maximum demand. Thermal power plant needs capital investment of Rs. 1800/kw approx. operating cost of plant is Rs. 1.94/kwh. Considering load factor of plant is 40% and interest & depreciation rate is 12% then what will be the power cost per unit?

Rs. 5/unit
Rs. 6/unit
Rs.7/unit
Rs. 2/unit

Cost elements of pouch packaging are

Cost of goods packed in the pouch
Cost of pouch material
Overheads
All of above

Cost of packaging the pouch include

Labour cost
Power cost
Both (A) & (B)
None of above

Cost of washing powder packed in 1 kg. pouch is Rs. 26. The plastic material per pouch cost is Rs. 1. An operator is packing 500 pouches in a shift of 8 hrs. if operator is paid Rs. 150 per 8 hrs. shift. Power cost per pouch is Rs. 0.15 then what will be the minimum cost of 1 kg. pouch of washing powder?

27 Rs.
26 Rs.
25 Rs.
24 Rs.

Cost of noodles packed in 1 kg. pouch is Rs. 30. The plastic material per pouch cost is Rs. 2. An operator is packing 600 pouches in a shift of 8 hrs. if operator is paid Rs. 250 per 8 hrs. shift. Power cost per pouch is Rs. 0.25 then what will be the minimum cost of 1 kg. pouch of noodles to make profit?

30 Rs.
32 Rs.
35 Rs.
36 Rs.

Cost of puff rice packed in 1 kg. pouch is Rs. 50. The plastic material per pouch cost is Rs. 5. An operator is packing 200 pouches in a shift of 8 hrs. if operator is paid Rs. 200 per 8 hrs. shift. Power cost per pouch is Rs. 0.20 then what will be the minimum cost of 1 kg. pouch of puff rice to make profit?

54 Rs.
55 Rs.
56 Rs.
58 Rs.

In ice plant, a tank is filled with

Water
Ice
NaCl + water
Ice + water

Freezing point of brine solution is

0° C
100° C
4° C
None of above

Ice plant works on

Vapour absorption system
Vapour compression system
Both (A) & (B)
None of above

In ice plant, refrigerant used is

R234a
R22
Ammonia
R21

1-ton refrigeration equal to

211 kJ/min
12660 kJ/hrs.
3.516 kw
All of above

In 24 hours at 0°C, the refrigerating effect transforming water into ice is called 1-ton refrigeration.

True
False

Cost element of ice plant is

Power cost of compressor motor
Power cost of cooling water circulating motor
Cost of pure water
All of above

Cost element of ice plant is

Plant maintenance cost
Labour cost
Cost of brine solution
All of above

Component used in ice plant is

Compressor
Evaporator
Throttling valve
All of above

The brine solution absorbs heat from the pure water and transforms pure water into ice.

True
False

The brine solution rejects heat from the pure water and transforms pure water into ice.

True
False

In the Ice plant, the heat from brine solution goes to

Agitator
Receiver
Evaporator
Throttling valve

In the Ice plant, the canes filled with pure water are placed in

Brine tank
Water tank
Evaporator
Condenser

Component used in ice plant is

Brine tank
Water tank
Condenser
All of above

An ice plant using ammonia is producing 160 kw refrigerating effect. The evaporator is rejecting 1000 kJ/kg of heat theoretically. Actual heat absorption in cold chamber is 80 %. Mechanical efficiency of plant is 85% then how much heat will be actually rejected in the evaporator?

850 kJ/kg
900 kJ/kg
160 kJ/kg
800 kJ/kg

An ice plant using ammonia is producing 160 kw refrigerating effect. The evaporator is rejecting 1000 kJ/kg of heat theoretically. Actual heat absorption in cold chamber is 80 %. Mechanical efficiency of plant is 85% then what amount of refrigerant circulated in ice plant?

0.15 kg/sec
0.20 kg/sec
0.25 kg/sec
0.30 kg/sec

An ice plant using ammonia is producing 200 kw refrigerating effect. The evaporator is rejecting 1500 kJ/kg of heat theoretically. Actual heat absorption in cold chamber is 80 %. Mechanical efficiency of plant is 85% then how much heat will be actually rejected in the evaporator?

1200 kJ/kg
1000 kJ/kg
900 kJ/kg
850 kJ/kg

An ice plant using ammonia is producing 200 kw refrigerating effect. The evaporator is rejecting 1500 kJ/kg of heat theoretically. Actual heat absorption in cold chamber is 80 %. Mechanical efficiency of plant is 85% then what amount of refrigerant circulated in ice plant?

0.16 kg/sec
0.26 kg/sec
0.35 kg/sec
0.40 kg/sec

In the Ice plant, the canes filled with pure water are placed in water tank

True
False

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In the Ice plant, the heat from brine solution goes to evaporator.

True
False

In 24 hours at 0°C, the refrigerating effect transforming ice into water is called 1-ton refrigeration.

True
False

Ice plant works on vapour absorption system

True
False

Brine solution used in ice plant is a mixture of NaCl and water.

True
False

1-ton refrigeration equal to

211 kJ/min
112 kJ/min
121 kJ/min
None of above

Turn key contract is also called

Piece rate contract
Rate contract
Cost plus contract
Private contract

Contractor is getting payment on the basis of actual expenditure incurred in

Piece rate contract
Rate contract
Private contract
Turn key contract

Advantage of contract is

The price variation of any kind does not affect the work cost.
Benefit of the experienced hand contractor is obtained
Work can be completed in stipulated time
All of above

CHAPTER 7
BUDGETING AND CONTRACTING

Budget is specifically an expression of the scientific and operating plans in financial terms.
True
False

Budget is a statement expressed in monetary or physical units, prepared for the implementation of policies framed by the top management of the organization.

True
False

Budget set forth the way in which organization plans to spend.

True
False

The mechanism of controlling cost through budgeting is called

Budgetary control
Cost control
Expenditure control
None of above

Budget is used as a means of controlling various activities, such technique is called

Cost control
Budgetary control
Expenditure control
None of above

Budgetary control is a process of comparing the actual results with the corresponding budget data to ensure that actual data do not diverge from the budget estimates.

True
False

Purpose of budget is

To define a certain goal and the ways of reaching the goal
To provide measure of performance in relation to actual volume of activity
To enables management to plan future income and expenditures
All of above

Purpose of budget is

To helps the management to check the current performance with planned program
To improve the position of business
Both (A) & (B)
None of above

Estimate of quantity of products that will be sold and the revenue that will be received during budgeted period is done in

Material budget
Labour budget
Sales budget
Production budget

At the time of preparing sales budget, sales manager should consider

Estimates of all individual salesman
Past sales trends and figures
General economic condition
All of above

At the time of preparing sales budget, sales manager should consider

Government policies and controls
Seasonal fluctuations
Both (A) & (B)
None of above

Production budget is also called

Material budget
Labour budget
Production cost budget
Manufacturing budget

Budget showing the quantity of products to be produce, date and type is called

Material budget
Manufacturing budget
Labour budget
Production cost budget

At the time of preparing production budget, production manager should consider

Sales budget
Inventory policies
Perishability of products
All of above

At the time of preparing production budget, production manager should consider

Storage facilities
Plant capacity
Availability of raw materials
All of above

At the time of preparing production budget, production manager should consider

Availability of labour
Availability of fuel and power
Adequacy of capital
All of above

Budget showing the requirements of materials in form of estimates is called

Manufacturing budget
Labour budget
Material budget
Production cost budget

While preparing material budget, _____ should be considered.

Timely issue of the materials to production department
Investment in inventory
Both (A) & (B)
None of above

Material budget is useful to reduce wastage and to avoid the shortage of material

True
False

Budget showing the estimates of direct labour required to carry out budgeted output is called

Manufacturing budget
Labour budget
Material budget
Production cost budget

The labour need is assessed on basis of

Labour budget
Work study
Both (A) & (B)
None of above

The estimated cost of planned production to be incurred is shown in production cost budget.

True
False

The estimates of salaries of administrative staffs, stationery, printing, record keeping are shown in _____

Financial budget
Administrative budget
Plant and equipment budget
None of above

If it is necessary to provide extra land and building for plant and equipments, then estimated cost is shown in _____

Financial budget
Administrative budget
Plant and equipment budget
None of above

Master budget gives the summary of money to be received as an income and to be spent during budgeted period.

True
False

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_____ gives the summary of money to be received as an income and to be spent during budgeted period.

Financial budget
Administrative budget
Plant and equipment budget
Master budget

_____ is used by the top management for knowing the profitability of the budgetary programme.

Administrative budget
Plant and equipment budget
Master budget
Financial budget

Summarized budget of entire organization is called

Administrative budget
Plant and equipment budget
Master budget
Financial budget

Objective of master budget is

To achieve overall coordination in the budgetary programme of organization.
To exercising effective control over the business activities of organization
Both (A)& (B)
None of above

Master budget is the integration of

Sales, production and material budget
Labour, cash and administrative budget
Plant & equipment, financial budget
All of above

Benefit of budget is

It forces management to draw specific plans for future operating periods.
It provides a yard stick for measuring individual performance
It provides economical utilization of production inputs.
All of above

Benefit of budget is

It minimizes the wastages by eliminating the unproductive activities
It provides the information to take any corrective actions needed
It is an important tool for framing the future policies
All of above

Value of machine, equipment or assets recorded in the book is called

Net present value
Book value
Sales value
Purchase value

Value of machine, equipment or assets at a particular date is called

Net present value
Book value
Sales value
Purchase value

Net present value is equal to

Book value + depreciation
Book value + sales value
Book value – depreciation
Book value – sales value

The value of semi-finished work lying in production shop is called

Net present value
Book value
Work in progress
Gross domestic product

The value of semi-finished work lying in store is called

Net present value
Book value
Gross domestic product
Work in progress

Full form of GDP is

Grand domestic product
Gross domestic product
Gross domestic purchase
Gross domestic programme

Value of goods and services produced by any nation is called

Net present value
Book value
Gross domestic product
Work in progress

Economic stability of any nation reveals by

Net present value
Gross domestic product
Book value
Work in progress

Balance sheet of a business shows

The assets
The liabilities
Both (A) & (B)
None of above

The contract is an agreement between two or more parties, initial step of which is making of offer by one party and acceptance of the offer by other party.

True
False

The contract is an agreement between parties on a lawful consideration, to do from doing some work-act, is binding to both the parties.

True
False

Contract must contain the

Offer or proposal
Acceptance
Legality of purpose
All of above

Contract for doing work at a fixed figure is called

Lump sum contract
Full contract
Item rate contract
Fixed contract

The rates of each items are estimated in

Lump sum contract
Full contract
Item rate contract
Fixed contract

In schedule contract, If the rates offered is higher than estimated rates then offer is called

Premium offer
Discount offer
At par
None of above

In schedule contract, If the rates offered is lower than estimated rates then offer is called

Premium offer
Discount offer
At par
None of above

In schedule contract, If the rates offered is equal to estimated rates then offer is called

Premium offer
Discount offer
At par
None of above

The Works costing less than Rs. 30000 are assigned to the contractors as per

Rate contract
Piece rate contract
Turn key contract
Private contract