The Institute of Chartered Accountants of Pakistan

Cost Accounting

Intermediate Examination	9 September 2011
Autumn 2011	100 marks – 3 hours
Module D	Additional reading time – 15 minutes

(All questions are compulsory)

Q.1 Sparrow (Pvt) Limited (SPL) is engaged in the manufacture of two products A and B. These products are manufactured on two machines M1 and M2 and are passed through two service departments, Inspection and Packing, before being delivered to the warehouse for final distribution. SPL's overhead expenses for the month of August 2011 were as follows:

	Rupees
Electricity	2,238,000
Rent	1,492,000
Operational expenses of machine M1	5,500,000
Operational expenses of machine M2	3,200,000

Following information relates to production of the two products during the month:

	A	**B**
Units produced	5,600	7,500
Labour time per unit – Inspection department	15 minutes	12 minutes
Labour time per unit – Packing department	12 minutes	10 minutes

The area occupied by the two machines M1 and M2 and the two service departments is as follows:

	Square feet
Machine M1	5,500
Machine M2	4,800
Inspection department	12,000
Packing department	15,000

Machine M1 has produced 50% units of product A and 65% units of product B whereas machine M2 has produced 50% units of product A and 35% units of product B.

Required:
Allocate overhead expenses to both the products A and B. ***(18 marks)***

Q.2 (a) Bulbul Limited (BL) produces a specialized product for industrial customers. Following are the details of BL's monthly production and associated cost for the past six months:

Months	**Units**	**Cost (Rs. '000)**
March	75	900
April	60	700
May	65	850
June	80	950
July	105	1,200
August	95	1,040

Required:
Using the least square method, calculate the estimated cost to produce 110 units. ***(09 marks)***

(b) Mr. Lark works as a machinist on a machine running 54 hours a week. Following information pertains to his last week's work on the machine:

Total hours worked	51 hours
Overtime (included in total hours worked)	4 hours
Idle time due to machine break down	3 hours
Basic hourly wage rate	Rs. 25

The overtime is paid at basic rate plus 45%.

Required:
Calculate the total wages paid to Mr. Lark allocating it between direct and indirect labour. Also give reasons for such allocation. ***(05 marks)***

Q.3 (a) Pelican Limited produces and markets a single product Zeta. The company uses a standard costing system. Following is the standard material mix for the production of 400 units of Zeta.

	Weight (Kg.)	**Standard rate per Kg. (Rs.)**
Material A	30	240
Material B	25	320

Actual costs on the production of 192 units of Zeta for the month of August 2011 were as follows:

	Weight (Kg.)	**Actual rate per Kg. (Rs.)**
Material A	16	230
Material B	13	308

Required:
Calculate the following material variances from the above data:
(i) Cost variance (ii) Price variance (iii) Mix variance
(iv) Yield variance (v) Usage variance ***(15 marks)***

(b) Following data is available from the production records of Flamingo Limited (FL) for the quarter ended 30 June 2011.

	Rupees
Direct material	120,000
Direct labour @ Rs. 4 per hour	75,000
Variable overhead	70,000
Fixed overhead	45,000

The management's projection for the quarter ended 30 September 2011 is as follows:

(i) Increase in production by 10%.
(ii) Reduction in labour hour rate by 25%.
(iii) Decrease in production efficiency by 4%.
(iv) No change in the purchase price and consumption per unit of direct material.

Variable overheads are allocated to production on the basis of direct labour hours.

Required:
Prepare a production cost budget for the quarter ended 30 September 2011. ***(04 marks)***

Q.4 Hornbill Limited (HL) produces certain chemicals for textile industry. The company has three production departments. All materials are introduced at the beginning of the process in Department-A and subsequently transferred to Department-B. Any loss in Department-B is considered as a normal loss. Following information has been extracted from the records of HL for Department-B for the month of August 2011:

	Department B
Opening work in process (Litres)	Nil
Closing work in process (Litres)	10,500
Units transferred from Department-A (Litres)	55,000
Units transferred to Department-C (Litres)	39,500
Labour (Rupees)	27,520
Factory overhead (Rupees)	15,480

Materials from Department-A were transferred at the cost of Rs. 1.80 per litre. The degree of completion of work in process as to cost originating in Department-B were as follows:

WIP	**Completion %**
50% units	40%
20% units	30%
30% units	24.5%

Required:
Prepare cost of production report for Department-B for the month of August 2011. ***(15 marks)***

Q.5 Seagull Limited (SL) is engaged in the manufacture of Basketballs, Footballs and Rugby balls for the professional leagues and collegiate play. These balls are produced from different grades of synthetic leather. Relevant information available from SL's business plan for the manufacture of each unit is as under:

	Football	**Basketball**	**Rugby Ball**
Cost of leather	Rs. 38	Rs. 238	Rs. 255
Time required for each unit of product.	2 hours	1 hour	1.5 hour
Variable overheads (based on labour cost)	65%	50%	60%

The labourers are paid at a uniform rate of Rs. 50 per hour. SL allocates fixed overheads to each of the above product at the rate of Rs. 4 per direct labour hour.

Following further information is also available:

		Football	**Basketball**	**Rugby Ball**
Annual budgeted sales volume	**(Units)**	5000	3500	2000
Selling price per unit of product	**(Rs.)**	295	397	500
Cost of leather per sq. ft	**(Rs.)**	95	340	510

The above sales volumes are based on the market demand for these products. However, due to financial crises, SL is expected to procure only 3,840 sq. ft. of leather from the tanneries.

The sales department has already accepted an order of 800 footballs, 1,300 basketballs and 400 rugby balls from a renowned professional league in the country. These quantities are already included in the above budgeted sales volume. The non compliance of this order will result in a penalty of Rs. 400,000.

Required:
Based on the budgeted volumes, determine the optimum production plan and also calculate the net profit for the year. ***(16 marks)***

Q.6 (a) Penguin Limited (PL) produces and markets a single product. The company's management has raised concerns about the declining sales due to frequent stock-outs. In order to resolve the problem, the finance manager has gathered following information from PL's records:

Carrying costs of inventory (excluding financing costs)	8% p.a.
Variable costs of inventory	80% of sales
Fixed costs	Rs. 40,000 p.a.
Applicable tax rate	30%

Based on stock-out reports, the finance manager has worked out three policies for the improvement of sales and the projected data is as follows:

Inventory Policy	**Inventory turnover (based on cost of goods sold)**	**Sales (Rs. in 000')**
Existing	8	300,000
PI	7	422,500
PII	6	527,500
PIII	5	620,000

Required:
Which of the above policy would maximize the incremental rate of return on investment in inventories? ***(13 marks)***

(b) Robin Limited (RL) imports a high value component for its manufacturing process. Following data, relating to the component, has been extracted from RL's records for the last twelve months:

Maximum usage in a month	300 units
Minimum usage in a month	200 units
Average usage in a month	225 units
Maximum lead time	6 months
Minimum lead time	2 months
Re-order quantity	750 units

Required:
Calculate the average stock level for the component. ***(05 marks)***

(THE END)