The Institute of Chartered Accountants of Pakistan

Certificate in Accounting and Finance Stage Examination

Model paper
3 hours – 100 marks
Additional reading time – 15 minutes

Cost and Management Accounting

Instructions to examinees:
(i) Answer all **NINE** questions.
(ii) Answer in **black** pen only.

Section A

Q.1 Omega Industries Limited (OIL) produces two products Alpha and Beta. These products are processed through Fabrication and Finishing departments. Quality control and Logistics departments provide all the necessary support for the production.

OIL allocates production overheads to Alpha and Beta at a pre-determined rate of Rs. 1,300 and Rs. 500 per unit respectively. Any under/over absorbed overheads are adjusted to cost of sales.

Following actual data has been extracted from the cost records of OIL for the month of August 2021:

		Fabrication	Finishing	Quality control	Logistics	Total
Indirect labour	***Rs. in '000***	1,500	1,200	500	400	3,600
Factory rent	***Rs. in '000***					2,000
Power	***Rs. in '000***					1,200
Depreciation – Plant	***Rs. in '000***					9,000
Other information:						
Cost of plant	***Rs. in '000***	32,000	20,000	2,000	6,000	60,000
Floor area	Square feet	10,000	5,000	3,000	2,000	20,000
Power	KWH	50,000	40,000	4,000	6,000	100,000
Hours worked for Alpha		70%	60%			
Hours worked for Beta		30%	40%			
Services provided by:						
- Quality control		40%	60%	-	-	100%
- Logistics		60%	35%	5%	-	100%

8,000 units of Alpha and 10,000 units of Beta were produced during the month of August 2021.

Required:
Compute product wise actual overheads for Alpha and Beta for the month of August 2021. **(10)**

Q.2 MZ Limited (MZL) manufactures a single product X and uses standard marginal costing system. The standard cost card of product X is as follows:

	Rupees
Raw material (13 kg @ Rs. 135 per kg)	1,755
Labour (14 hours @ Rs. 100 per hour)	1,400

Following data is available in respect of operations for the month of August 2021:

(i) 55,000 units were put into process. 1,500 units were lost in process which were considered to be normal loss. Process losses occur at the end of the process.

(ii) 698,000 kg of material was purchased at Rs. 145 per kg. Material is added at the start of the process and conversion costs are incurred evenly throughout the process.

(iii) 755,000 labour hours were worked during the month. However, due to certain labour related issues, wages were paid at Rs. 115 per hour.

(iv) Inventory balances were as under:

	1 August 2021	31 August 2021
Raw material (kg)	15,000	17,000
Work in process (units)	5,000 (60% converted)	6,000 (80% converted)
Finished goods (units)	10,000	12,000

(v) MZL uses FIFO method for valuing the inventories.

Required:
Compute material and labour variances. **(09)**

Q.3 Francisco Limited (FL) is a manufacturer of product Z and has annual operational capacity of 82,500 machine hours. FL uses **absorption costing**.

Below is a summary of FL's profit or loss statement for the years ended 31 August 2020 and 2021:

	31 August 2021		31 August 2020	
	Units	**Rs. in '000**	**Units**	**Rs. in '000**
Sales	9,950	149,250	10,500	155,500
Opening inventory – finished goods	3,500	31,000	2,500	20,000
Cost of production	10,450	94,050	11,500	97,750
Closing inventory – finished goods	4,000	(36,000)	3,500	(31,000)
Cost of goods sold		(89,050)		(86,750)
Gross profit		60,200		68,750
(Under)/over absorbed production overheads		(400)		650
Selling and administration cost		(20,900)		(22,475)
Net profit		**38,900**		**46,925**

In both years, the actual and standard machine usage per unit are 6 hours. However, the standard machine usage was 80% and 82% of the operational capacity in 2020 and 2021 respectively.

Fixed overhead absorption rate of Rs. 700 per machine hour was applied in 2020. FL revises its fixed overhead absorption rate for each year on the basis of prior year's actual fixed overhead expenditure.

Required:

(a) Calculate budgeted and actual fixed overheads for 2020 and 2021. **(04)**

(b) Prepare profit or loss statement for the year ended 31 August 2021, using marginal costing. **(05)**

Q.4 Explain the meaning of over/under applied overheads and how it should be treated in the books of account. **(05)**

Q.5 Smart Processing Limited (SPL) is considering to sign a contract for manufacturing 10,000 auto parts for a large automobile assembler. The parts would be produced in batches of 500 units each. The estimated cost of the first batch is as under:

	Rupees
Direct material (500 kg)	135,000
Direct labour (1,500 hours)	225,000
Variable overheads (Rs. 120 per direct labour hour)	180,000
Set-up cost per batch	40,000
Fixed costs:	
– Depreciation of equipment purchased for the project	45,000
– Allocation of existing overheads @ Rs. 16 per hour	24,000
Cost of first batch	**649,000**

Additional information:

(i) The set-up cost per batch would be reduced by 5% for each subsequent batch. However, there would be no further reduction in the set-up cost from the 5th batch onward.

(ii) Learning curve effect is estimated at 90% but would remain effective for the first eight batches only.

(iii) The index of 90% learning curve is –0.152.

Required:
Compute the contract price that would enable SPL to earn an incremental profit of 30% of the contract price. **(10)**

Q.6 KPK Dairies Limited (KDL) is planning to introduce three types of energy flavored milk from 31 August 2021. In this respect, following projections have been made:

		C-Plus	**I-Plus**	**V-Plus**
Planned production	(No. of packets)	540,000	275,000	185,000
Sales	(No. of packets)	425,000	255,000	170,000
Production cost per packet:		----------	**Rupees**	----------
Direct material		100	98	97
Direct labour		15	13	12
Variable overheads		23	19	16
Fixed overheads		25	22	20
Selling and distribution cost per packet:				
Variable overheads		12	8	10
Fixed overheads		5	5	5
Total cost per packet		**180**	**165**	**160**

KDL will sell its products through a distributor at a commission of 5% of sale price and expects to earn a contribution margin of 40% of net sales i.e. sales minus distributor's commission.

Required:
Compute break even sales in packets and rupees, assuming that ratio of quantities sold would be as per projections. **(10)**

Section B

Q.7 Ababeel Foods produces and sells chicken nuggets. Boneless chicken is minced, spiced up, cut to standard size and semi-cooked in the cooking department. Semi-cooked pieces are then frozen and packed for shipping in the finishing department.

Inspection is carried out when the process in the cooking department is 80% complete.

Normal loss is 5% of input and comprises of:

- 2% weight loss due to cooking; and
- 3% rejection of nuggets. The rejected nuggets are sold at Rs. 60 per kg.

Overheads are applied at the rate of 120% of direct labour cost. Inventory is valued using weighted average cost. Following information pertains to cooking department for the month of August 2021:

	Kg.	Material	Labour
		----- Rs. in '000 -----	
Opening work in progress (100% complete to material and 50% complete to conversion)	30,000	6,260	1,288
Input for the month	420,000	50,000	20,000
Weight after cooking	440,000	-	-
Transferred to finishing department	362,000	-	-
Closing work in progress (100% complete to material and 65% complete to conversion)	65,000	-	-

Required:

(a) Prepare process account for cooking department for the month of August 2021. **(15)**

(b) Prepare accounting entries to record production gains/losses and their ultimate disposal. **(04)**

Q.8 Chocó-king Limited (CL) produces and markets various brands of chocolates having annual demand of 80,000 kg. The following information is available in respect of coco powder which is the main component of the chocolate and represents 90% of the total ingredients.

(i) Cost per kg is Rs. 600.

(ii) Process losses are 4% of the input.

(iii) Purchase and storage costs are as follows:

- Annual variable cost of the procurement office is Rs. 6 million. The total number of orders (of all products) is estimated at 120.
- Storage and handling cost is Rs. 20 per kg per month.
- Other carrying cost is estimated at Rs. 5 per kg per month.

(iv) CL maintains a buffer stock of 2,000 kg.

Required:

(a) Calculate economic order quantity. **(07)**

(b) A vendor has offered to CL a quantity discount of 2% on all orders of minimum of 7,500 kg. Advise CL, whether the offer of the vendor may be accepted. **(06)**

Q.9 Sapphire limited (SL) fabricates parts for auto manufacturers and follows job order costing. The company's head office is situated in Lahore but the factory is in Karachi. A separate set of records is kept at the head office and at the factory. Following details were extracted from SL's records for the month of August 2021.

	Jobs		
	A	B	C
Materials issued to production **(units)**			
▪ Material X	40,000	-	10,000
▪ Material Y	-	75,000	25,000
Direct labour hours worked **(hours)**	6,000	9,000	15,000
Labour rate per hour **(Rs.)**	75	60	65

The other related information is as follows:

(i) Materials purchased on account:

- 100,000 units of material X at Rs. 25 per unit
- 150,000 units of material Y at Rs. 35 per unit

(ii) The head office prepared the payroll and deducted 8% for payroll taxes. The payroll amounted to Rs. 3.0 million out of which Rs. 1.0 million pertained to selling and administrative staff salaries. After charging direct labour cost to each job, the balance amount of payroll cost was attributed to general factory overhead.

(iii) Factory overhead was applied to the jobs at Rs. 25 per direct labour hour.

(iv) Actual factory overheads amounted to Rs. 700,000 including depreciation on machinery amounting to Rs. 400,000. All payments were made by head office.

(v) Over or under-applied factory overheads are closed to cost of goods sold account.

(vi) Jobs A and B were completed during the month. Job A was sold for Rs. 2.0 million to one of the auto manufacturer on credit. The customer however, agreed to settle the transaction at 2% cash discount.

(vii) Selling and administrative expenses, other than salaries paid during the month were Rs. 500,000.

Required:
Prepare journal entries to record all the above transactions in SL's factory ledger and general ledger for the month of August 2021. **(15)**

(THE END)