Course: Cost Accounting (5410)
Semester: Spring, 2021

ASSIGNMENT No. 2

Q.1 The Alpha Manufacturing Company is purchasing a particular material at the cost of Rs. 300 per unit. Monthly usage is 1,500 units. The ordering cost is Rs. 50 per order and the annual carrying cost is 16%. Presently the procurement of material is based on Economic Order Quantity modeling. A supplier has offered the company for supply of requisite material at 5% discount if the orders in the lots of 3,000 units are placed.

Required: evaluate this offer if the company should accept this offer or purchase the materials on Economic Order Quantity basis.

Cost = 300 p/u

Monthly Usage = 1500 units

Total Unit = 1500 * 300 = 450000

Ordering Cost = 50 P/O

Carrying cost = 16%

Discount = 5%

Order Limit Discount = 3000 units

$$EOQ = \sqrt{\frac{2 * RU * OC}{UC * CC\%}}$$

2 * RU * OC = 2 * 1500 * 50 = 150000

UC * CC% = 50 * 16% = 8

EOQ = Sqrt (150000 / 8)

EOQ = Sqrt (18750)

EOQ = 137

Q.2 The Surgical Instrument Company manufactures for stock purposes a number of high precision instruments which must meet strict specifications. During last month an order for 200 instruments was executed by the company and following costs were incurred:

Material cost	**Rs. 130,000**
Direct labour	**Rs. 90,000**
FOH Applied	**120% of Direct labour**

The Quality control Department rejected 15 instruments as they could not comply with the technical standards as were envisaged. In order to rework for removal of defeats in the defective instruments the additional costs as appended below were committed to rework:-

Material cost	**Rs. 6,000**
Direct labour	**Rs. 2,500**

FOH Applied 129% of Direct labour

Required: record the manufacturing costs and additional costs incurred on removal of defects and rework under each of the following options:

a) When the rework costs are charged directly to the job from which defects were noticed.

Particulars	Dr.	Cr.
Work in Process Account	328000	
Material Account		130000
Payroll Account		90000
FOH Applied Account		108000

b) When additional costs incurred on reworking are charged to the overall periodic production.

Particulars	Dr.	Cr.
Work in Process Account	11725	
Material Account		6000
Payroll Account		2500
FOH Applied Account		3225

Q.3 Describe the functions of a Time Keeping Department and various methods used for controlling the attendance of workers in a factory.

1. Manual Method:

Under this method the attendance time of employees are recorded either by the time keeping officer or by employees themselves.

The manual methods of time keeping are as follows:

i. Attendance Register Method:

Under this method, an attendance register is maintained for recording the attendance time. This method is followed in small sized concerns. This method is more suitable for recording the attendance time of clerical staff and other staff officers. Under this method two separate columns are maintained corresponding the names of every employee.

One column is to record arrival time and second column for recording departure time. The attendance time can be marked by the time keeping officer by calling out the name of every employee or alternatively the attendance register may be signed by every employee.

Merits:

This method has the following merits:

(1) It is simple to maintain attendance register.

(2) It is an economical method in comparison to other methods.

Demerits:

This method has the following demerits:

(1) This method is not suitable for medium and large sized businesses.

(2) Where the attendance is marked by calling out the names of employees, there will be hold-ups near the factory gate.

(3) Dishonest employees may mark the attendance of absentee employee.

(4) Time keeping officer may show step motherly treatment to his friends and this will defect the purpose of time keeping.

(5) It involves additional work for posting the entries into the individual working record.

ii. Token or Disk Method:

Under this method, each worker is allotted an identification number and that number is suitably painted on engraved on a round metal to ken (or disk) with the hole in it. All such token are hung in a serial order on a board at the factory gate.

As the worker arrives he takes his token from the board and puts it in a box kept nearby, which is specially kept for this purpose. After the fixed time the second board is removed. Those coming late have to hand over their token personally at the time office so that exact time of their arrival can be noted.

The time office records attendance on the basis of token in the box. The absentees are indicated by the missing tokens. Similar procedure is followed at the departure time in the evening.

Merits:

(1) It is simple to operate.

(2) It does not involve heavy investment.

(3) It suits to a factory which employs more number of employees.

Demerits:

(1) Dishonest practice of inserting a disc of an absentee worker by another employee may take place.

(2) It involves more clerical work to prepare an attendance record with the help of disc, where any mistake is committed in recording attendance time on the basis of disc and in case of any disputes between an employee and time keeping officer, disc cannot offer any proof.

2. Mechanical Method:

In modern age, mechanical methods of time keeping are used to save time and ensure greater accuracy. The machines record the exact time of the arrival and departure of employees. Thus, they avoid possible disputes and difference of opinions between employees and time keeping officers. Mechanical methods are used in medium and large sized industries as small sized concerns cannot afford to invest more capital on such equipment.

Following are the important mechanical methods of time recording:

i. Dial Time Recorder:

This method consists of a large dial on which there are about 150 holes corresponding to the number of workers. A clock is fitted within the circles of the dial together with a dial arm which operates from the centre of the circle.

The worker while entering into the gate turns the dial arm. He then presses the button corresponding to his clock number. The time of his arrival is recorded on a sheet of paper kept inside the machine.

The same procedure is followed before the employee leaves the factory gate.

Merits:

(1) Time is recorded strictly according to pay roll order.

(2) Provision can also be made out not only to record time but also to calculate wages.

Demerits:

(1) A worker can record the time of an absentee worker.

(2) Time of arrival and departure and separated out in two different sheets of paper which require additional clerical work.

(3) A worker cannot see the time he has booked and disputes may arise afterwards.

ii. Card Time Recorder:

This is a machine which is fitted with a clock on each side of which there is an 'in' and 'out' rack which contains the cards of the employees. The worker who enters the gate takes his and from the 'in' rack, inserts it in the machine.

On pressing a lever the time of arrival is recorded on the card. Then the card is placed in the 'out' rack. At the time of departure from the factory the worker removes his card, inserts it in the machine to record the time of departure and finally places it in the 'in' rack.

Merits:

(1) For each and every worker's time is recorded individually.

(2) The absence of worker can be checked by a mere look at the 'out' rack.

(3) This can be taken as a basis for wage calculation.

Demerits:

(1) An employee can record the time of absentee worker.

(2) Controlling and checking of cards becomes difficult.

iii. Autograph or Signature Type Time Recorder:

This type of machine is most commonly used in small sized business enterprise where supervision for time recording does not arise.

Its features can be summarised as follows:

(1) It is a machine which is fitted with a clock and is connected to a printing mechanism on a roll of paper.

(2) To operate the machine, the employee opens the shutter by pressing a lever which is at the side of the machine. This enables to uncover a small signature window.

(3) The employee signs in this signature window and as he signs, the day and time is automatically recorded.

(4) When the lever is released, the paper roll inside the machine is advanced, the shutter slides back over the signature window, and the machine is ready for the signature of the next worker.

Merits:

(1) Recording of time is automatic and accurate.

(2) Employees cannot see the recorded time.

Demerits:

(1) The worker's name does not appear as per the pay roll order.

(2) Breakdown in the machine leads to stoppage in the recording of attendance time.

Q.4 Faizan & Co applied manufacturing expenses to production by means of a predetermined rate based upon normal capacity production. Manufacturing expenses at Normal Capacity of 400,000 Direct Labour are estimated to be Rs. 340,000; of which Rs. 120,000 are Fixed and Rs. 220,000 are variable expenses. Actual Direct labour Hours for the year are 368,000 and the total actual manufacturing expenses amounted to Rs. 305,000. Required: Calculate

Normal Capacity = 400000

Direct Labor = 340000

Fixed Labor = 120000

Variable Expenses = 220000

Total manufacturing expenses = 305000

Direct labour hours for year = 368000

(i) Total over or under applied Factory overheads

Actual overhead cost incurred	Rs.400000
Applied overhead cost	Rs.340000
Under applied overhead cost	Rs. 305000

(ii) Budgeted and Capacity Variance.

Budget allowance		
Fixed factory overheads	120000	
Variable factory overheads	220000	Rs. 340000
Budget allowance		Rs. 340000
Applied FOH 220,000 hours x Rs. 3		Rs. 660000
Capacity variance		Rs. 320000

Q.5 The Oxford Garments Industries is comprising four departments. Cutting, Stitching and Finishing are the Production departments whereas the Procurement is the Servicing Department. Actual overhead costs for June, 2014 are as under:-

Rent	**Rs. 200,000**
Repair & Maintenance	**Rs. 12,000**
Depreciation of Plant	**Rs. 90,000**
Supervision	**Rs. 30,000**
Insurance	**Rs. 10,000**
Lighting	**Rs. 12,000**

Power Consumption **Rs. 18,000**

The following further data is also available in respect of the four departments:

Particulars	**Cutting**	**Stitching**	**Finishing**	**Procurement**
Square foot area occupied	**150**	**110**	**90**	**50**
Number of workers	**24**	**16**	**12**	**8**
Total Wages	**Rs. 240,000**	**Rs. 192,000**	**Rs. 96,000**	**Rs. 80000**
Value of Plant	**Rs. 200,000**	**Rs. 600,000**	**Rs. 100,000**	**–**
Value of Stock	**Rs. 150,000**	**Rs. 90,000**	**Rs. 60,000**	**–**

Required:

Apportion the overhead costs over various departments on most equitable basis and prepare the overheads distribution statement.

Particulars	Cutting (P1)	Stitching (P2)	Finishing (P3)	Procurement (X)
Square foot area occupied	150	110	90	50
Number of workers	24	16	12	8
Total Wages	Rs. 240,000	Rs. 192,000	Rs. 96,000	Rs. 80000
Value of Plant	Rs. 200,000	Rs. 600,000	Rs. 100,000	
Value of Stock	Rs. 150,000	Rs. 90,000	Rs. 60,000	

Item	**Apportionment**	**Total Amount**	**Production Departments**			**Service Department**
			P1	**P2**	**P3**	**X**

Rent	**25 Paisa per meter**	**200000**	75000	55000	45000	25000
Repaire & Mantaince	**1 paisa per rupee**	**12000**	4800	3200	2400	1600
Depreciation	**0.75 paisa per rupee**	**90000**	36000	24000	18000	12000
Light	**3 paisa per square meter**	**12000**	4800	3200	2400	1600
Power	**Rs. 15 per H.P**	**18000**	7200	4800	3600	2400
Supervision	**Rs. 30 per employee**	**30000**	12000	8000	6000	4000
Insurance	**1/60 of value stock**	**10000**	399.84	2666.65	1999.92	1333.28