

AC 202 Management Accounting

Exercise 3: Process Costing

Q. 1 International Electronics manufactures microchips in large quantities. Each microchip undergoes assembly and testing. The total assembly costs during January 20x1 were:

Direct materials used	\$ 720,000
Conversion costs	<u>760,000</u>
Total manufacturing costs	<u>\$1,480,000</u>

1. Assume there was no beginning inventory on January 1, 20x1. During January, 10,000 microchips were placed into production and all 10,000 were fully completed at the end of the month. What is the unit cost of an assembled microchip in January?
2. Assume that during February, 10,000 microchips are placed into production. Further assume the same total assembly costs for January are also incurred in February, but only 9,000 microchips are fully completed at the end of the month. All direct materials have been added to the remaining 1,000 microchips. However, on average, these remaining 1,000 microchips are only 50% complete as to conversion costs. (a) What are the equivalent units for DM and CC and their respective costs per EU for February? (b) What is the unit cost of an assembled microchip in February 20x1?
3. Explain the difference in your answers to requirements 1 and 2.

Q. 2 In the first month of operation, the manufacturing costs for Lee Company were as follows:

Direct materials used	\$55,500
Conversion costs	201,600

During the month 10,000 units were completed, and 5,000 units were in process at the end of the month. The 5,000 units in process were 100% completed as to materials and 80% completed as to direct labor and overhead. Compute physical units and EU for DMs and CCs. Also calculate cost per EU for DMs and CCs, and assign total costs to units completed and transferred out and to units in EWIP.

Q. 3 Consider the following data for the Satellite Assembly Division of Aerospace:
The Satellite Assembly Division uses the weighted-average method of process costing.

	Physical Units (Satellites)	Direct Materials	Conversion Costs
Beginning work in process (May 1) ^a	8	\$ 4,933,600	\$ 910,400
Started in May 2007	50		
Completed during May 2007	46		
Ending work in process (May 31) ^b	12		
Total costs added during May 2007		\$32,200,000	\$13,920,000

^aDegree of completion: direct materials, 90%; conversion costs, 40%.

^bDegree of completion: direct materials, 60%; conversion costs, 30%.

Assume that the firm uses the weighted-average method of process costing. Compute physical units and EU for DMs and CCs. Also calculate cost per EU for DMs and CCs, summarize total costs to account for, and assign total costs to units completed and transferred out and to units in EWIP.

Q. 4 The Chatham Company makes a water-treatment chemical in a single processing department. DMs are added at the start of the process. CCs are added evenly during the processes. The following information for July 20x1 is available.

	Physical Units	Equivalent Units	
		Direct Materials	Conversion Costs
Work in process, July 1	10,000 ^a	10,000	7,000
Started during July	40,000		
Completed and transferred out during July	34,000	34,000	34,000
Work in process, July 31	16,000 ^b	16,000	8,000

^aDegree of completion: direct materials, 100%; conversion costs, 70%.

^bDegree of completion: direct materials, 100%; conversion costs, 50%.

Total costs for July 20x1

Work in process, beginning		
Direct materials	\$60,000	
Conversion costs	<u>70,000</u>	\$130,000
Direct materials added during July		280,000
Conversion costs added during July		<u>371,000</u>
Total costs to account for		<u>\$781,000</u>

Required:

Assign total costs to units completed and transferred out and to units in EWIP using the weighted-average method of process costing.

Q. 5 Computation of EUs – Weighted-Average Method

Clonex Labs, Inc., uses a process costing system. The following data are available for one department for October:

	Units	Percent Completed	
		Materials	Conversion
Work in process, October 1	30,000	65%	30%
Work in process, October 31	15,000	80%	40%

The department started 175,000 units into production during the month and transferred 190,000 completed units to the next department.

Required:

Compute the equivalent units of production for October assuming that the company uses the weighted-average method of accounting for units and costs.