

MANAGEMENT ACCOUNTING
Module 'F' Paper F-18**(MARKS 100)**
(3 hours)

- Q.1 Al-Abid Limited uses a dyeing and waterproofing process for its fabrics which are later made up into tents and other outdoor pursuit items, or sold to other manufacturers. Each roll of fabric is subject to the same process, with dyeing and waterproofing materials being added at specific times in the process. The direct labour costs are incurred uniformly throughout the process. Inspection of the fabric for spoilage can take place only at the end of the process when it can be determined whether or not there has been any spoilage. Amounts of up to 10% of good output are acceptable as normal spoilage. Any abnormal spoilage is treated as a period loss. Some spoiled fabric can be reworked and it is saved up until a batch of 500 rolls can be reprocessed.

The reworking costs are charged to process overheads, and any reworked goods will not usually need the full cost of conversion spent on them. The work in progress is valued using the FIFO method.

At the beginning of the month of December 2002 the work in progress in the dyeing and waterproofing department were 1000 rolls which were valued at Rs.120,000 direct materials and Rs. 46,200 direct labour. The work in progress has had all the direct material added, but was only 60% complete as far as the direct labour was concerned. During the month 5,650 rolls were started from new, and 500 rolls were reworked. The rolls being reworked require 60% of direct materials and 50% of direct labour to bring them up to standard. By the end of the month 550 rolls had been found to be spoiled. The work in progress at the end of the month amounted to 800 rolls of which 80% were completed for direct materials and 40% were completed for direct labour. All other rolls were completed satisfactorily and transferred to stores for further processing. The costs for December 2002 were direct materials Rs. 720,850, direct labour Rs. 117,180. The departmental overhead recovered was Rs. 3.5 for every Re 1 direct labour, whilst actual overhead expenditure amount to Rs. 341,100 for the month (excluding the reworking costs).

Required:

- (a) Prepare a schedule showing the actual equivalent units processed for each cost element in the processing department for the month of December 2002 and the costs per roll for the direct material used and the direct labour and applied overheads. (05)
- (b) Prepare a schedule showing the allocation of the costs of production to the various cost headings for the month of December 2002, including the value of closing work in progress using FIFO method. (05)

- Q.2 You are the management accountant of publishing and printing company, been asked to quote for the production of a programme for the local town fair. The work would be carried out in addition to the normal work of the company. Because of existing commitments, some weekend working would be required to complete the printing of the programme. A trainee accountant has produced the following cost estimates based upon the resources required as specified by the production manager:

	Rs.
Direct materials	
- paper (book value)	5,000
- inks (purchase price)	2,400
Direct labour	
- skilled 250 hours @ Rs 4.00	1,000
- unskilled 100 hours @ Rs 3.50	350
Variable overhead 350 hours @ Rs 4.00	1,400
Printing press depreciation 200 hours @ Rs 2.50	500
Fixed production costs 350 hours @ Rs 6.00	2,100
Estimating department costs	400
Total costs	13,150

You are aware that considerable publicity could be obtained for the company if you are able to win this order and the price quoted must be very competitive. The following notes are relevant to the cost estimated above:

- The paper to be used is currently in stock at a value of Rs 5,000. It is of an unusual colour, which has not been used for some time. The replacement price of the paper is Rs 8,000, whilst the scrap value of that in stock is Rs 2,500. The production manager does not foresee any alternative use for the paper if it is not used for the town fair programme.
- The inks required are not held in stock. They would have to be purchased in bulk at a cost of Rs 3,000. 80% of the ink purchased would be used in printing the programmes. No other use is foreseen for the remainder.
- Skilled direct labour is in short supply and to accommodate the printing of the programmes, 50% of the time required would be worked at weekends for which a premium of 25% above the normal hourly rate is paid. The normal hourly rate is Rs 4.00 per hour.
- Unskilled labours are presently under-utilised and at present 200 hours per week are recorded as idle time. If the printing work were carried out at a weekend, 25 unskilled hours would have to occur at this time, both the employees concerned would be given two hours time off (for which they would be paid) in lieu of each hour worked.
- Variable overhead represents the cost of operating the printing press and binding machines.
- When not being used by the company, the printing press is hired to outside companies for Rs 6.00 per hour. This earns a contribution of Rs 3.00 per hour. There is unlimited demand for this facility.
- Fixed production costs are absorbed into production, using an hourly rate based on budgeted activity.

(3)

- (h) The cost of Estimating Department represents time spent in discussions with the town fair committee concerning the printing of its programme.

Required:

Prepare a revised cost estimate using the opportunity cost approach, showing clearly the minimum price that the company should accept for the order. Give reasons for each resource valuation in your cost estimate.

(08)

- Q.3 The management of Forgings & Castings Limited is considering the proposal to discontinue the manufacture of Product X out of the list of its Products – X, Y and Z – the details of which are given below:

	X	Y	Z
Production capacity level	20%	40%	40%
Units manufactured	4,000	10,000	12,000
Cost per unit:	Rs.	Rs.	Rs.
Materials	25	20	40
Labour	15	10	20
Fixed overheads	4	4	5
Variable overheads	4	3	5
Total cost	48	37	70
Profit/loss per unit	(4)	13	10
Selling price per unit	44	50	80

Product X having persistently shown a loss for a number of years due to the saturation of demand and the future prospects of the other two products being bright as a result their having been accepted as components by newly established machine – building complex in the vicinity, the production capacity released by the discontinuance of Product X is sought to be transferred equally to Product Y and Z.

Moreover, the nature of Product X has been such that the transfer of production capacity engaged therein to the other two Products would bring about an accretion of 30% and 50% more in the number of units to be manufactured of Products Y and Z respectively than those involved in the capacity transferred to them under the proposal without, of course, involving any change in total fixed costs from those when all the three Products were manufactured.

The anticipated increases in the structure of costs and the selling price are as under:

	Y	Z
Materials	5%	5%
Labour	10%	10%
Selling price	10%	5%

Required:

Prepare a statement of projected profitability and advise management as to whether the proposal may be accepted for implementation.

(12)

(4)

- Q.4 The following profit reconciliation statement summarizes the performance CDL Ltd's products for March, 2003.

		Rs.	
Budgeted profit		42,500	
Sales volume variance		<u>8,500</u>	Adverse
Standard profit on actual sales		34,000	
Selling price variance		<u>40,000</u>	Adverse
		(6,000)	
Cost variances:	Adverse	Favorable	
Direct material price		10,000	
Direct material usage	1,500		
Direct labour rate	2,000		
Direct labour efficiency	1,500		
Variable overhead expenditure	6,000		
Variable overhead efficiency	750		
Fixed overhead expenditure		25,000	
Fixed overhead volume		<u>1,500</u>	
	<u>11,750</u>	<u>36,500</u>	
		24,750	Favorable
		18,750	
Actual Profit		=====	

The budget for the same period contained the following data.

	Rs.	
Sales volume		1,500 units
Sales revenue	200,000	
Production volume		1,500 units
Direct material purchased		750 kgs
Direct material used		750 kgs
Direct material cost	45,000	
Direct labour hours		1,125
Direct labour cost	45,000	
Variable overhead cost	22,500	
Fixed overhead cost	45,000	

Additional information:

- Stocks of raw material and finished goods are valued at standard cost.
- During the month actual number of units produced were 1,550.
- The actual sales revenue was Rs.120,000.
- The direct materials purchased were 1,000 kgs.

Required:

- (a) Calculate the following:
- The actual sales volume.
 - The actual quantity of materials used.
 - The actual cost of direct material procured
 - The actual direct labour hours
 - The actual direct labour cost.
 - The actual fixed overhead cost
- (12).
- (b) Explain the possible causes of the materials usage variance, direct labour rate

- Q.5 (a) PDR Ltd manufactures four products using the same machinery. The following details relate to its products.

	Product A Rs. per unit	Product B Rs. per unit	Product C Rs. per unit	Product D Rs. per unit
Selling Price	280	300	450	420
Direct material	50	60	80	60
Direct labour	40	40	80	80
Variable overhead	30	30	60	60
Fixed overhead*	80	80	160	160
Profit	80	90	70	60
Labour hours	1	1	2	2
Machine hours	4	3	4	5

	Units	Units	Units	Units
Maximum demand per week	200	180	250	100

*Absorbed based on budgeted labour hours of 1,000 per week.

There is a maximum of 2,000 machine hours available per week.

Required:

Determine the production plan which will maximize the weekly profit of PDR Ltd and prepare a profit statement showing the profit the proposed plan will yield.

(08)

- (b) The marketing director of PDR Ltd is concerned at the company's inability to meet the quantity demanded by its customers.

Two alternative strategies are being considered to overcome this:

- Increase the number of hours worked using the existing machinery by working overtime. Such overtime would be paid at a premium of 50% above normal labour rates, and variable overhead costs would be expected to increase by 50%.
- Buy product B from an overseas supplier at a cost of Rs. 190 per unit including carriage. This would need to be re-packaged at a cost of Rs. 10 per unit before it could be sold.

Required:

Evaluate each of the alternative strategies and, as management accountants, prepare a report to the marketing director, stating your reasons (quantitative and qualitative) as to which, if either, should be adopted.

(12)

- Q.6 What are the 'costs of quality' in TQM? Briefly identify the measures that might be used to control and improve quality of performance.

(05)

- Q.7 Western Limited is relatively a small company. However it is highly mechanised and uses modern techniques and equipment. In the past, it has operated a very conservative policy in respect of the management of its working capital. Assume that you are the company's management accountant and the finance director, who is responsible for both financial control and treasury functions, has asked you to review this policy.

You assemble the following information about the company's forecast end-of-year financial outcomes. The company's year-end is in six months' time.

	Rs '000'
Debtors	2,500
Stock	2,000
Cash at bank	500
<i>Current assets</i>	<i>5,000</i>
Fixed assets	1,250
<i>Current liabilities</i>	<i>1,850</i>
Forecast sales for the full year	8,000
Forecast operating profit (18% of sales)	1,440

You wish to evaluate the likely effect on the company if it introduced one or two alternative approaches to working capital management. The finance director suggests you adjust the figures in accordance with the following parameters:

	<i>Moderate policy</i>	<i>Aggressive policy</i>
Debtors and stock	-20%	-30%
Cash	Reduce to Rs 250,000	Reduce to Rs 100,000
Fixed assets	No change	No change
Current liabilities	+10%	+20%
Forecast sales	+2%	+4%
Forecast profit	No change in percentage profit/sales	

Required:

- a) Calculations of the return on net assets and the current ratio under each of three scenarios shown below:

- The company continues with its present policy.
- The company adopts the 'moderate' policy.
- The company adopts the 'aggressive' policy.

(08)

- b) A recommendation of a proposed course of action.

(07)

- Q.8 (a) New Vision Limited has estimated the following demand level of its product:

<i>Sales volume(units)</i>	<i>Probability</i>
10,000	0.10
12,000	0.15
14,000	0.25
16,000	0.30
18,000	0.20

It has assumed that the sales price will be Rs 6 per unit, marginal cost Rs 4 per unit and fixed cost Rs 34,000.

What is the probability that:

- i) the company will be break-even in the period?
- ii) the company will make a profit of at least Rs 10,000.

(05)

- (b) Toys Limited manufactures high-quality toys for children, which are sold by mail order and through departmental stores.

Kiddy Products is prepared to sell the design and manufacturing rights for three products. However, it will only sell the rights to one product, not two or three. The costs of the rights are:

	Rs.
Pussy Cat	62,500
Teddy Bear	75,000
Jack in Box	52,500

Toys Limited feel that any of these products would make an attractive addition to its range though the products would have a sales life of only one year and wish to select the best of the three products. The following information has been made available:

	<i>Pussy Cat</i>	<i>Teddy Bear</i>	<i>Jack in Box</i>
	- Rs. -		
Selling price per unit	199	140	115
Variable cost per unit	98	75	65
Fixed production costs	70,000	95,000	60,000
Advertising	55,000	40,000	20,000

These figures have been worked out with great care and circumspection. But when it comes to sales volumes, the Sales Manager could provide only the following analysis of possibilities:

<i>Pussy Cat</i>		<i>Teddy Bear</i>		<i>Jack in Box</i>	
<i>Volume (units)</i>	<i>Probability</i>	<i>Volume (units)</i>	<i>Probability</i>	<i>Volume (units)</i>	<i>Probability</i>
2,000	0.7	nil	0.1	2,500	0.1
3,000	0.2	3,000	0.4	3,000	0.3
4,000	0.1	6,000	0.5	4,000	0.4
Nil	nil	nil	nil	5,000	0.2

Required

You are required to advise the company of the best course of action based on the above information. (10)