**FUNDAMENTALS OF COST AND MANAGEMENT ACCOUTING – STAGE-2** Marks

Q.2 **(a)** (i) As a factor in pricing decisions, production planning and cost control. 1

(ii) Organizational planning, cost control. 1

(iii) Production planning, decisions on alternative methods, wages cost control. 1

(iv) Material cost control, production planning. 1

(v) Profit planning, make or buy decisions, cost control. 1

**(b)** (i) Cost that can be identified in a specific product or saleable service is direct cost. Indirect costs are those costs which cannot be charged directly to a product e.g. building insurance & taxes. 02

(ii) Total cost of a product built-up from its cost elements i.e., material, labour and overhead is called product cost. The cost which occurs or accrues in relation to passage of time is termed as period cost. 02

(iii) The controllable cost is a cost that can be influenced and regulated during a given time span by the action of the individual who has control of a particular cost centre. Uncontrollable cost is the cost which can not be controlled by a departmental manager. These cost can, however, be controlled at some appropriate management level and in the long run. 02

Q. 3 **(a)**

Rahman Manufacturing Company
Statement of Cost of Goods Manufactured and Cost Of Goods Sold
For the month ended April 2011

| | | Rs. | Marks |
|---|---|---|---|
| Manufacturing Costs: | | | |
| Raw Material - Beginning | 17,400 | | |
| Purchases | 120,000 | | |
| Raw Material Available | 137,400 | | |
| Raw Material – Ending | (13,200) | | |
| Raw Material Used | | 124,200 | 2 |
| Direct Labour (21,000 x 13) | | 273,000 | |
| Overhead: | | | |
| Depr.-Factory Equipment | 17,300 | | |
| Repairs/Maintenance-Factory | 7,400 | | |
| Indirect Labor | 11,200 | | |
| Insurance-Factory | 1,770 | | |
| Factory Supplies Used | 350 | | |
| Total Overhead | | 38,020 | 2 |
| Total Manufacturing Costs | | 435,220 | 1 |
| Cost of Goods Manufactured: | | | |
| Total Manufacturing Costs | 435,220 | | |
| Work in Process Beginning | 31,150 | | |
| Work in Process Ending | (28,975) | | |
| Cost of Goods Manufactured | 437,395 | | 1 |
| Cost of Goods Sold: | | | |
| Finished Goods – Beginning | 19,200 | | |
| Cost of Goods Manufactured | 437,395 | | |
| Total Goods Available | 456,595 | | |
| Finished Goods – Ending | (25,500) | | |
| Cost of Goods Sold | 431,095 | | 1 |

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**(b)**

Materials

| | | | | Marks |
|---|---|---|---|---|
| Beginning Inventory | 6,440 | Work-in-process | 3,680 | 1+1 |
| Purchases | 4,800 | Work-in-process | 3,720 | 1+1 |
| Purchases | 6,000 | Work-in-process | 3,840 | 1+1 |
| | 17,240 | | 11,240 | |
| Balance | 6,000 | | | 1 |

Work-in-process

| | | | | | Marks |
|---|---|---|---|---|---|
| Material | 3,680 | Finished goods | 20,400 | | |
| Material | 3,720 | | | | |
| Material | 3,840 | | | | |
| Labour | 4,800 | | | | |
| Factory overhead | 4,360 | | | | |
| | 20,400 | | 20,400 | | |
| | 1 | | +1 | = | 2 |

Finished Goods

| | | | | Marks |
|---|---|---|---|---|
| Work-in-process | 20,400 | Cost of goods sold | 18,000 | 01 |
| Balance | 2,400 | | | |

Cost of Goods Sold

| | | | | Marks |
|---|---|---|---|---|
| | 18,000 | | | 01 |

**Q. 4 (a)**

Ehsan Company
Labour Performance Report and Efficiency Variances
For September, ______

| | Productive labour time | Setup Time | Cleanup Time | Down Time | Total | Marks |
|---|---|---|---|---|---|---|
| Actual hours | 8,000 | 200 | 110 | 350 | 8,660 | |
| Standard hours ** | 7,700 | 231 | 77 | 308 | 8,316 | 2 |
| Standard hourly rate Rs. | 8 | 8 | 8 | 8 | 8 | |
| Actual cost Rs. | 63,900 | 1,554 | 662 | 2,776 | 68,892 | |
| Standard cost Rs. | 61,600 | 1,848 | 616 | 2,464 | 66,528 | 2 |
| Total variance Rs. | 2,300 U | 294 F | 46 U | 312 U | 2,364 U | 2 |
| Labour efficiency variance* Rs. | 2,400 U | 248 F | 264 U | 336 U | 2,752 U | 4 |

F = Favourable variance U = Unfavorable variance

| | | |
|---|---|---|
| * Actual hours x standard labour rate | 64,000 | |
| Standard hours x standard labour rate | 61,600 | |
| Labour efficiency variance | 2,400 | U |

**OR**

| | |
|---|---|
| 8,000 | Actual hours |
| 7,700 | Standard hours |
| 300 | Excess hours x Rs. 8 standard labour rate = Rs.2,400 unfavorable labour efficiency variance. |

** 7,700 standard productive hours x 3% = 231

**Q. 4 (b)**

(i) Factory Overhead Distribution Sheet
and Computation of
Factory Overhead rates for producing Department Rs.

| | Producing Departments | | | | Service Departments | | | Marks |
|---|---|---|---|---|---|---|---|---|
| | 01 | 02 | 03 | 04 | Maintenance | Toolroom | Storeroom | |
| Total | 60,000 | 70,000 | 65,000 | 50,000 | 25,800 | 21,000 | 15,000 | |
| Distribution of service department | | | | | | | | |
| Fixed overhead: | | | | | | | | |
| Maintenance | 5,000 | 4,000 | 3,000 | 3,000 | (15,000) | | | 1 |
| Toolroom | 3,500 | 2,500 | 2,500 | 2,000 | | (10,500) | | 1 |
| Storeroom | 6,000 | 3,000 | 2,000 | 1,000 | | | (12,000) | 1 |
| | | | | | 10,800 | 10,500 | 3,000 | |
| Variable overhead: | | | | | | | | |
| Maintenance | 3,600 | 3,000 | 2,700 | 1,500 | (10,800) | | | 1 |
| Toolroom | 3,500 | 2,800 | 2,100 | 2,100 | -0- | (10,500) | | 1 |
| Storeroom | 900 | 900 | 840 | 360 | | -0- | (3,000) | 1 |
| Total | 82,500 | 86,200 | 78,140 | 59,960 | | | -0- | |
| | ÷ | ÷ | ÷ | ÷ | | | | |
| | 33,000 | 32,000 | 39,070 | 59,960 | | | | |
| Bases | Machine hours | machine hours | Direct labour hours | Direct labour hours | | | | |
| (ii) Factory overhead rates | = Rs.2.50 per Machine hours | = Rs.2.70 per Machine hours | = Rs.2.00 per direct labour hours | = 100% of direct labour hours | | | | 2 |

Calculation of Distribution Rates 2

| Maintenance | Toolroom | Storeroom |
|---|---|---|
| Rs.10,800 / 36,000 sq. ft | Rs.10,500 / 150 employees | Rs.3,000 / 100,000 requisitions |
| = Rs 0.30 per sq. ft | = Rs. 70 per employee | = Rs. 0.03 per requisition |

**Q. 5 (a)**

Star Company
Blending Department
For the month of April

**(i) Quantity Schedule**

| | | | Marks |
|---|---|---|---|
| Units in Process at beginning( all material,50% to conversion cost) | 2,000 | | |
| Units started in process | 20,000 | 22,000 | 1 |
| Units transferred to next department | 19,000 | | |
| Units completed and on hand | 500 | | |
| Units in process at end (all material ,2/3 of conversion cost) | 1,500 | | |
| Units lost in process | 1,000 | 22,000 | 1 |

**(ii) Equivalent Production Units Schedule**

| | Material | Conversion | Marks |
|---|---|---|---|
| Units completed and transferred | 19,000 | 19,000 | |
| Units completed and on hand | 500 | 500 | |
| Units still in process (all material,2/3 Conversion Cost) | 1,500 | 1,000 | |
| Total Equivalent Units | 21,000 | 20,500 | |
| | 1 + | 2 = | 3 |

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**(iii)**

| Cost charged to the Department: | Total Cost | Unit Cost | Marks |
|---|---|---|---|
| Cost added by department: | | | |
| Work-in-process - beginning inventory: | | | 1 |
| Materials | 1,000 | | |
| Labour | 620 | | |
| Factory overhead | 600 | | |
| Cost added during period: | | | 2 |
| Materials | 9,920 | 0.52 | |
| Labour | 12,090 | 0.62 | |
| Factory overhead | 11,290 | 0.58 | |
| Total cost (charged) to be accounted for | 35,520 | 1.72 | 1 |

**(iv)**

| Cost Accounted for as follows: | | | Marks |
|---|---|---|---|
| Transferred to next department (19,000 x Rs.1.72) | | 32,680 | 1 |
| Work-in-process – ending inventory: | | | |
| Completed and on hand (500 x 1.72) | 860 | | |
| Materials (1,500 x Rs.0.52) | 780 | | |
| Labour (1,500 x 2/3 x Rs.0.62) | 620 | | |
| Factory overhead (1,500 x 2/3 x Rs 0.58) | 580 | 2,840 | 2 |
| Total cost accounted for | | 35,520 | |

Additional Computations:

Equivalent production:

Materials = 19,000 + 500 + 1,500 = 21,000 units

Labour and factory overhead = 19,000 + 500 + (2/3 x 1,500)
= 20,500

Unit costs:

Materials = Rs.1,000 + Rs.9,920 = $\frac{10,920}{21,000}$ = 0.52 per unit

Labour = Rs.620 + Rs.12,090 = $\frac{12,710}{20,500}$ = 0.62 per unit

Factory overhead = Rs.600 + Rs.11,290 = $\frac{11,890}{20,500}$ = 0.58 per unit

**(b)**

| | Kg | Unit cost Rs. | | Amount Rs. | | Marks |
|---|---|---|---|---|---|---|
| Materials cost variances: | | | | | | |
| Actual quantity used | 14,400 | 51 | actual | 734,400 | | |
| Actual quantity used | 14,400 | 50 | standard | 720,000 | | |
| Materials price usage variance | 14,400 | 01 | | 14,400 | unfav. | 2 |
| Actual quantity used | 14,400 | 50 | standard | 720,000 | | |
| Standard quantity allowed | 14,000 | 50 | standard | 700,000 | | |
| Materials quantity variance | 400 | 50 | standard | 20,000 | unfav. | 2 |

Labour cost variance:

| | Time | Rate Rs. | | Amount Rs. | | Marks |
|---|---|---|---|---|---|---|
| Actual hours worked | 9,000 | 8.50 | actual | 76,500 | | |
| Actual hours worked | 9,000 | 9.00 | standard | 81,000 | | |
| Labour rate variance | 9,000 | (0.50) | | (4,500) | fav. | 2 |
| Actual hours worked | 9,000 | 9.00 | standard | 81,000 | | |
| Standard hours allowed | 8,750 | 9.00 | standard | 78,750 | | |
| Labour efficiency variance | 250 | 9.00 | standard | 2,250 | unfav. | 2 |

Factory overhead variances two variance method:

| | | | | Marks |
|---|---|---|---|---|
| Actual factory overhead | | 17,550 | | |
| Budget allowance based on standard hours allowed: | | | | |
| Fixed expense budgeted | 5,000 | | | |
| Variable expense (8,750 standard hours allowed x Rs.1.50 variable overhead) | 13,125 | 18,125 | | |
| Controllable variance | | 575 | fav. | 2 |
| | | | | |
| Budget allowance based on standard hours allowed | | 18,125 | | |
| Overhead charged to production (8,750 standard hours allowed x Rs.2.00) | | 17,500 | | |
| Volume variance | | 625 | unfav. | 2 |

**Q. 6 (a) (i)** Manufacturing cost per unit (absorption costing):

| | | | Marks |
|---|---|---|---|
| Direct materials and labour | | 28.0 | |
| Factory overhead: | | | |
| Variable expense (Rs.1 per hour x 5 hours) | 5.0 | | |
| Fixed expense (Rs.1.50 x 5 hours) | 7.5 | 12.5 | 1 |
| Total manufacturing cost per unit | | 40.5 | |

$$\frac{\text{Annual total fixed cost}}{\text{Normal activity hours annually}} = \frac{60000}{40000} = 1.5$$ Fixed rate per direct labour hour

Manufacturing cost per unit (direct costing):

| | | Marks |
|---|---|---|
| Direct materials and labour | 28.0 | |
| Factory overhead: | | |
| Variable expense (Rs.1 per hour x 5 hours) | 5.0 | |
| Total manufacturing cost per unit | 33.0 | 1 |

**(ii)**

Kaleem Corporation
Comparative Gross Profit Statements - Absorption Costing
Based on data for four years

| | Year-1 | Year-2 | Year-3 | Year-4 | Total | Marks |
|---|---|---|---|---|---|---|
| Sales | 315,000 | 270,000 | 315,000 | 405,000 | | |
| Direct materials and labour | 224,000 | 280,000 | 196,000 | 112,000 | | |
| Variable factory overhead | 40,000 | 50,000 | 35,000 | 20,000 | | |
| Fixed factory overhead | 60,000 | 75,000 | 52,500 | 30,000 | | |
| Cost of goods manufactured | 324,000 | 405,000 | 283,500 | 162,000 | | |
| Beginning inventory | - | 40,500 | 202,500 | 202,500 | | |
| Cost of goods available | 324,000 | 445,500 | 486,000 | 364,500 | | |
| Ending inventory | 40,500 | 202,500 | 202,500 | - | | |
| Cost of goods sold | 283,500 | 243,000 | 283,500 | 364,500 | | |
| Over or underapplied factory overehad | - | (15,000) | 7,500 | 30,000 | | |
| Cost of goods sold at actual | 283,500 | 228,000 | 291,000 | 394,500 | | |
| Gross profit | 31,500 | 42,000 | 24,000 | 10,500 | 108,000 | |
| | 2 | +2 | +2 | +2 | = | 8 |

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**(b)** **(i)**

| | | Marks |
|---|---|---|
| Sales | 10,000,000 | |
| Variable cost | 2,500,000 | |
| Contribution margin | 7,500,000 | 1 |
| Fixed cost | 5,000,000 | |
| Operating income | 2,500,000 | 1 |

**(ii)** Break-even point in Rupees $\dfrac{5{,}000{,}000}{1-\dfrac{2{,}500{,}000}{10{,}000{,}000}} = \dfrac{5{,}000{,}000}{1-0.25} = \dfrac{5{,}000{,}000}{0.75} = 6{,}666{,}667$ 2

**(iii)** Break-even point in units $\dfrac{6{,}666{,}667}{100} = 66{,}667$ units 1

**(iv)** Margin of safety ratio at the given sales level $\dfrac{10{,}000{,}000-6{,}666{,}667}{10{,}000{,}000} = \dfrac{3{,}333{,}333}{10{,}000{,}000}$

$= 0.333$ or 33.3% 2

**THE END**