

Name

ID No

PRINCE OF SONGKLA UNIVERSITY
FACULTY OF ENGINEERING

Final examination : semester 1
Date : October 5,2010
Subject : 225-455 Cost Analysis

Academic Year : 2010
Time : 13.30 – 16.30
Room : S817

Instruction

1. Attempt all questions.
2. Write answers in this examination paper.
3. Total examination papers are 12 pages.
4. All materials are allowed to the examination room.
5. The points are as follows ;

Question No	1	2	3	4	Total
Full points scored	13	17	13	22	65
Scored					

ทุจริตในการสอบ โทษขั้นต่ำ คือ ปรับตกในรายวิชาที่ทุจริต
และพักการเรียน 1 ภาคการศึกษา

Boonrueing Manasurakarn



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1. Data for the manufacturing overhead of XYZ company are given below :

	Cost formula (per machine hour)	machine – hours		
		5,000	5,000	7,000
Overhead costs				
Variable overhead costs :				
Supplies	\$ 0.20	\$ 1,000	\$ 1,200	\$ 1,400
Indirect labor	0.30	1,500	1 800	2,100
Total overhead cost	0.50	2,500	3,000	3,500
Fixed overhead costs :				
Depreciation		4,000	4,000	4,000
Supervision		5,000	5,000	5,000
Total fixed overhead cost		9,000	9,000	9,000
Total overhead cost		\$11,500	12,000	12,500

Five hours of machine time are required per unit of product . The company has set denominator activity for the coming period at 6,000 machine-hours (or 1,200 units). The computation of the predetermined overhead rate would be as follows:

$$\begin{aligned} \text{total} &: \$ 12,000 / 6,000 \text{ MHs} = \$ 2.00 \text{ per machine-hour} \\ \text{variable element} &: \$ 3,000 / 6,000 \text{ MHs} = \$ 0.50 \text{ per machine-hour} \\ \text{fixed element} &: \$ 9,000 / 6,000 \text{ MHs} = \$ 1.50 \text{ per machine-hour} \end{aligned}$$

Assume the following actual results for the period :

Number of units produced	1,300 units
Actual machine-hour	6,800 machine-hours
Standard machine-hours allowed	6,500 machine-hours
Actual variable overhead cost	\$ 4,200
Actual fixed overhead cost	\$ 9,400

Required :

Analyze the \$ 600 underapplied overhead in term of :

1. A variable overhead spending variance.
2. A variable overhead efficiency variance.
3. A fixed overhead budget variance.
4. A fixed overhead volume variance.

(13 points)



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2. ABC company produces exterior latex paint, which it sells in one-gallon containers. The company has two processing departments – Base Fab and Finishing. White paint, which is used as a base for all the company's paints, is mixed from raw ingredients in the Base Fab department. Pigments are then added to the basic white paint. The pigmented paint is squirted under pressure into one-gallon containers, and the containers are labeled and packed for shipping in the Finishing Department. Information relating to the company's operation for April follows :

- a) Raw materials were issued for use in production Base Fab Department , \$ 851,000 ; and Finishing Department , \$ 629,000
- b) Direct labor costs were incurred : Base Fab Department , \$ 330,000 ; and Finishing Department , \$ 270,000
- c) Manufacturing overhead cost was applied : Base Fab Department , \$ 665,000 ; and Finishing Department , \$ 405,000
- d) Basic white paint was transferred from the Base Fab Department to Finishing Department , \$ 1,850,000 .
- e) Paint that had been prepared for shipping was transferred from the Finishing Department to Finishing goods, \$ 3,200,000.

Required : Prepare a production report for the Base Fab Department for April. The following additional information is available regarding production in the Base Fab Department during April :

Production data :

Units (gallons) in process, April 1, materials 100% complete,	
Labor and overhead 60% complete	30,000
Units (gallons) started into production during April	420,000
Units (gallons) completed and transferred to the	
Finishing Department	370,000
Units (gallons) in process, April 30: materials 50% complete,	
Labor and overhead 25% complete	80,000

Cost data :

Work in process inventory, April 1 :

Materials	\$ 92,000
Labor	21,000
Overhead	<u>37,000</u>
Total cost of work in process	\$ <u>150,000</u>

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Cost added during April :

Materials	\$ 851,000
Labor	330,000
Overhead	<u>665,000</u>
Total cost of work in process	<u>\$1,846,000</u>

(17 points)

ABC company

Finishing and Paint Production Report

(weighted-Average Method)

Quantity Schedule and Equivalent Units

Quantity

Schedule

Units to be accounted for :

Equivalent Units (EU)

Work in process

Materials conversion

Started into production

Total unit to be accounted for

Costs per Equivalent Unit

Total

Whole

Cost

Materials

conversion

Unit

Work in process

Cost added in the department

Total cost to be accounted for

Equivalent units

Cost per EU

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Cost Reconciliation

Total

Equivalent Units (EU)

Cost

Materials

conversion

Cost accounted for as follows :

Transferred to the next department :

Work in process

Materials

Conversion

Total work in process

Total cost accounted for



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3. AAA company produces a single product. Manufacturing overhead is applied to products on the basis of direct labor hours. The standard costs for unit of product are as follow :

Direct material : 6 ounces at \$ 0.50 per ounce	\$	3
Direct labor : 1.80 hours at \$ 10 per hour		18
Variable manufacturing overhead : 1.8 hours at \$ 5 per hour		9
Total standard variable cost per unit		<u>30</u>

During June, 2,000 units were produced. The cost associated with June's operations were as follows :

Material purchased : 18,000 ounces at \$ 0.60 per ounce	\$	18,000
Material used in production : 14,000 ounces		--
Direct labor : 4,000 hours at \$ 9.75 per hour		39,000
Variable manufacturing overhead costs incurred		20,800

Required : Compute the materials, labor, and variable manufacturing overhead variances. (13 points)



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4. AXY company produces and sells a single product, a wooden hand loom for weaving small item such as scarves. Selected cost and operating data relating to the product for two years are given below :

Selling price per unit	\$	50	
Manufacturing costs :			
Variable per unit produced :			
Direct materials		11	
Direct labor		6	
Variable overhead		3	
Fixed per year		120,000	
Selling and administrative costs :			
Variable per unit sold		5	
Fixed per year		70,000	
		Year 1	Year 2
Units in beginning inventory		0	2,000
Units produced during the year		10,000	6,000
Units sold during the year		8,000	8,000
Units in ending inventory		2,000	0

Required :

- Absorption and variable costing,
 - Compute the unit product cost in each year.
 - Prepare an income statement for each year.
- Reconcile the absorption and variable costing net operating incomes.

(22 points)

		Year 1	Year 2
1. a. Unit product cost of absorption costing	=	\$	
Unit product cost of variable costing	=	\$	

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1. b. The absorption costing an income statement :

2. b. The absorption costing an income statement :

