



## Cost Accounting

Intermediate Examination  
Spring 2013  
Module D

8 March 2013  
100 marks - 3 hours  
Additional reading time - 15 minutes

- Q.1 (a) What do you understand by the terms “Scrap”, “Defectives” and ‘Spoilage’? Briefly describe the accounting treatment of scrap and defective units. (10)
- (b) Replica Limited (RL) produces and markets a single product. The product requires a specialised component P which RL procures from a supplier using economic order quantity. Following information is available from RL’s records for component P:

Price of component P	Rs. 150 per unit
Cost of placing an order	Rs. 50
Carrying cost per unit per annum	10% of purchase price
Total of holding and ordering costs	Rs. 3,000 per annum
Normal lead time	12 days
Safety stock	Nil

Assume 300 working days in a year.

**Required:**

- (i) Calculate the economic order quantity (EOQ) and re-order level of component P.
- (ii) What would be your advice to the company, if the supplier offers a 2% price discount on purchases in lots of 3,000 components? (10)
- Q.2 Hulk Limited (HL) produces and markets a single product. The company uses standard costing system. Following is the standard cost card per unit of the finished product:

Direct material	2.8 kg at Rs. 6.75 per kg
Direct labour	Rs. 150 per hour
Variable production overheads	Rs. 12 per direct labour hour
Fixed production overheads	Rs. 18 per direct labour hour

The standard labour hours required for producing one unit of finished product is 30 minutes whereas HL’s standard operating capacity per month is 15,000 hours.

Actual results for the month of February 2013 were as under:

Direct material @ Rs. 6.25 per kg	Rs. 504,000
Direct labour	Rs. 160 per hour
Variable production overheads	Rs. 175,000
Fixed production overheads	Rs. 17 per direct labour hour

Actual labour hours consumed by HL for producing 27,000 units was 33 minutes per unit of finished product.

**Required:**

- (a) Compute material, labour and overhead variances. Use four variance method. (14)
- (b) List any **four** causes of unfavourable material price variance. (02)

- Q.3 Z Limited (ZL) manufactures various products. Following information relating to product-A has been extracted from ZL's business plan for the year ending 30 June 2014:

Direct material per unit	12 kg at Rs. 2 per kg
Average labour rate per worker	Rs. 56 per day
Average working hours in a day	8 hours
Average labour efficiency	65%
Standard time required for each unit of product-A	2.6 hours
Variable overheads	Rs. 10 per labour hour
Fixed overheads	2% of direct material cost
Annual production	25,000 units

In order to improve the production efficiency and reduce cost of conversion, the management has sought suggestions from the workers. It has announced a reward equal to three months savings in labour cost to the worker, whose suggestion would be accepted.

In response to management's offer, one of the workers has suggested to use electric cutter in the manufacturing process. The proposal is expected to reduce standard time for making each unit of product-A by 20%. It would also improve labour efficiency from 65% to 80%. The cutter can be purchased at a cost of Rs. 15,000 and is estimated to have an effective life of one year.

**Required:**

Assuming there is no beginning or ending inventory of product-A:

- (a) Calculate the amount of reward payable to the worker as announced by ZL. (06)
- (b) Prepare a statement showing annual cost of production and net savings (if any) in total cost of production of product-A. (05)

- Q.4 Neutron Limited (NL) is engaged in the business of manufacture and supply of plastic toys. The company uses 5 identical injection moulding machines in its machining department which were acquired at a cost of Rs. 1,000,000. These machines have a useful life of 10 years and are manned by three dedicated operators. Following information has been extracted from NL's records for a period of six months:

Normal time available per month per operator	220 hours
Absenteeism without pay per month per operator	20 hours
Leave with pay per month per operator	25 hours
Average idle time per month per operator	15 hours
Average labour rate per hour per operator	Rs. 35
Average estimated rate of production bonus	15% of labour cost
Fuel and power	Rs. 118,000
Indirect labour	Rs. 115,000
Lighting and electricity	Rs. 95,000

Other expenses related to the department are as follows:

Repair and maintenance per annum	6% of machine cost
Insurance	Rs. 140,000 per annum
Sundry expenses	Rs. 131,800 per annum
Allocated administrative overheads	Rs. 120,000 per annum

**Required:**

- Calculate a machine hour rate (inclusive of operators' wages) for the machining department. (10)

- Q.5 Colon Limited (CL) manufactures two joint products Pollen and Stigma in the ratio of 65:35. The company has two production departments A and B. Pollen can either be sold at split off point or can further be processed at department-B and sold as a new product Seeds. Stigma is sold without further processing. Following information relating to the three products is available from CL's records:

	Pollen	Stigma	Seeds
	-----Rupees-----		
Sales price per kg	90	300	125
Total selling expenses	135,000	306,000	180,000

Following further information relating to the two departments is available:

	Department A	Department B
Material X	75,000 kg at Rs. 60 per kg	-
Material Y	-	12,000 kg at Rs. 25 per kg
Labour @ Rs. 150 per hour	12,000 hours	3,600 hours
Variable overheads	Rs. 125 per labour hour	Rs. 65 per labour hour
Fixed overheads	Rs. 100 per labour hour	Rs. 50 per labour hour
Material input output ratio	100:88	100:96

Material is added at the beginning of the process. Joint costs are allocated on the basis of net realisable value at split off point.

**Required:**

- (a) Calculate the joint costs and apportion them to the two products. (10)  
 (b) Advise CL whether it should produce Seeds or sell Pollen without further processing. (06)

- Q.6 Altar Limited (AL) produces and markets a single product. Following information is available from AL's records for the month of February 2013:

Sales price	Rs. 26 per unit
Direct material (2 kg at Rs. 5 per kg)	Rs. 10 per unit
Direct labour	Rs. 2 per unit
Variable overheads	Rs. 4 per unit
Fixed overheads	Rs. 3.50 per unit
Selling expenses	Rs. 295,000
Administration expenses	Rs. 101,400
Production (Good units)	175,000 units
Closing inventory	30,000 units

**Additional information:**

- (i) Inspection is performed at the end of production and defective units are estimated at 20% of the inspected units. The defective units are sold as scrap at Rs. 5 per unit.  
 (ii) Fixed overheads per unit are calculated on the basis of good units produced.  
 (iii) As compared to last month, selling expenses in February 2013 have decreased by Rs. 42,000.  
 (iv) In January 2013, AL produced and sold 180,000 units.

**Required:**

Assuming there was no inventory at the beginning of February 2013, calculate break-even sales in quantity for the month of February 2013. (12)

Q.7 Qamber Limited (QL) is engaged in the manufacture and sale of textile products. In February 2013 QL received an order from JCP, a chain of stores, for the supply of 11,000 packed boxes of its products per month at an agreed price of Rs. 8,000 per box. The boxes would be supplied every month for a period of one year. It was further agreed that:

- Each box would contain a pillow cover, a bed sheet and a quilt cover.
- QL would be solely responsible for the quality of supplied products whether they are being manufactured at its own facility or outsourced to third party, either wholly or partially.
- JCP would provide its logo and printed materials for the packing of these boxes.

Following information is available for the manufacture of **each unit** of these products:

		Products		
		Pillow Cover	Bed Sheet	Quilt Cover
Cloth required	(Meters)	1	4	5
Cost of cloth per meter	(Rs.)	200	300	400
Direct labour per meter	(Minutes)	30	15	18
Machine time	(Minutes)	30	75	120
Variable overheads per machine minute	(Rs.)	5	4	3.75
Outsourcing cost	(Rs.)	750	2,000	3,500

For in-house completion of the above order, a total of 45,000 machine hours and 25,500 labour hours are estimated to be available each month. The labourers are paid at a uniform rate of Rs. 400 per hour. The cost incurred on quality check, before supply of the boxes to JCP, is estimated at Rs. 300 per box. Fixed overheads are estimated at Rs. 10,000,000 per month.

**Required:**

Calculate net profit for the month, assuming QL wants to produce as many products as possible within the available resources, and outsource the rest to a third party.

(15)

(THE END)