Question 1 - CIA 1195 III-41 - Activity-Based Costing

Cost allocation is the process of assigning indirect costs to a cost object. The indirect costs are grouped in cost pools and then allocated by a common allocation base to the cost object. The base that is employed to allocate a homogeneous cost pool should

A. Be a nonfinancial measure (e.g., number of setups) because a nonfinancial measure is more objective.
B. Assign the costs in the pool uniformly to cost objects even if the cost objects use resources in a nonuniform way.
C. Have a high correlation with the cost items in the cost pool as the sole criterion for selection.
D. Have a cause-and-effect relationship with the cost items in the cost pool.

A. Either financial measures (such as direct labor costs) or nonfinancial measures may be used as an allocation base.
B. The costs should be allocated in the manner in which they are incurred by the cost objects.
C. A high correlation between the item and the cost pool does not necessarily mean that there is a cause-and-effect relationship between them.
D. Any allocation basis should have a cause-and-effect relationship between the costs that are being allocated and the items they are being allocated to.

Question 2 - CIA 1195 III-94 - Activity-Based Costing

Believing that its traditional cost system may be providing misleading information, an organization is considering an activity-based costing approach. It now employs a full cost system and has been applying its manufacturing overhead on the basis of machine hours.

The organization plans on using 50,000 direct labor hours and 30,000 machine hours in the coming year. The following data show the manufacturing overhead that is budgeted.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Cost Driver</th>
<th>Budgeted Activity</th>
<th>Budgeted Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material handling</td>
<td>No. of parts handled</td>
<td>6,000,000</td>
<td>$720,000</td>
</tr>
<tr>
<td>Setup costs</td>
<td>No. of setups</td>
<td>750</td>
<td>$315,000</td>
</tr>
<tr>
<td>Machining costs</td>
<td>Machine hours</td>
<td>30,000</td>
<td>$540,000</td>
</tr>
<tr>
<td>Quality control</td>
<td>No. of batches</td>
<td>500</td>
<td>$225,000</td>
</tr>
<tr>
<td>Total Manufacturing Overhead Cost</td>
<td></td>
<td></td>
<td>$1,800,000</td>
</tr>
</tbody>
</table>

Cost, sales and production for one of the organization's products for the coming year are as follows:

**Prime Costs:**
- Direct material cost per unit $4.40
- Direct labor cost per unit = .05 DLH @ $15/DLH .75
- Total Prime Cost $5.15

**Sales and Production Data:**
- Expected sales 20,000 units
- Batch size 5,000 units
- Setups 2 per batch
- Total parts per finished unit 5 parts
- Machine hours required 80 MH per batch

If the organization employs an activity based costing system, the cost per unit for the product described for the coming year would

A. $6.21
B. This answer uses only one setup per batch instead of two.

B.

Under the ABC method we will have $5.15 in direct materials and direct labor, which is the same as under the traditional costing method; but we will need to calculate the overhead on the basis of activity-based costing.

In ABC, there are 4 calculations we will need to make as part of the overhead allocation. These are as follows per activity:

1. Material Handling – $.12 per part ($720,000 ÷ 6,000,000) and there are 5 parts per unit. This is $.60.

2. Setup Costs – $420 per setup ($315,000 ÷ 750). There are 2 setups per batch, for a cost of $840 for each batch of 5,000 units. This is $.168 per unit ($840 ÷ 5,000).

3. Machining Costs – $18 per machine hour. There are 80 machine hours per batch, giving us $1,440 per batch of 5,000 units, or $.288 per unit.

4. Quality Control – $450 per batch. This is $.09 per unit ($450 ÷ 5,000).

In total, these costs add up to $6.30 per unit.

C. This answer assumes the incorrect number of machine hours.

D. This answer assumes that there is only one setup for each batch and the machine hours were therefore only 80.

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**Question 3 - CIA 593 IV-3 - Activity-Based Costing**

A manufacturing firm produces multiple families of products requiring various combinations of different types of parts. The manufacturer has identified various cost pools, one of which consists of materials handling costs. This cost pool includes the wages and employee benefits of the workers involved in receiving materials, inspecting materials, storing materials in inventory, and moving materials to the workstations; depreciation and maintenance of materials handling equipment (e.g., forklift trucks); and costs of supplies used as well as other related costs. Of the following, the most appropriate cost driver for assigning materials handling costs to the various products most likely is

A. Number of parts used.
B. Direct labor hours.
C. Number of units produced.
D. Number of vendors involved.

A. When we are trying to allocate the costs related to handling costs, the number of parts used in a particular item would be a very good allocation base. The more parts that are in a product, the more movement there will be related to that product.

B. Direct labor hours does not correlate to the costs incurred for materials handling.

C. The number of units produced does not correlate to costs incurred for materials handling.

D. How many suppliers there are does not impact the costs of movement related to the different products produced.
**Question 4 - CIA 597 3-80 - Activity-Based Costing**

Which of the following would be a reasonable basis for allocating the material handling costs to the units produced in an activity-based costing system?

A. Number of production runs per year.
B. Number of components per completed unit.
C. Amount of time required to produce one unit.
D. Amount of overhead applied to each completed unit.

A. This allocation basis is related to batch costs and not to individual unit costs.

B. There is a direct causal relationship between the number of components in a finished product and the amount of material handling costs incurred.

C. This allocation basis is the traditional basis for allocating overhead costs to the units produced when the production process is labor-intensive.

D. This is not an allocation basis but rather the result of the allocation process when determining product costs.

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**Question 5 - CMA 1296 3-28 - Activity-Based Costing**

The use of activity-based costing normally results in

A. Decreased setup costs being charged to low-volume products.
B. Substantially lower unit costs for low-volume products than is reported by traditional product costing.
C. Substantially greater unit costs for low-volume products than is reported by traditional product costing.
D. Equalizing setup costs for all product lines.

A. Under ABC there will probably be more setup costs charged to low volume products because the setup costs are probably allocated and distributed separately from other overhead costs.

B. Usually, under ABC the items that are low in volume have more costs charged to them than under a traditional, or other system.

C. Because of the fact that ABC usually uses more allocation bases than other methods, those small units that may not use much of the overall machine hours or labor hours usually end up with more overhead costs allocated to them under ABC.

D. Under ABC not all product lines will have the same setup costs because it is unlikely that every product line has the same number of setups required.

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**Question 6 - CIA 594 III-47 - Activity-Based Costing**

Which of the following statements about activity-based costing is not true?

A. Activity-based costing is useful for allocating marketing and distribution costs.
B. Activity-based costing is more likely to result in major differences from traditional costing systems if the firm manufactures only one product rather than multiple products.
C. In activity-based costing, cost drivers are what cause costs to be incurred.
D. Activity-based costing differs from traditional costing systems in that products are not cross-subsidized.

A. ABC may be used to allocate marketing and distribution costs.

B. The ABC and traditional methods will be the same when only one product is produced because all overheads will be allocated to that one product, no matter what method is used. The more different products
are produced, the more ABC and traditional costing will give different results.

C. Cost drivers are what cause costs to be incurred.

D. Cross-subsidization occurs when the costs are not properly allocated among products. This is more likely to occur under a traditional system than under ABC, because ABC typically uses many more allocations.

**Question 7 - CIA 596 III-99 - Activity-Based Costing**

A company with three products classifies its costs as belonging to five functions: design, production, marketing, distribution, and customer services. For pricing purposes, all company costs are assigned to the three products. The direct costs of each of the five functions are traced directly to the three products. The indirect costs of each of the five business functions are collected into five separate cost pools and then assigned to the three products using appropriate allocation bases. The allocation base that would most likely be the best for allocating the indirect costs of the distribution function is

A. Number of customer phone calls.
B. Number of sales persons.
C. Dollar sales volume.
D. Number of shipments.

A. The number of phone calls would not be a good basis for the allocation of distribution costs.
B. The number of sales people would not be a good basis for the allocation of distribution costs.
C. The dollar sales volume would not be a good basis for the allocation of distribution costs because a very expensive item might be very small and have low distribution costs.
D. The number of shipments would be a good basis for the allocation of distribution costs because the more shipments that are made, the higher the distribution costs will be.

**Question 8 - CIA 1195 III-93 - Activity-Based Costing**

Believing that its traditional cost system may be providing misleading information, an organization is considering an activity-based costing approach. It now employs a full cost system and has been applying its manufacturing overhead on the basis of machine hours.

The organization plans on using 50,000 direct labor hours and 30,000 machine hours in the coming year. The following data show the manufacturing overhead that is budgeted.

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<td>Machine hours</td>
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</tr>
<tr>
<td>Quality control</td>
<td>No. of batches</td>
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<td>225,000</td>
</tr>
<tr>
<td>Total Manufacturing Overhead Cost</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Cost, sales and production for one of the organization's products for the coming year are as follows:

**Prime Costs:**

Direct material cost per unit $4.40
Direct labor cost per unit = .05 DLH @ $15/DLH .75
Total Prime Cost $5.15

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Sales and Production Data:
Expected sales  20,000 units
Batch size  5,000 units
Setups  2 per batch
Total parts per finished unit  5 parts
Machine hours required  80 MH per batch

If the organization uses the traditional full cost system, the cost per unit for this product for the coming year would be
A. $6.11  
B. $5.39  
C. $6.95  
D. $5.44

A. The traditional system will include the costs for direct materials, direct labor and overhead. Direct materials and labor are $5.15 per unit so all we need to calculate is the overhead per unit. Under the traditional method, overhead is applied based on machine hours. The rate is $60 per machine hour ($1,800,000 budgeted costs ÷ 30,000 hours). Each unit requires .016 machine hours (80 machine hours in a batch ÷ 5,000 units in a batch). This means that each unit will have $.96 of overhead applied. This gives a total cost of $6.11 per unit under the traditional method.

B. This answer assumes that 80 machine hours are required for the entire 20,000 units produced, not per batch.

C. This answer is based on the direct labor overhead rate.

D. This answer uses the machining overhead rate.

Question 9 - CMA 694 3-26 - Activity-Based Costing

Zeta Company is preparing its annual profit plan. As part of its analysis of the profitability of individual products, the controller estimates the amount of overhead that should be allocated to the individual product lines from the information given as follows:

<table>
<thead>
<tr>
<th></th>
<th>Wall Mirrors</th>
<th>Specialty Windows</th>
</tr>
</thead>
<tbody>
<tr>
<td>Units produced</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Material moves per product line</td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>Direct labor hours per unit</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td>Budgeted materials handling costs</td>
<td>$50,000</td>
<td></td>
</tr>
</tbody>
</table>

Under activity-based costing (ABC), the materials handling costs allocated to one unit of wall mirrors would be

A. $500  
B. $1,500  
C. $1,000  
D. $2,500

A. Under an ABC system, the materials handling costs would be allocated based on the number of materials moves for each product. In total, Zeta has 20 materials moves (5 moves for the wall mirrors + 15 moves for specialty mirrors). This gives a per move cost of $2,500. Since there are 5 material moves for the wall mirrors, this is $12,500 that needs to be allocated to the 25 units. This is a per unit cost for materials handling of $500.

B. This is the amount that would be allocated to each specialty mirror.

C. This is the amount that would be allocated if the allocation basis was direct labor hours.

D. This answer is incorrect.
**Question 10 - CPA 1192 T-45 - Activity-Based Costing**

Nile Co. is a manufacturer whose cost assignment and product costing procedures follow activity-based costing principles. Activities have been identified and classified as being either value-adding or nonvalue-adding as to each product. Which of the following activities, used in Nile's production process, is nonvalue-adding?

A. Heat treatment activity.
B. Raw materials storage activity.
C. Drill press activity.
D. Design engineering activity.

A. Heat treatment is value-added activity.

B. Material storage activity is nonvalue-adding activity because it does not provide any contribution to the customer.

C. Drill press is value-added activity.

D. Design engineering is value-added activity.

**Question 11 - CIA 596 III-95 - Activity-Based Costing**

A company's accounts receivable department processed 33,000 invoices during a 6-month period with a billing error rate of 3%. Each billing error cost $110 to correct. In addition, 15% of contract cancellations during this period were attributed to billing errors, resulting in estimated lost total contribution margins of $75,000 from dissatisfied customers who canceled their contracts. If the number of invoices issued and the costs per billing error remain unchanged, the annual savings available for funding of a quality improvement program to lower the company's billing error rate by 1% (i.e., from 3% to 2%) would be

A. $267,800
B. $122,600
C. $222,600
D. $61,300

A. This answer assumes that the error rate is reduced to 0%.

B. Before we begin to answer this question numerically, we need to recognize that the information in the question is for 6 months, but the question is asking for annual savings. So, we will need to calculate the savings for six months, then multiply it by 2 to calculate the annual savings.

If the error rate is reduced from 3% to 2%, we can assume that they would save 1/3 of their costs incurred as a result of the errors. Currently, they make 990 mistakes in the processing of their 33,000 invoices. As each error costs $110, this is $108,900. Added to this is the lost $75,000 contribution as a result of cancelled contracts. In total, this is $183,900. By reducing the error rate to 2%, the company would save 1/3 of these total costs, or $61,300, every 6 months. Over a year, this becomes $122,600.

C. This answer assumes that all of the currently lost contribution can be saved.

D. This is the amount of savings that would result in 6 months. However, the question asks for the annual savings.
**Question 12 - CMA 693 3-1 - Activity-Based Costing**

The allocation of costs to particular cost objects allows a firm to analyze all of the following except

A. Why a particular product should be purchased rather than manufactured in-house.
B. Whether a particular department should be expanded.
C. Why the sales of a particular product have increased.
D. Whether a product line should be discontinued.

A. The allocation of costs is a critical part of the make-or-buy decision that a company must make.
B. The allocation of costs will be part of the analysis of whether or not a department should be expanded. Without this allocation, management will not know if the department is profitable.
C. The allocation of costs to a cost object will not enable the company to analyze why sales of a particular product increased. This is because the sales of the item are connected to so many other factors: the price, the economy, and the actions of competitors, to name a few.
D. The allocation of costs will be part of the analysis of whether or not a product line should be discontinued. Without this allocation, management will not know if the product line is profitable.

**Question 13 - CIA 597 III-75 - Activity-Based Costing**

Activity-based costing (ABC) is increasingly more feasible because of technological advances that allow managers to obtain better and more timely information at relatively low cost. For this reason, a manufacturer is considering using bar-code identification for recording information on parts used by the manufacturer. A reason to use bar codes rather than other means of identification is to ensure that

A. The movement of parts is easily and quickly recorded.
B. The movement of all parts is recorded.
C. Vendors use the same identification methods.
D. Vendors use the same part numbers.

A. Through the use of bar codes the movement and location of a product may be tracked quickly and easily without human involvement.
B. Just because the unit has a bar code on it does not mean that the bar code will be read and the movement of the unit tracked each time it is moved.
C. Just because a bar code system is used does not mean that vendors will use the same identification methods.
D. Just because a bar code system is used does not mean that vendors will use the same part numbers.

**Question 14 - CMA 1295 3-26 - Activity-Based Costing**

An accounting system that collects financial and operating data on the basis of the underlying nature and extent of the cost drivers is

A. Activity-based costing.
B. Direct costing.
C. Variable costing.
D. Cycle-time costing.

A. Activity-based costing is the system that uses cost drivers to allocate costs.
B. In direct costing, fixed overheads are expensed in the period that they are incurred and cost drivers are not used.
This is the same method as variable costing.

C. In variable costing, fixed overheads are expensed in the period that they are incurred and cost drivers are not used. This is the same method as direct costing.

D. Cycle-time is the amount of time that the customer must wait for their order after the order has been placed.

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**Question 15** - IMA 08-P2-148 - Activity-Based Costing

The most important criterion in accurate cost allocations is

A. using a simple allocation method.
B. using homogeneous cost pools.
C. using multiple drivers for each cost pool.
D. allocating fixed and variable costs by using the same allocation base.

A. Choosing a simple allocation method often requires generalizations or assumptions that will lead to inconsistent or inaccurate cost allocations.

B. The word "homogeneous" means "of the same kind or nature." When we allocate costs, we group several different costs together and allocate them on some basis that is meaningful. For example, if we are using ABC costing and we are allocating setup costs, we will want to group all costs having to do with setups together. That might be the production supervisor's time, because maybe the supervisor does all the setups, and it might also include an engineer's time to supervise.

But what if the cost accountants decided to include in the "Setups" cost pool some activity that had nothing to do with doing setups, like the salary of the employee who sweeps the floor? The total cost would be allocated among all of the products for which production processes had been set up during the period. The total cost to be allocated would include the salary of the supervisor, the salary of the engineer, and the salary of the employee who sweeps the floor. So the total cost being allocated to setups would be higher than the actual cost of the setups. The cost allocated would not be accurate. That is why it is important when developing a cost pool to use costs that all relate to the cost drivers being used to allocate the costs in the cost pool. Those would be homogeneous costs.

C. Multiple cost pools may be used to allocate costs, but each cost pool can be associated with only one cost driver (activity), since the cost driver is used to allocate the costs in that cost pool.

D. Because of the different natures of fixed and variable costs, they should not have the same allocation base. For example, machine lubricant may be allocated based on the number of hours the machines run. But those machine hours will have little to do with allocating the cost of rent, a fixed cost. Rent might be allocated according to square footage occupied by each machine and what each machine is used for.

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**Question 16** - CMA 696 3-30 - Activity-Based Costing

New-Rage Cosmetics has used a traditional cost accounting system to apply quality control costs uniformly to all products at a rate of 14.5% of direct labor cost. Monthly direct labor cost for Satin Sheen makeup is $27,500. In an attempt to distribute quality control costs more equitably, New-Rage is considering activity-based costing.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Cost Driver</th>
<th>Cost Rates</th>
<th>Quantity for Satin Sheen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incoming material inspection</td>
<td>Type of material</td>
<td>$11.50 per type</td>
<td>12 types</td>
</tr>
<tr>
<td>In-process inspection</td>
<td>Number of units</td>
<td>$0.14 per unit</td>
<td>17,500 units</td>
</tr>
<tr>
<td>Product certification</td>
<td>Per order</td>
<td>$77 per order</td>
<td>25 orders</td>
</tr>
</tbody>
</table>

(c) HOCK international, page 8
The monthly quality control cost assigned to Satin Sheen makeup using activity-based costing (ABC) is

A. $8,500.50
B. $525.50 higher than the cost using the traditional system.
C. $88.64 per order.
D. $525.50 lower than the cost using the traditional system.

A. This answer is incorrect.

B. Under the traditional system, overheads are allocated based on direct labor at a rate of 14.5% of direct labor. Direct labor costs were $27,500 and 14.5% of this is $3,987.50. Under ABC we will need to make three allocations, one for each activity. For incoming materials the amount charged to Satin Sheen is $138 (12 × $11.50). For in-process inspection it is $2,450 (17,500 × $.14). For product certification it is $1,925 (25 × $77). Adding these three amounts together, we get $4,513, which is $525.50 more than what was allocated under the traditional system.

C. This answer is incorrect.
D. This answer is incorrect.

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**Question 17**  - CMA 1292 3-2 - Activity-Based Costing

In allocating factory service department costs to producing departments, which one of the following items would most likely be used as an activity base?

A. Salary of service department employees.
B. Direct materials usage.
C. Units of product sold.
D. Units of electric power consumed.

A. Salaries of service department employees is not a good allocation basis for anything.
B. The amount of materials used does not provide a good basis for allocating factory service department costs.
C. The use of units sold is usually not a good allocation basis for anything except shipping costs or sales related costs.
D. The amount of power consumed is the best of the choices given for allocating factory service department costs.

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**Question 18**  - CMA 1293 3-1 - Activity-Based Costing

Cost drivers are

A. Activities that cause costs to increase as the activity increases.
B. Accounting techniques used to control costs.
C. Accounting measurements used to evaluate whether or not performance is proceeding according to plan.
D. A mechanical basis, such as machine hours, computer time, size of equipment, or square footage of factory, used to assign costs to activities.

A. Cost drivers are activities that cause costs to be incurred each time the activities occur. A cost driver can be anything at all that causes indirect or overhead costs to arise, as long as those costs can be allocated to individual products or services, or any other entity such as organizational units, in some meaningful way.

B. Cost drivers are not accounting techniques used to control costs.
C. Cost drivers are not accounting measurements used to evaluate whether or not performance is proceeding according to plan.

D. Cost drivers may be used to assign costs, but they do not need to be mechanical. A cost driver is an event or any activity that causes costs to be incurred.