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|  |  | Question Type | Difficulty | LO10: Direct method (App 4B) | LO11: Step-down method (App 4B) | Professional exam adapted |
|  | 1 | T/F | M | x | x |  |
|  | 2 | T/F | M | x | x |  |
|  | 3 | T/F | M |  | x |  |
|  | 4 | T/F | M |  | x |  |
|  | 5 | T/F | E |  | x |  |
|  | 6 | Conceptual M/C | M | x | x |  |
|  | 7 | Single Part M/C | E | x |  |  |
|  | 8 | Single Part M/C | E | x |  |  |
|  | 9 | Single Part M/C | E | x |  |  |
|  | 10 | Single Part M/C | E | x |  |  |
|  | 11 | Single Part M/C | E | x |  |  |
|  | 12 | Single Part M/C | E | x |  |  |
|  | 13 | Single Part M/C | E |  | x |  |
|  | 14 | Single Part M/C | E |  | x |  |
|  | 15 | Single Part M/C | E |  | x |  |
|  | 16 | Single Part M/C | M |  | x |  |
|  | 17 | Single Part M/C | E |  | x |  |
| APP04B-Ref1 | 18-19 | Multipart M/C | E | x |  |  |
| APP04B-Ref2 | 20-21 | Multipart M/C | E | x |  |  |
| APP04B-Ref3 | 22-23 | Multipart M/C | E | x |  |  |
| APP04B-Ref4 | 24-25 | Multipart M/C | E | x |  |  |
| APP04B-Ref5 | 26-27 | Multipart M/C | M | x | x |  |
| APP04B-Ref6 | 28-29 | Multipart M/C | M | x | x |  |
| APP04B-Ref7 | 30-31 | Multipart M/C | M | x | x |  |
| APP04B-Ref8 | 32-33 | Multipart M/C | M | x | x |  |
| APP04B-Ref9 | 34-38 | Multipart M/C | M-H | x | x |  |
| APP04B-Ref10 | 39-40 | Multipart M/C | E |  | x |  |
| APP04B-Ref11 | 41-42 | Multipart M/C | E |  | x |  |
| APP04B-Ref12 | 43-44 | Multipart M/C | E |  | x |  |
| APP04B-Ref13 | 45-46 | Multipart M/C | E |  | x |  |
|  | 47 | Problem | E | x |  |  |
|  | 48 | Problem | E | x |  |  |
|  | 49 | Problem | E | x |  |  |
|  | 50 | Problem | E | x |  |  |
|  | 51 | Problem | M | x | x |  |
|  | 52 | Problem | E |  | x |  |
|  | 53 | Problem | E |  | x |  |
|  | 54 | Problem | E |  | x |  |
|  | 55 | Problem | E |  | x |  |
|  | 56 | Problem | M |  | x |  |

Appendix 04B

Service Department Allocations

**True / False Questions**

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| 1. | The step-down method allocates less total cost to operating departments than does the direct method.    True    False |

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| 2. | The step-down method of allocation is simpler and easier to apply than the direct method.    True    False |

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| 3. | The order in which the costs of service departments are allocated will affect the amounts allocated to an operating department when the step-down method is used.    True    False |

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| 4. | Under the step-down method, once a service department's costs have been allocated to other departments, no costs should be reallocated back to the service department.    True    False |

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| 5. | The step-down method of allocating service department costs takes into account some, but not all, of the reciprocal services that service departments provide to each other.    True    False |

**Multiple Choice Questions**

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| 6. | A company has several service departments that provide differing amounts of service to each other and to the company's operating departments. Which of the following statements is true?      |  |  | | --- | --- | | A. | The direct method and the step-down method will result in the same amount of cost being allocated to each operating department. |  |  |  | | --- | --- | | B. | The direct method will result in the same amount of cost being allocated to each operating department regardless of which service department is allocated first. |  |  |  | | --- | --- | | C. | The step-down method will result in the same amount of cost being allocated to each operating department regardless of which service department is allocated first. |  |  |  | | --- | --- | | D. | The direct method is more accurate than the step-down method when service departments provide services to each other. | |

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| 7. | Gustavson Corporation uses the direct method to allocate service department costs to operating departments. The company has two service departments, Administrative and Facilities, and two operating departments, Assembly and Wholesaling.      Administrative costs are allocated on the basis of employee hours and Facilities costs are allocated on the basis of space occupied. The total Wholesaling Department cost after the allocations of service department costs is closest to:      |  |  | | --- | --- | | A. | $337,530 |  |  |  | | --- | --- | | B. | $331,090 |  |  |  | | --- | --- | | C. | $340,240 |  |  |  | | --- | --- | | D. | $340,426 | |

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| 8. | Dubey Surgical Hospital uses the direct method to allocate service department costs to operating departments. The hospital has two service departments, Telecommunications and Administration, and two operating departments, Surgery and Recovery.      Telecommunications Department costs are allocated on the basis of the number of telecommunications ports in departments and Administration Department costs are allocated on the basis of employees. The total Surgery Department cost after service department allocations is closest to:      |  |  | | --- | --- | | A. | $481,336 |  |  |  | | --- | --- | | B. | $484,059 |  |  |  | | --- | --- | | C. | $473,169 |  |  |  | | --- | --- | | D. | $478,133 | |

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| 9. | Bagley Corporation has two service departments and two operating departments. The space occupied by each department follows:      The fixed costs of Custodial Services are allocated on the basis of square feet. If these costs are budgeted at $38,000, the amount of cost allocated to General Administration under the direct method would be:      |  |  | | --- | --- | | A. | $0 |  |  |  | | --- | --- | | B. | $5,700 |  |  |  | | --- | --- | | C. | $6,000 |  |  |  | | --- | --- | | D. | $7,125 | |

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| 10. | Vota Clinic uses the direct method to allocate service department costs to operating departments. The clinic has two service departments, Personnel and Support, and two operating departments, Prenatal and Pediatrics.      Personnel Department costs are allocated on the basis of employee hours and Support Department costs are allocated on the basis of space occupied in square feet. The total Pediatrics Department cost after the allocations of service department costs is closest to:      |  |  | | --- | --- | | A. | $432,159 |  |  |  | | --- | --- | | B. | $428,724 |  |  |  | | --- | --- | | C. | $431,400 |  |  |  | | --- | --- | | D. | $422,160 | |

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| 11. | The direct method is used by Adamski Publishing, Inc., to allocate service department costs to operating departments. The company has two service departments, Information Technology and Personnel, and two operating departments, Prepress and Printing.      Information Technology Department costs are allocated on the basis of computer workstations and Personnel Department costs are allocated on the basis of employees. The total Prepress Department cost after service department allocations is closest to:      |  |  | | --- | --- | | A. | $459,351 |  |  |  | | --- | --- | | B. | $455,856 |  |  |  | | --- | --- | | C. | $450,938 |  |  |  | | --- | --- | | D. | $461,782 | |

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| 12. | Stoffle Corporation uses the direct method to allocate service department costs to operating departments. The company has two service departments, Data Processing and Personnel, and two operating departments, Assembly and Finishing.      Data Processing Department costs are allocated on the basis of computer workstations and Personnel Department costs are allocated on the basis of employees. The total amount of Data Processing Department cost allocated to the two operating departments is closest to:      |  |  | | --- | --- | | A. | $169,600 |  |  |  | | --- | --- | | B. | $35,787 |  |  |  | | --- | --- | | C. | $29,552 |  |  |  | | --- | --- | | D. | $39,402 | |

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| 13. | Pujol Children's Clinic allocates service department costs to operating departments using the step-down method. The clinic has two service departments, Administration and Information Technology (IT), and two operating departments, Prenatal and Pediatric. Data concerning those departments follow:      Administration costs are allocated first on the basis of employees and IT costs are allocated second on the basis of PCs. The total Pediatric Department cost after allocations is closest to:      |  |  | | --- | --- | | A. | $370,790 |  |  |  | | --- | --- | | B. | $328,202 |  |  |  | | --- | --- | | C. | $361,823 |  |  |  | | --- | --- | | D. | $370,659 | |

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| 14. | Prophit Clinic uses the step-down method to allocate service department costs to operating departments. The clinic has two service departments, Personnel and Information Technology (IT), and two operating departments, Family Medicine and Pediatrics. Data concerning those departments follow:      Personnel costs are allocated first on the basis of employees and IT costs are allocated second on the basis of PCs. The total Pediatrics Department cost after allocations is closest to:      |  |  | | --- | --- | | A. | $231,638 |  |  |  | | --- | --- | | B. | $223,132 |  |  |  | | --- | --- | | C. | $232,286 |  |  |  | | --- | --- | | D. | $182,936 | |

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| 15. | Grable Corporation uses the step-down method to allocate service department costs to operating departments. The company has two service departments, General Management and Physical Plant, and two operating departments, Sales and After-Sales. Data concerning those departments follow:      General Management Department costs are allocated first on the basis of employee time and Physical Plant Department costs are allocated second on the basis of space occupied. The total After-Sales Department cost after allocations is closest to:      |  |  | | --- | --- | | A. | $309,430 |  |  |  | | --- | --- | | B. | $306,713 |  |  |  | | --- | --- | | C. | $293,590 |  |  |  | | --- | --- | | D. | $309,883 | |

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| 16. | Castle Corporation has two service departments and two operating departments. The number of employees in each department are:      The fixed costs of the Personnel Department are allocated on the basis of the number of employees. If these costs are budgeted at $37,125, the amount of cost allocated to the Cafeteria under the step-down method would be:      |  |  | | --- | --- | | A. | $0 |  |  |  | | --- | --- | | B. | $1,718.75 |  |  |  | | --- | --- | | C. | $1,687.50 |  |  |  | | --- | --- | | D. | $1,802.18 | |

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| 17. | Cieslak, Inc., allocates service department costs to operating departments using the step-down method. The company has two service departments, Administration and Physical Plant, and two operating departments, Assembly and Testing. Data concerning those departments follow:      Administration Department costs are allocated first on the basis of employee time and Physical Plant Department costs are allocated second on the basis of space occupied. The total Testing Department cost after allocations is closest to:      |  |  | | --- | --- | | A. | $623,963 |  |  |  | | --- | --- | | B. | $622,864 |  |  |  | | --- | --- | | C. | $623,760 |  |  |  | | --- | --- | | D. | $613,680 | |

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|  | Forbs Corporation uses the direct method to allocate service department costs to operating departments. The company has two service departments, Information Technology and Personnel, and two operating departments, Fabrication and Customization.      Information Technology Department costs are allocated on the basis of computer workstations and Personnel Department costs are allocated on the basis of employees. |

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| 18. | The total amount of Information Technology Department cost allocated to the two operating departments is closest to:      |  |  | | --- | --- | | A. | $28,679 |  |  |  | | --- | --- | | B. | $32,334 |  |  |  | | --- | --- | | C. | $23,391 |  |  |  | | --- | --- | | D. | $126,849 | |

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| 19. | The total Fabrication Department cost after service department allocations is closest to:      |  |  | | --- | --- | | A. | $468,492 |  |  |  | | --- | --- | | B. | $472,372 |  |  |  | | --- | --- | | C. | $477,287 |  |  |  | | --- | --- | | D. | $475,388 | |

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|  | Trupp Surgical Hospital uses the direct method to allocate service department costs to operating departments. The hospital has two service departments, Information Technology and Administration, and two operating departments, Surgery and Recovery.      Information Technology Department costs are allocated on the basis of computer workstations and Administration Department costs are allocated on the basis of employees. |

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| 20. | The total amount of Information Technology Department cost allocated to the two operating departments is closest to:      |  |  | | --- | --- | | A. | $30,097 |  |  |  | | --- | --- | | B. | $134,836 |  |  |  | | --- | --- | | C. | $24,605 |  |  |  | | --- | --- | | D. | $33,048 | |

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| 21. | The total Surgery Department cost after service department allocations is closest to:      |  |  | | --- | --- | | A. | $540,968 |  |  |  | | --- | --- | | B. | $539,348 |  |  |  | | --- | --- | | C. | $535,993 |  |  |  | | --- | --- | | D. | $532,067 | |

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|  | Sikorski Corporation has two service departments, Administrative and Facilities, and two operating departments, Assembly and Customer Solutions.      The company uses the direct method to allocate service department costs to operating departments. Administrative costs are allocated on the basis of employee hours and Facilities costs are allocated on the basis of space occupied. |

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| 22. | The total amount of Administrative Department cost allocated to the Assembly Department is closest to:      |  |  | | --- | --- | | A. | $22,598 |  |  |  | | --- | --- | | B. | $22,838 |  |  |  | | --- | --- | | C. | $24,360 |  |  |  | | --- | --- | | D. | $24,039 | |

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| 23. | The total Customer Solutions Department cost after the allocations of service department costs is closest to:      |  |  | | --- | --- | | A. | $2,851,990 |  |  |  | | --- | --- | | B. | $2,921,486 |  |  |  | | --- | --- | | C. | $2,878,917 |  |  |  | | --- | --- | | D. | $2,890,630 | |

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|  | Hallford Clinic has two service departments, Administrative and Support, and two operating departments, Adult Medicine and Pediatrics.      The clinic uses the direct method to allocate service department costs to operating departments. Administrative Department costs are allocated on the basis of employee hours and Support Department costs are allocated on the basis of space occupied in square feet. |

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| 24. | The total amount of Administrative Department cost allocated to the Adult Medicine Department is closest to:      |  |  | | --- | --- | | A. | $31,019 |  |  |  | | --- | --- | | B. | $20,520 |  |  |  | | --- | --- | | C. | $21,600 |  |  |  | | --- | --- | | D. | $18,240 | |

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| 25. | The total Pediatrics Department cost after the allocations of service department costs is closest to:      |  |  | | --- | --- | | A. | $521,388 |  |  |  | | --- | --- | | B. | $519,234 |  |  |  | | --- | --- | | C. | $509,100 |  |  |  | | --- | --- | | D. | $521,700 | |

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|  | The Millard Corporation has two service departments and two operating departments. The following data are available for a recent period:      Millard makes no distinction between fixed and variable costs. Costs of Service Department A are allocated on the basis of number of employees while costs of Service Department B are allocated on the basis of total labor hours. |

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| 26. | Assume Millard allocates service department costs by the direct method. After all allocations, the total amount of overhead costs in Operating Department 1 will be:      |  |  | | --- | --- | | A. | $155,000 |  |  |  | | --- | --- | | B. | $191,000 |  |  |  | | --- | --- | | C. | $157,100 |  |  |  | | --- | --- | | D. | $176,000 | |

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| 27. | Assume Millard allocates service department costs by the step-down method with Service Department A allocated first. After all allocations, the total amount of overhead cost in Operating Department 2 will be closest to:      |  |  | | --- | --- | | A. | $128,000 |  |  |  | | --- | --- | | B. | $127,000 |  |  |  | | --- | --- | | C. | $154,143 |  |  |  | | --- | --- | | D. | $102,833 | |

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|  | Anderson Corporation has two service departments and two producing departments. The costs of the Personnel Department are allocated to other departments on the basis of the number of employees in the departments. Departments and number of employees are as follows: |

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| 28. | Costs in the Personnel Department total $900,000 per year. Under the step-down method, the costs of the Personnel Department are allocated before the costs of the Engineering Department are allocated. The amount of this cost allocated to the Engineering Department under the step-down method is closest to:      |  |  | | --- | --- | | A. | $0 |  |  |  | | --- | --- | | B. | $81,000 |  |  |  | | --- | --- | | C. | $83,505 |  |  |  | | --- | --- | | D. | $92,046 | |

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| 29. | The amount of Personnel Department cost that would be allocated to Producing Department 2 under the direct method is closest to:      |  |  | | --- | --- | | A. | $0 |  |  |  | | --- | --- | | B. | $261,000 |  |  |  | | --- | --- | | C. | $269,072 |  |  |  | | --- | --- | | D. | $296,591 | |

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|  | Anders Corporation has two service departments and two operating departments. The costs of the Personnel Department are allocated to other departments on the basis of the number of employees in the departments. Departments and number of employees are as follows:      Costs in the Personnel Department total $882,000 per year. |

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| 30. | Suppose the company uses the step-down method and Personnel Department costs are allocated first. The amount of this cost allocated to the Engineering Department would be:      |  |  | | --- | --- | | A. | $70,560 |  |  |  | | --- | --- | | B. | $0 |  |  |  | | --- | --- | | C. | $72,000 |  |  |  | | --- | --- | | D. | $78,400 | |

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| 31. | Suppose the company uses the direct method of allocation. The amount of Personnel Department cost that would be allocated to Operating Department 2 would be:      |  |  | | --- | --- | | A. | $0 |  |  |  | | --- | --- | | B. | $294,000 |  |  |  | | --- | --- | | C. | $270,000 |  |  |  | | --- | --- | | D. | $264,600 | |

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|  | Apex Corporation has two service departments and two operating departments. The costs of the Personnel department (a service department) are allocated to other departments on the basis of the number of employees in the other departments. Departments and number of employees are as follows:      Costs in the Personnel Department total $777,000 for the year. |

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| 32. | Suppose the company uses the step-down method of allocation and Personnel Department costs are allocated first. The amount of this cost allocated to the Engineering Department under the step-down method would be:      |  |  | | --- | --- | | A. | $466,200 |  |  |  | | --- | --- | | B. | $55,500 |  |  |  | | --- | --- | | C. | $0 |  |  |  | | --- | --- | | D. | $58,275 | |

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| 33. | The amount of Personnel Department cost that would be allocated to Operating Department 2 under the direct method would be:      |  |  | | --- | --- | | A. | $0 |  |  |  | | --- | --- | | B. | $388,500 |  |  |  | | --- | --- | | C. | $420,000 |  |  |  | | --- | --- | | D. | $370,000 | |

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|  | Spacer Corporation has two service departments and two operating departments. Budgeted costs and budgeted activity in the various departments for last year are shown below:      Service department costs are allocated to operating departments with the costs of Custodial Services allocated on the basis of square feet of space occupied and the costs of the Cafeteria on the basis of number of employees. The departmental costs for the cutting and assembly departments are overhead costs. Predetermined overhead rates in the Cutting and Assembly departments are based on machine-hours. |

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| 34. | Assume that the company uses the direct method of allocation. The amount of Custodial Services cost allocated to the Cutting Department would be:      |  |  | | --- | --- | | A. | $0 |  |  |  | | --- | --- | | B. | $20,160 |  |  |  | | --- | --- | | C. | $22,400 |  |  |  | | --- | --- | | D. | $19,200 | |

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| 35. | Assume that the company uses the direct method of allocation. The predetermined overhead rate in the Assembly Department would be closest to:      |  |  | | --- | --- | | A. | $15.00 |  |  |  | | --- | --- | | B. | $16.27 |  |  |  | | --- | --- | | C. | $15.87 |  |  |  | | --- | --- | | D. | $16.00 | |

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| 36. | Assume that the company uses the step-down method of allocation with Custodial Services allocated first. The amount of Custodial Services cost allocated to the Assembly Department would be:      |  |  | | --- | --- | | A. | $0 |  |  |  | | --- | --- | | B. | $28,000 |  |  |  | | --- | --- | | C. | $24,000 |  |  |  | | --- | --- | | D. | $25,200 | |

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| 37. | Assume that the company uses the step-down method of allocation with Custodial Services allocated first. The amount of cost allocated from the Cafeteria to the Cutting Department would be:      |  |  | | --- | --- | | A. | $0 |  |  |  | | --- | --- | | B. | $12,000 |  |  |  | | --- | --- | | C. | $14,160 |  |  |  | | --- | --- | | D. | $12,390 | |

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| 38. | Assume that the company uses the step-down method of allocation with Custodial Services allocated first. The amount of cost allocated from the Cafeteria to Custodial Services would be:      |  |  | | --- | --- | | A. | $0 |  |  |  | | --- | --- | | B. | $1,652 |  |  |  | | --- | --- | | C. | $1,400 |  |  |  | | --- | --- | | D. | $1,514 | |

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|  | Mallery Legal Services, LLC, uses the step-down method to allocate service department costs to operating departments. The firm has two service departments, Personnel and Information Technology (IT), and two operating departments, Family Law and Corporate Law. Data concerning those departments follow:      Personnel costs are allocated first on the basis of employees and IT costs are allocated second on the basis of PCs. |

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| 39. | In the first step of the allocation, the amount of Personnel Department cost allocated to the Family Law Department is closest to:      |  |  | | --- | --- | | A. | $36,543 |  |  |  | | --- | --- | | B. | $32,702 |  |  |  | | --- | --- | | C. | $66,819 |  |  |  | | --- | --- | | D. | $33,925 | |

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| 40. | The total Corporate Law Department cost after allocations is closest to:      |  |  | | --- | --- | | A. | $413,367 |  |  |  | | --- | --- | | B. | $368,946 |  |  |  | | --- | --- | | C. | $422,931 |  |  |  | | --- | --- | | D. | $423,304 | |

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|  | Silcott Corporation, a manufacturer, uses the step-down method to allocate service department costs to operating departments. The company has two service departments, Administration and Facilities, and two operating departments, Assembly and Finishing. Data concerning those departments follow:      Administration Department costs are allocated first on the basis of labor hours and Facilities Department costs are allocated second on the basis of space occupied. |

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| 41. | In the first step of the allocation, the amount of Administration Department cost allocated to the Assembly Department is closest to:      |  |  | | --- | --- | | A. | $19,823 |  |  |  | | --- | --- | | B. | $17,214 |  |  |  | | --- | --- | | C. | $18,690 |  |  |  | | --- | --- | | D. | $12,384 | |

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| 42. | The total Finishing Department cost after allocations is closest to:      |  |  | | --- | --- | | A. | $460,190 |  |  |  | | --- | --- | | B. | $471,275 |  |  |  | | --- | --- | | C. | $470,870 |  |  |  | | --- | --- | | D. | $468,994 | |

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|  | Weidert Clinic uses the step-down method to allocate service department costs to operating departments. The clinic has two service departments, Personnel and Information Technology (IT), and two operating departments, Family Medicine and Geriatric Medicine. Data concerning those departments follow:      Personnel costs are allocated first on the basis of employees and IT costs are allocated second on the basis of PCs. |

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| 43. | In the first step of the allocation, the amount of Personnel Department cost allocated to the Family Medicine Department is closest to:      |  |  | | --- | --- | | A. | $26,555 |  |  |  | | --- | --- | | B. | $56,343 |  |  |  | | --- | --- | | C. | $28,875 |  |  |  | | --- | --- | | D. | $25,788 | |

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| 44. | The total Geriatric Medicine Department cost after allocations is closest to:      |  |  | | --- | --- | | A. | $338,117 |  |  |  | | --- | --- | | B. | $338,676 |  |  |  | | --- | --- | | C. | $328,768 |  |  |  | | --- | --- | | D. | $292,616 | |

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|  | Mcbrien Corporation uses the step-down method to allocate service department costs to operating departments. The company has two service departments, Service Department A and Service Department B, and two operating departments, Operating Department X and Operating Department Y. Data concerning those departments follow:      Service Department A costs are allocated first on the basis of allocation base A and Service Department B costs are allocated second on the basis of allocation base B. |

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| 45. | In the first step of the allocation, the amount of Service Department A cost allocated to the Operating Department X is closest to:      |  |  | | --- | --- | | A. | $17,600 |  |  |  | | --- | --- | | B. | $13,235 |  |  |  | | --- | --- | | C. | $15,804 |  |  |  | | --- | --- | | D. | $18,438 | |

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| 46. | The total Operating Department Y cost after allocations is closest to:      |  |  | | --- | --- | | A. | $242,941 |  |  |  | | --- | --- | | B. | $242,740 |  |  |  | | --- | --- | | C. | $237,240 |  |  |  | | --- | --- | | D. | $241,816 | |

**Essay Questions**

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| 47. | Catoire Consultancy uses the direct method to allocate its service department costs to its operating departments. The company has two service departments, Information Technology and Administration, and two operating departments, Corporate Practice and Government Practice. Data concerning those departments follow:      Information Technology Department costs are allocated on the basis of computers and Administration Department costs are allocated on the basis of employees.  **Required:**  Allocate the service department costs to the operating departments using the direct method. |

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| 48. | The direct method is used by Ohair Clinic to allocate its service department costs to its operating departments. Data concerning those departments follow:      Information Technology costs are allocated on the basis of computers and Personnel costs are allocated on the basis of employees.  **Required:**  Allocate the service department costs to the operating departments using the direct method. |

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| 49. | Mitri Corporation uses the direct method to allocate service department costs to operating departments. The company has two service departments, Administrative and Facilities, and two operating departments, Assembly and Finishing.      Administrative Department costs are allocated on the basis of employee hours and Facilities Department costs are allocated on the basis of space occupied.  **Required:**  Allocate the service department costs to the operating departments using the direct method. |

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| 50. | Mazon Corporation uses the direct method to allocate its two service department costs to its two operating departments. Data concerning those departments follow:      Service Department A costs are allocated on the basis of allocation base A and Service Department B costs are allocated on the basis of allocation base B.  **Required:**  Allocate the service department costs to the operating departments using the direct method. |

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| 51. | Delta Manufacturing Company has two service departments, Custodial Services and Maintenance, and three production departments, Cutting, Milling, and Assembly. Delta allocates the cost of Custodial Services on the basis of square footage and Maintenance on the basis of labor-hours. No distinction is made between variable and fixed costs. Budgeted operating data for the year just completed follow:      **Required:**  a. Prepare a schedule to allocate service department costs to the production departments by the direct method (round all dollar amounts to the nearest whole dollar). b. Prepare a schedule to allocate service department costs to the production departments by the step-down method, allocating Custodial Services first (round all amounts to the nearest whole dollar). |

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| 52. | Vercher Natal Clinic uses the step-down method to allocate service department costs to operating departments. The clinic has two service departments, Administration and Information Technology (IT), and two operating departments, Prenatal Care and Postnatal Care.      Administration Department costs are allocated first on the basis of employees and IT Department costs are allocated second on the basis of computers.  **Required:**  Allocate the service department costs to the operating departments using the step-down method. |

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| 53. | Beames Emergency Care Hospital uses the step-down method to allocate service department costs to operating departments. The hospital has two service departments, Administration and Information Technology (IT), and two operating departments, Emergency Room and Intensive Care.      Administration Department costs are allocated first on the basis of employees and IT Department costs are allocated second on the basis of computers.  **Required:**  Allocate the service department costs to the operating departments using the step-down method. |

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| 54. | Snopek Corporation uses the step-down method to allocate service department costs to operating departments. The company has two service departments, Administration and Facilities, and two operating departments, Assembly and Finishing.      Administration Department costs are allocated first on the basis of employee time and Facilities Department costs are allocated second on the basis of space occupied.  **Required:**  Allocate the service department costs to the operating departments using the step-down method. |

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| 55. | Vitro Corporation has two service departments, Service Department A and Service Department B, and two operating departments, Operating Department X and Operating Department Y.      The company uses the step-down method to allocate service department costs to operating departments. Service Department A costs are allocated first on the basis of allocation base A and Service Department B costs are allocated second on the basis of allocation base B.  **Required:**  Allocate the service department costs to the operating departments using the step-down method. |

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| 56. | Flinders Company has two service departments, Factory Administration and Maintenance, and two operating departments. Selected information relating to these departments is given below:      The company allocates service department costs by the step-down method. Costs of Factory Administration are allocated first on the basis of number of employees, and then costs of Maintenance are allocated on the basis of total labor hours.  **Required:**  Prepare a schedule showing the allocation of service department costs to other departments. |

Appendix 04B Service Department Allocations Answer Key

**True / False Questions**

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| 1. | The step-down method allocates less total cost to operating departments than does the direct method.    **FALSE** |

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| *AACSB: Reflective Thinking AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Understand Difficulty: 2 Medium Learning Objective: 04B-10 Allocate service department costs to operating departments using the direct method. Learning Objective: 04B-11 Allocate service department costs to operating departments using the step-down method.* |

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| 2. | The step-down method of allocation is simpler and easier to apply than the direct method.    **FALSE** |

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| *AACSB: Reflective Thinking AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Understand Difficulty: 2 Medium Learning Objective: 04B-10 Allocate service department costs to operating departments using the direct method. Learning Objective: 04B-11 Allocate service department costs to operating departments using the step-down method.* |

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| 3. | The order in which the costs of service departments are allocated will affect the amounts allocated to an operating department when the step-down method is used.    **TRUE** |

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| *AACSB: Reflective Thinking AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Understand Difficulty: 2 Medium Learning Objective: 04B-11 Allocate service department costs to operating departments using the step-down method.* |

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| 4. | Under the step-down method, once a service department's costs have been allocated to other departments, no costs should be reallocated back to the service department.    **TRUE** |

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| *AACSB: Reflective Thinking AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Understand Difficulty: 2 Medium Learning Objective: 04B-11 Allocate service department costs to operating departments using the step-down method.* |

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| 5. | The step-down method of allocating service department costs takes into account some, but not all, of the reciprocal services that service departments provide to each other.    **TRUE** |

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| *AACSB: Reflective Thinking AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Remember Difficulty: 1 Easy Learning Objective: 04B-11 Allocate service department costs to operating departments using the step-down method.* |

**Multiple Choice Questions**

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| 6. | A company has several service departments that provide differing amounts of service to each other and to the company's operating departments. Which of the following statements is true?      |  |  | | --- | --- | | A. | The direct method and the step-down method will result in the same amount of cost being allocated to each operating department. |  |  |  | | --- | --- | | **B.** | The direct method will result in the same amount of cost being allocated to each operating department regardless of which service department is allocated first. |  |  |  | | --- | --- | | C. | The step-down method will result in the same amount of cost being allocated to each operating department regardless of which service department is allocated first. |  |  |  | | --- | --- | | D. | The direct method is more accurate than the step-down method when service departments provide services to each other. | |

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| *AACSB: Reflective Thinking AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Understand Difficulty: 2 Medium Learning Objective: 04B-10 Allocate service department costs to operating departments using the direct method. Learning Objective: 04B-11 Allocate service department costs to operating departments using the step-down method.* |

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| 7. | Gustavson Corporation uses the direct method to allocate service department costs to operating departments. The company has two service departments, Administrative and Facilities, and two operating departments, Assembly and Wholesaling.      Administrative costs are allocated on the basis of employee hours and Facilities costs are allocated on the basis of space occupied. The total Wholesaling Department cost after the allocations of service department costs is closest to:      |  |  | | --- | --- | | A. | $337,530 |  |  |  | | --- | --- | | B. | $331,090 |  |  |  | | --- | --- | | **C.** | $340,240 |  |  |  | | --- | --- | | D. | $340,426 |   Allocation base for Administrative costs = 29,000 + 15,000 = 44,000 Allocation base for Facilities costs = 30,000 + 6,000 = 36,000 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 1 Easy Learning Objective: 04B-10 Allocate service department costs to operating departments using the direct method.* |

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| 8. | Dubey Surgical Hospital uses the direct method to allocate service department costs to operating departments. The hospital has two service departments, Telecommunications and Administration, and two operating departments, Surgery and Recovery.      Telecommunications Department costs are allocated on the basis of the number of telecommunications ports in departments and Administration Department costs are allocated on the basis of employees. The total Surgery Department cost after service department allocations is closest to:      |  |  | | --- | --- | | A. | $481,336 |  |  |  | | --- | --- | | **B.** | $484,059 |  |  |  | | --- | --- | | C. | $473,169 |  |  |  | | --- | --- | | D. | $478,133 |   Allocation base for Telecommunication costs = 56 + 49 = 105 Allocation base for Administration costs = 65 + 42 = 107 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 1 Easy Learning Objective: 04B-10 Allocate service department costs to operating departments using the direct method.* |

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| 9. | Bagley Corporation has two service departments and two operating departments. The space occupied by each department follows:      The fixed costs of Custodial Services are allocated on the basis of square feet. If these costs are budgeted at $38,000, the amount of cost allocated to General Administration under the direct method would be:      |  |  | | --- | --- | | **A.** | $0 |  |  |  | | --- | --- | | B. | $5,700 |  |  |  | | --- | --- | | C. | $6,000 |  |  |  | | --- | --- | | D. | $7,125 |   When the direct method is used, none of the service department costs are allocated to each other. |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 1 Easy Learning Objective: 04B-10 Allocate service department costs to operating departments using the direct method.* |

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| 10. | Vota Clinic uses the direct method to allocate service department costs to operating departments. The clinic has two service departments, Personnel and Support, and two operating departments, Prenatal and Pediatrics.      Personnel Department costs are allocated on the basis of employee hours and Support Department costs are allocated on the basis of space occupied in square feet. The total Pediatrics Department cost after the allocations of service department costs is closest to:      |  |  | | --- | --- | | A. | $432,159 |  |  |  | | --- | --- | | B. | $428,724 |  |  |  | | --- | --- | | **C.** | $431,400 |  |  |  | | --- | --- | | D. | $422,160 |   Allocation base for Personnel costs = 20,000 + 12,000 = 32,000 Allocation base for Support costs = 38,000 + 8,000 = 46,000 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 1 Easy Learning Objective: 04B-10 Allocate service department costs to operating departments using the direct method.* |

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| 11. | The direct method is used by Adamski Publishing, Inc., to allocate service department costs to operating departments. The company has two service departments, Information Technology and Personnel, and two operating departments, Prepress and Printing.      Information Technology Department costs are allocated on the basis of computer workstations and Personnel Department costs are allocated on the basis of employees. The total Prepress Department cost after service department allocations is closest to:      |  |  | | --- | --- | | A. | $459,351 |  |  |  | | --- | --- | | B. | $455,856 |  |  |  | | --- | --- | | C. | $450,938 |  |  |  | | --- | --- | | **D.** | $461,782 |   Allocation base for Information Technology costs = 52 + 44 = 96 Allocation base for Facilities costs = 68 + 38 = 106 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 1 Easy Learning Objective: 04B-10 Allocate service department costs to operating departments using the direct method.* |

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| 12. | Stoffle Corporation uses the direct method to allocate service department costs to operating departments. The company has two service departments, Data Processing and Personnel, and two operating departments, Assembly and Finishing.      Data Processing Department costs are allocated on the basis of computer workstations and Personnel Department costs are allocated on the basis of employees. The total amount of Data Processing Department cost allocated to the two operating departments is closest to:      |  |  | | --- | --- | | A. | $169,600 |  |  |  | | --- | --- | | B. | $35,787 |  |  |  | | --- | --- | | C. | $29,552 |  |  |  | | --- | --- | | **D.** | $39,402 |   Data Processing costs to be allocated = $39,402 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 1 Easy Learning Objective: 04B-10 Allocate service department costs to operating departments using the direct method.* |

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| 13. | Pujol Children's Clinic allocates service department costs to operating departments using the step-down method. The clinic has two service departments, Administration and Information Technology (IT), and two operating departments, Prenatal and Pediatric. Data concerning those departments follow:      Administration costs are allocated first on the basis of employees and IT costs are allocated second on the basis of PCs. The total Pediatric Department cost after allocations is closest to:      |  |  | | --- | --- | | **A.** | $370,790 |  |  |  | | --- | --- | | B. | $328,202 |  |  |  | | --- | --- | | C. | $361,823 |  |  |  | | --- | --- | | D. | $370,659 |   Allocation base for Administration costs = 26 + 131 + 169 = 326 Allocation base for IT costs = 120 + 168 = 288 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 1 Easy Learning Objective: 04B-11 Allocate service department costs to operating departments using the step-down method.* |

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| 14. | Prophit Clinic uses the step-down method to allocate service department costs to operating departments. The clinic has two service departments, Personnel and Information Technology (IT), and two operating departments, Family Medicine and Pediatrics. Data concerning those departments follow:      Personnel costs are allocated first on the basis of employees and IT costs are allocated second on the basis of PCs. The total Pediatrics Department cost after allocations is closest to:      |  |  | | --- | --- | | A. | $231,638 |  |  |  | | --- | --- | | B. | $223,132 |  |  |  | | --- | --- | | **C.** | $232,286 |  |  |  | | --- | --- | | D. | $182,936 |   Allocation base for Personnel costs = 23 + 106 + 175 = 304 Allocation base for IT costs = 66 + 172 = 238 |

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| 15. | Grable Corporation uses the step-down method to allocate service department costs to operating departments. The company has two service departments, General Management and Physical Plant, and two operating departments, Sales and After-Sales. Data concerning those departments follow:      General Management Department costs are allocated first on the basis of employee time and Physical Plant Department costs are allocated second on the basis of space occupied. The total After-Sales Department cost after allocations is closest to:      |  |  | | --- | --- | | **A.** | $309,430 |  |  |  | | --- | --- | | B. | $306,713 |  |  |  | | --- | --- | | C. | $293,590 |  |  |  | | --- | --- | | D. | $309,883 |   Allocation base for General Management costs = 2,000 + 26,000 + 16,000 = 44,000 Allocation base for Physical Plant costs = 39,000 + 7,000 = 46,000 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 1 Easy Learning Objective: 04B-11 Allocate service department costs to operating departments using the step-down method.* |

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| 16. | Castle Corporation has two service departments and two operating departments. The number of employees in each department are:      The fixed costs of the Personnel Department are allocated on the basis of the number of employees. If these costs are budgeted at $37,125, the amount of cost allocated to the Cafeteria under the step-down method would be:      |  |  | | --- | --- | | A. | $0 |  |  |  | | --- | --- | | **B.** | $1,718.75 |  |  |  | | --- | --- | | C. | $1,687.50 |  |  |  | | --- | --- | | D. | $1,802.18 |   Allocation rate for Personnel Department services costs = Cost to be allocated ÷ Allocation base = $37,125 ÷ (25 employees + 265 employees + 250 employees) = $68.75 per employee Personnel Department cost allocated to the Cafeteria = $68.75 per employee × 25 employees = $1,718.75 |

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| 17. | Cieslak, Inc., allocates service department costs to operating departments using the step-down method. The company has two service departments, Administration and Physical Plant, and two operating departments, Assembly and Testing. Data concerning those departments follow:      Administration Department costs are allocated first on the basis of employee time and Physical Plant Department costs are allocated second on the basis of space occupied. The total Testing Department cost after allocations is closest to:      |  |  | | --- | --- | | A. | $623,963 |  |  |  | | --- | --- | | B. | $622,864 |  |  |  | | --- | --- | | **C.** | $623,760 |  |  |  | | --- | --- | | D. | $613,680 |   Allocation base for Administration costs = 1,000 + 30,000 + 16,000 = 47,000 Allocation base for Physical Plant costs = 38,000 + 1,000 = 39,000 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 1 Easy Learning Objective: 04B-11 Allocate service department costs to operating departments using the step-down method.* |

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|  | Forbs Corporation uses the direct method to allocate service department costs to operating departments. The company has two service departments, Information Technology and Personnel, and two operating departments, Fabrication and Customization.      Information Technology Department costs are allocated on the basis of computer workstations and Personnel Department costs are allocated on the basis of employees. |

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| 18. | The total amount of Information Technology Department cost allocated to the two operating departments is closest to:      |  |  | | --- | --- | | A. | $28,679 |  |  |  | | --- | --- | | **B.** | $32,334 |  |  |  | | --- | --- | | C. | $23,391 |  |  |  | | --- | --- | | D. | $126,849 |   Information Technology costs to be allocated = $32,334 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 1 Easy Learning Objective: 04B-10 Allocate service department costs to operating departments using the direct method.* |

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| 19. | The total Fabrication Department cost after service department allocations is closest to:      |  |  | | --- | --- | | A. | $468,492 |  |  |  | | --- | --- | | B. | $472,372 |  |  |  | | --- | --- | | **C.** | $477,287 |  |  |  | | --- | --- | | D. | $475,388 |   Allocation base for Information Technology costs = 53 + 49 = 102 Allocation base for Support costs = 79 + 45 = 124 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 1 Easy Learning Objective: 04B-10 Allocate service department costs to operating departments using the direct method.* |

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|  | Trupp Surgical Hospital uses the direct method to allocate service department costs to operating departments. The hospital has two service departments, Information Technology and Administration, and two operating departments, Surgery and Recovery.      Information Technology Department costs are allocated on the basis of computer workstations and Administration Department costs are allocated on the basis of employees. |

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| 20. | The total amount of Information Technology Department cost allocated to the two operating departments is closest to:      |  |  | | --- | --- | | A. | $30,097 |  |  |  | | --- | --- | | B. | $134,836 |  |  |  | | --- | --- | | C. | $24,605 |  |  |  | | --- | --- | | **D.** | $33,048 |   Information Technology costs to be allocated = $33,048 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 1 Easy Learning Objective: 04B-10 Allocate service department costs to operating departments using the direct method.* |

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| 21. | The total Surgery Department cost after service department allocations is closest to:      |  |  | | --- | --- | | **A.** | $540,968 |  |  |  | | --- | --- | | B. | $539,348 |  |  |  | | --- | --- | | C. | $535,993 |  |  |  | | --- | --- | | D. | $532,067 |   Allocation base for Information Technology costs = 56 + 46 = 102 Allocation base for Administration costs = 81 + 42 = 123 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 1 Easy Learning Objective: 04B-10 Allocate service department costs to operating departments using the direct method.* |

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|  | Sikorski Corporation has two service departments, Administrative and Facilities, and two operating departments, Assembly and Customer Solutions.      The company uses the direct method to allocate service department costs to operating departments. Administrative costs are allocated on the basis of employee hours and Facilities costs are allocated on the basis of space occupied. |

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| 22. | The total amount of Administrative Department cost allocated to the Assembly Department is closest to:      |  |  | | --- | --- | | A. | $22,598 |  |  |  | | --- | --- | | B. | $22,838 |  |  |  | | --- | --- | | **C.** | $24,360 |  |  |  | | --- | --- | | D. | $24,039 |   Allocation base for Administrative costs = 29,000 + 46,000 = 75,000 Allocation base for Facilities costs = 33,000 + 59,000 = 92,000 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 1 Easy Learning Objective: 04B-10 Allocate service department costs to operating departments using the direct method.* |

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| 23. | The total Customer Solutions Department cost after the allocations of service department costs is closest to:      |  |  | | --- | --- | | A. | $2,851,990 |  |  |  | | --- | --- | | B. | $2,921,486 |  |  |  | | --- | --- | | C. | $2,878,917 |  |  |  | | --- | --- | | **D.** | $2,890,630 |   Allocation base for Administrative costs = 29,000 + 46,000 = 75,000 Allocation base for Facilities costs = 33,000 + 59,000 = 92,000 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 1 Easy Learning Objective: 04B-10 Allocate service department costs to operating departments using the direct method.* |

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|  | Hallford Clinic has two service departments, Administrative and Support, and two operating departments, Adult Medicine and Pediatrics.      The clinic uses the direct method to allocate service department costs to operating departments. Administrative Department costs are allocated on the basis of employee hours and Support Department costs are allocated on the basis of space occupied in square feet. |

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| 24. | The total amount of Administrative Department cost allocated to the Adult Medicine Department is closest to:      |  |  | | --- | --- | | A. | $31,019 |  |  |  | | --- | --- | | B. | $20,520 |  |  |  | | --- | --- | | **C.** | $21,600 |  |  |  | | --- | --- | | D. | $18,240 |   Allocation base for Administrative costs = 24,000 + 14,000 = 38,000 Allocation base for Support costs = 39,000 + 4,000 = 43,000 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 1 Easy Learning Objective: 04B-10 Allocate service department costs to operating departments using the direct method.* |

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| 25. | The total Pediatrics Department cost after the allocations of service department costs is closest to:      |  |  | | --- | --- | | A. | $521,388 |  |  |  | | --- | --- | | B. | $519,234 |  |  |  | | --- | --- | | C. | $509,100 |  |  |  | | --- | --- | | **D.** | $521,700 |   Allocation base for Administrative costs = 24,000 + 14,000 = 38,000 Allocation base for Support costs = 39,000 + 4,000 = 43,000 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 1 Easy Learning Objective: 04B-10 Allocate service department costs to operating departments using the direct method.* |

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|  | The Millard Corporation has two service departments and two operating departments. The following data are available for a recent period:      Millard makes no distinction between fixed and variable costs. Costs of Service Department A are allocated on the basis of number of employees while costs of Service Department B are allocated on the basis of total labor hours. |

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| 26. | Assume Millard allocates service department costs by the direct method. After all allocations, the total amount of overhead costs in Operating Department 1 will be:      |  |  | | --- | --- | | **A.** | $155,000 |  |  |  | | --- | --- | | B. | $191,000 |  |  |  | | --- | --- | | C. | $157,100 |  |  |  | | --- | --- | | D. | $176,000 |   Allocation base for Service Department A costs = 300 + 200 = 500 Allocation base for Service Department B costs = 70,000 + 30,000 = 100,000 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 2 Medium Learning Objective: 04B-10 Allocate service department costs to operating departments using the direct method.* |

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| 27. | Assume Millard allocates service department costs by the step-down method with Service Department A allocated first. After all allocations, the total amount of overhead cost in Operating Department 2 will be closest to:      |  |  | | --- | --- | | A. | $128,000 |  |  |  | | --- | --- | | B. | $127,000 |  |  |  | | --- | --- | | C. | $154,143 |  |  |  | | --- | --- | | **D.** | $102,833 |   Allocation base for Service Department A costs = 100 + 300 + 200 = 600 Allocation base for Service Department B costs = 70,000 + 30,000 = 100,000 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 2 Medium Learning Objective: 04B-11 Allocate service department costs to operating departments using the step-down method.* |

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|  | Anderson Corporation has two service departments and two producing departments. The costs of the Personnel Department are allocated to other departments on the basis of the number of employees in the departments. Departments and number of employees are as follows: |

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| 28. | Costs in the Personnel Department total $900,000 per year. Under the step-down method, the costs of the Personnel Department are allocated before the costs of the Engineering Department are allocated. The amount of this cost allocated to the Engineering Department under the step-down method is closest to:      |  |  | | --- | --- | | A. | $0 |  |  |  | | --- | --- | | B. | $81,000 |  |  |  | | --- | --- | | **C.** | $83,505 |  |  |  | | --- | --- | | D. | $92,046 |   Allocation base for Personnel Department costs = 90 + 590 + 290 = 970 Personnel Department costs allocated to the Engineering Department = $900,000 × (90/970) = $83,505 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 2 Medium Learning Objective: 04B-10 Allocate service department costs to operating departments using the direct method. Learning Objective: 04B-11 Allocate service department costs to operating departments using the step-down method.* |

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| 29. | The amount of Personnel Department cost that would be allocated to Producing Department 2 under the direct method is closest to:      |  |  | | --- | --- | | A. | $0 |  |  |  | | --- | --- | | B. | $261,000 |  |  |  | | --- | --- | | C. | $269,072 |  |  |  | | --- | --- | | **D.** | $296,591 |   Allocation base for Personnel Department costs = 590 + 290 = 880 Personnel Department costs allocated to Producing Department 2 = $900,000 × (290/880) = $296,591 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 2 Medium Learning Objective: 04B-10 Allocate service department costs to operating departments using the direct method. Learning Objective: 04B-11 Allocate service department costs to operating departments using the step-down method.* |

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|  | Anders Corporation has two service departments and two operating departments. The costs of the Personnel Department are allocated to other departments on the basis of the number of employees in the departments. Departments and number of employees are as follows:      Costs in the Personnel Department total $882,000 per year. |

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| 30. | Suppose the company uses the step-down method and Personnel Department costs are allocated first. The amount of this cost allocated to the Engineering Department would be:      |  |  | | --- | --- | | A. | $70,560 |  |  |  | | --- | --- | | B. | $0 |  |  |  | | --- | --- | | **C.** | $72,000 |  |  |  | | --- | --- | | D. | $78,400 |   Allocation base for Personnel Department costs = 80 + 600 + 300 = 980 Personnel Department cost allocated to the Engineering Department = $882,000 × (80/980) = $72,000 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 2 Medium Learning Objective: 04B-11 Allocate service department costs to operating departments using the step-down method.* |

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| 31. | Suppose the company uses the direct method of allocation. The amount of Personnel Department cost that would be allocated to Operating Department 2 would be:      |  |  | | --- | --- | | A. | $0 |  |  |  | | --- | --- | | **B.** | $294,000 |  |  |  | | --- | --- | | C. | $270,000 |  |  |  | | --- | --- | | D. | $264,600 |   Allocation base for Personnel Department costs = 600 + 300 = 900 Personnel Department cost allocated to the Operating Department 2 = $882,000 × (300/900) = $294,000 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 2 Medium Learning Objective: 04B-10 Allocate service department costs to operating departments using the direct method.* |

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|  | Apex Corporation has two service departments and two operating departments. The costs of the Personnel department (a service department) are allocated to other departments on the basis of the number of employees in the other departments. Departments and number of employees are as follows:      Costs in the Personnel Department total $777,000 for the year. |

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| 32. | Suppose the company uses the step-down method of allocation and Personnel Department costs are allocated first. The amount of this cost allocated to the Engineering Department under the step-down method would be:      |  |  | | --- | --- | | A. | $466,200 |  |  |  | | --- | --- | | B. | $55,500 |  |  |  | | --- | --- | | C. | $0 |  |  |  | | --- | --- | | **D.** | $58,275 |   Allocation base = 15 + 85 + 100 = 200 Personnel Department costs allocated to the Engineering Department = $777,000 × (15/200) = $58,275 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 2 Medium Learning Objective: 04B-11 Allocate service department costs to operating departments using the step-down method.* |

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| 33. | The amount of Personnel Department cost that would be allocated to Operating Department 2 under the direct method would be:      |  |  | | --- | --- | | A. | $0 |  |  |  | | --- | --- | | B. | $388,500 |  |  |  | | --- | --- | | **C.** | $420,000 |  |  |  | | --- | --- | | D. | $370,000 |   Allocation base = 85 + 100 = 185 Personnel Department costs allocated to Operating Department 2 = $777,000 × (100/185) = $420,000 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 2 Medium Learning Objective: 04B-10 Allocate service department costs to operating departments using the direct method.* |

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|  | Spacer Corporation has two service departments and two operating departments. Budgeted costs and budgeted activity in the various departments for last year are shown below:      Service department costs are allocated to operating departments with the costs of Custodial Services allocated on the basis of square feet of space occupied and the costs of the Cafeteria on the basis of number of employees. The departmental costs for the cutting and assembly departments are overhead costs. Predetermined overhead rates in the Cutting and Assembly departments are based on machine-hours. |

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| 34. | Assume that the company uses the direct method of allocation. The amount of Custodial Services cost allocated to the Cutting Department would be:      |  |  | | --- | --- | | A. | $0 |  |  |  | | --- | --- | | B. | $20,160 |  |  |  | | --- | --- | | **C.** | $22,400 |  |  |  | | --- | --- | | D. | $19,200 |   Direct method Allocation base for Custodial Services costs = 4,000 + 5,000 = 9,000 Allocation base for Cafeteria costs = 75 + 100 = 175 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 2 Medium Learning Objective: 04B-10 Allocate service department costs to operating departments using the direct method.* |

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| 35. | Assume that the company uses the direct method of allocation. The predetermined overhead rate in the Assembly Department would be closest to:      |  |  | | --- | --- | | A. | $15.00 |  |  |  | | --- | --- | | **B.** | $16.27 |  |  |  | | --- | --- | | C. | $15.87 |  |  |  | | --- | --- | | D. | $16.00 |   Direct method Allocation base for Custodial Services costs = 4,000 + 5,000 = 9,000 Allocation base for Cafeteria costs = 75 + 100 = 175    Predetermined overhead rate = $244,000 ÷ 15,000 MHs = $16.27 per MH |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 3 Hard Learning Objective: 04B-10 Allocate service department costs to operating departments using the direct method.* |

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| 36. | Assume that the company uses the step-down method of allocation with Custodial Services allocated first. The amount of Custodial Services cost allocated to the Assembly Department would be:      |  |  | | --- | --- | | A. | $0 |  |  |  | | --- | --- | | B. | $28,000 |  |  |  | | --- | --- | | C. | $24,000 |  |  |  | | --- | --- | | **D.** | $25,200 |   Step-down method Allocation base for Custodial Services costs = 1,000 + 4,000 + 5,000 = 10,000 Allocation base for Cafeteria costs = 75 + 100 = 175 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 2 Medium Learning Objective: 04B-11 Allocate service department costs to operating departments using the step-down method.* |

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| 37. | Assume that the company uses the step-down method of allocation with Custodial Services allocated first. The amount of cost allocated from the Cafeteria to the Cutting Department would be:      |  |  | | --- | --- | | A. | $0 |  |  |  | | --- | --- | | B. | $12,000 |  |  |  | | --- | --- | | **C.** | $14,160 |  |  |  | | --- | --- | | D. | $12,390 |   Step-down method Allocation base for Custodial Services costs = 1,000 + 4,000 + 5,000 = 10,000 Allocation base for Cafeteria costs = 75 + 100 = 175 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 2 Medium Learning Objective: 04B-11 Allocate service department costs to operating departments using the step-down method.* |

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| 38. | Assume that the company uses the step-down method of allocation with Custodial Services allocated first. The amount of cost allocated from the Cafeteria to Custodial Services would be:      |  |  | | --- | --- | | **A.** | $0 |  |  |  | | --- | --- | | B. | $1,652 |  |  |  | | --- | --- | | C. | $1,400 |  |  |  | | --- | --- | | D. | $1,514 |   Step-down method Allocation base for Custodial Services costs = 1,000 + 4,000 + 5,000 = 10,000 Allocation base for Cafeteria costs = 75 + 100 = 175 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 2 Medium Learning Objective: 04B-11 Allocate service department costs to operating departments using the step-down method.* |

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|  | Mallery Legal Services, LLC, uses the step-down method to allocate service department costs to operating departments. The firm has two service departments, Personnel and Information Technology (IT), and two operating departments, Family Law and Corporate Law. Data concerning those departments follow:      Personnel costs are allocated first on the basis of employees and IT costs are allocated second on the basis of PCs. |

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| 39. | In the first step of the allocation, the amount of Personnel Department cost allocated to the Family Law Department is closest to:      |  |  | | --- | --- | | A. | $36,543 |  |  |  | | --- | --- | | B. | $32,702 |  |  |  | | --- | --- | | C. | $66,819 |  |  |  | | --- | --- | | **D.** | $33,925 |   Allocation base for Personnel costs = 23 + 115 + 183 = 321 Allocation base for IT costs = 97 + 123 = 220 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 1 Easy Learning Objective: 04B-11 Allocate service department costs to operating departments using the step-down method.* |

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| 40. | The total Corporate Law Department cost after allocations is closest to:      |  |  | | --- | --- | | A. | $413,367 |  |  |  | | --- | --- | | B. | $368,946 |  |  |  | | --- | --- | | **C.** | $422,931 |  |  |  | | --- | --- | | D. | $423,304 |   Allocation base for Personnel costs = 23 + 115 + 183 = 321 Allocation base for IT costs = 97 + 123 = 220 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 1 Easy Learning Objective: 04B-11 Allocate service department costs to operating departments using the step-down method.* |

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|  | Silcott Corporation, a manufacturer, uses the step-down method to allocate service department costs to operating departments. The company has two service departments, Administration and Facilities, and two operating departments, Assembly and Finishing. Data concerning those departments follow:      Administration Department costs are allocated first on the basis of labor hours and Facilities Department costs are allocated second on the basis of space occupied. |

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| 41. | In the first step of the allocation, the amount of Administration Department cost allocated to the Assembly Department is closest to:      |  |  | | --- | --- | | A. | $19,823 |  |  |  | | --- | --- | | B. | $17,214 |  |  |  | | --- | --- | | **C.** | $18,690 |  |  |  | | --- | --- | | D. | $12,384 |   Allocation base for Administration costs = 2,000 + 21,000 + 12,000 = 35,000 Allocation base for Facilities costs = 38,000 + 6,000 = 44,000 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 1 Easy Learning Objective: 04B-11 Allocate service department costs to operating departments using the step-down method.* |

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| 42. | The total Finishing Department cost after allocations is closest to:      |  |  | | --- | --- | | A. | $460,190 |  |  |  | | --- | --- | | B. | $471,275 |  |  |  | | --- | --- | | **C.** | $470,870 |  |  |  | | --- | --- | | D. | $468,994 |   Allocation base for Administration costs = 2,000 + 21,000 + 12,000 = 35,000 Allocation base for Facilities costs = 38,000 + 6,000 = 44,000 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 1 Easy Learning Objective: 04B-11 Allocate service department costs to operating departments using the step-down method.* |

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|  | Weidert Clinic uses the step-down method to allocate service department costs to operating departments. The clinic has two service departments, Personnel and Information Technology (IT), and two operating departments, Family Medicine and Geriatric Medicine. Data concerning those departments follow:      Personnel costs are allocated first on the basis of employees and IT costs are allocated second on the basis of PCs. |

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| 43. | In the first step of the allocation, the amount of Personnel Department cost allocated to the Family Medicine Department is closest to:      |  |  | | --- | --- | | **A.** | $26,555 |  |  |  | | --- | --- | | B. | $56,343 |  |  |  | | --- | --- | | C. | $28,875 |  |  |  | | --- | --- | | D. | $25,788 |   Allocation base for Personnel costs = 27 + 113 + 196 = 336 Allocation base for IT costs = 63 + 164 = 227 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 1 Easy Learning Objective: 04B-11 Allocate service department costs to operating departments using the step-down method.* |

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| 44. | The total Geriatric Medicine Department cost after allocations is closest to:      |  |  | | --- | --- | | A. | $338,117 |  |  |  | | --- | --- | | **B.** | $338,676 |  |  |  | | --- | --- | | C. | $328,768 |  |  |  | | --- | --- | | D. | $292,616 |   Allocation base for Personnel costs = 27 + 113 + 196 = 336 Allocation base for IT costs = 63 + 164 = 227 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 1 Easy Learning Objective: 04B-11 Allocate service department costs to operating departments using the step-down method.* |

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|  | Mcbrien Corporation uses the step-down method to allocate service department costs to operating departments. The company has two service departments, Service Department A and Service Department B, and two operating departments, Operating Department X and Operating Department Y. Data concerning those departments follow:      Service Department A costs are allocated first on the basis of allocation base A and Service Department B costs are allocated second on the basis of allocation base B. |

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| 45. | In the first step of the allocation, the amount of Service Department A cost allocated to the Operating Department X is closest to:      |  |  | | --- | --- | | **A.** | $17,600 |  |  |  | | --- | --- | | B. | $13,235 |  |  |  | | --- | --- | | C. | $15,804 |  |  |  | | --- | --- | | D. | $18,438 |   Allocation base for Service Department A costs = 2,000 + 32,000 + 10,000 = 44,000 Allocation base for Service Department B costs = 34,000 + 2,000 = 36,000 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 1 Easy Learning Objective: 04B-11 Allocate service department costs to operating departments using the step-down method.* |

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| 46. | The total Operating Department Y cost after allocations is closest to:      |  |  | | --- | --- | | A. | $242,941 |  |  |  | | --- | --- | | **B.** | $242,740 |  |  |  | | --- | --- | | C. | $237,240 |  |  |  | | --- | --- | | D. | $241,816 |   Allocation base for Service Department A costs = 2,000 + 32,000 + 10,000 = 44,000 Allocation base for Service Department B costs = 34,000 + 2,000 = 36,000 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 1 Easy Learning Objective: 04B-11 Allocate service department costs to operating departments using the step-down method.* |

**Essay Questions**

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| 47. | Catoire Consultancy uses the direct method to allocate its service department costs to its operating departments. The company has two service departments, Information Technology and Administration, and two operating departments, Corporate Practice and Government Practice. Data concerning those departments follow:      Information Technology Department costs are allocated on the basis of computers and Administration Department costs are allocated on the basis of employees.  **Required:**  Allocate the service department costs to the operating departments using the direct method.     Allocation base for Information Technology costs = 57 + 39 = 96 Allocation base for Administration costs = 113 + 36 = 149 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 1 Easy Learning Objective: 04B-10 Allocate service department costs to operating departments using the direct method.* |

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| 48. | The direct method is used by Ohair Clinic to allocate its service department costs to its operating departments. Data concerning those departments follow:      Information Technology costs are allocated on the basis of computers and Personnel costs are allocated on the basis of employees.  **Required:**  Allocate the service department costs to the operating departments using the direct method.     Allocation base for Information Technology costs = 46 + 32 = 78 Allocation base for Personnel costs = 49 + 29 = 78 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 1 Easy Learning Objective: 04B-10 Allocate service department costs to operating departments using the direct method.* |

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| 49. | Mitri Corporation uses the direct method to allocate service department costs to operating departments. The company has two service departments, Administrative and Facilities, and two operating departments, Assembly and Finishing.      Administrative Department costs are allocated on the basis of employee hours and Facilities Department costs are allocated on the basis of space occupied.  **Required:**  Allocate the service department costs to the operating departments using the direct method.     Allocation base for Administrative costs = 27,000 + 19,000 = 46,000 Allocation base for Facilities costs = 35,000 + 2,000 = 37,000 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 1 Easy Learning Objective: 04B-10 Allocate service department costs to operating departments using the direct method.* |

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| 50. | Mazon Corporation uses the direct method to allocate its two service department costs to its two operating departments. Data concerning those departments follow:      Service Department A costs are allocated on the basis of allocation base A and Service Department B costs are allocated on the basis of allocation base B.  **Required:**  Allocate the service department costs to the operating departments using the direct method.     Allocation base for Service Department A costs = 20,000 + 10,000 = 30,000 Allocation base for Service Department B costs = 38,000 + 3,000 = 41,000 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 1 Easy Learning Objective: 04B-10 Allocate service department costs to operating departments using the direct method.* |

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| 51. | Delta Manufacturing Company has two service departments, Custodial Services and Maintenance, and three production departments, Cutting, Milling, and Assembly. Delta allocates the cost of Custodial Services on the basis of square footage and Maintenance on the basis of labor-hours. No distinction is made between variable and fixed costs. Budgeted operating data for the year just completed follow:      **Required:**  a. Prepare a schedule to allocate service department costs to the production departments by the direct method (round all dollar amounts to the nearest whole dollar). b. Prepare a schedule to allocate service department costs to the production departments by the step-down method, allocating Custodial Services first (round all amounts to the nearest whole dollar).     a. Direct Method: Allocation base for Custodial Services costs = 5,000 + 22,000 + 13,000 = 40,000 Allocation base for Maintenance costs = 4,000 + 8,000 + 8,000 = 20,000      b. Step Method Allocation base for Custodial Services costs = 10,000 + 5,000 + 22,000 + 13,000 = 50,000 Allocation base for Maintenance costs = 4,000 + 8,000 + 8,000 = 20,000 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 2 Medium Learning Objective: 04B-10 Allocate service department costs to operating departments using the direct method. Learning Objective: 04B-11 Allocate service department costs to operating departments using the step-down method.* |

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| 52. | Vercher Natal Clinic uses the step-down method to allocate service department costs to operating departments. The clinic has two service departments, Administration and Information Technology (IT), and two operating departments, Prenatal Care and Postnatal Care.      Administration Department costs are allocated first on the basis of employees and IT Department costs are allocated second on the basis of computers.  **Required:**  Allocate the service department costs to the operating departments using the step-down method.     Allocation base for Administration Department costs = 5 + 189 + 71 = 265 Allocation base for IT Department costs = 92 + 50 = 142 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 1 Easy Learning Objective: 04B-11 Allocate service department costs to operating departments using the step-down method.* |

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| 53. | Beames Emergency Care Hospital uses the step-down method to allocate service department costs to operating departments. The hospital has two service departments, Administration and Information Technology (IT), and two operating departments, Emergency Room and Intensive Care.      Administration Department costs are allocated first on the basis of employees and IT Department costs are allocated second on the basis of computers.  **Required:**  Allocate the service department costs to the operating departments using the step-down method.     Allocation base for Administration Department costs = 2 + 153 + 61 = 216 Allocation base for IT Department costs = 40 + 47 = 87 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 1 Easy Learning Objective: 04B-11 Allocate service department costs to operating departments using the step-down method.* |

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| 54. | Snopek Corporation uses the step-down method to allocate service department costs to operating departments. The company has two service departments, Administration and Facilities, and two operating departments, Assembly and Finishing.      Administration Department costs are allocated first on the basis of employee time and Facilities Department costs are allocated second on the basis of space occupied.  **Required:**  Allocate the service department costs to the operating departments using the step-down method.     Allocation base for Administration Department costs = 1,000 + 31,000 + 14,000 = 46,000 Allocation base for Facilities Department costs = 35,000 + 5,000 = 40,000 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 1 Easy Learning Objective: 04B-11 Allocate service department costs to operating departments using the step-down method.* |

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| 55. | Vitro Corporation has two service departments, Service Department A and Service Department B, and two operating departments, Operating Department X and Operating Department Y.      The company uses the step-down method to allocate service department costs to operating departments. Service Department A costs are allocated first on the basis of allocation base A and Service Department B costs are allocated second on the basis of allocation base B.  **Required:**  Allocate the service department costs to the operating departments using the step-down method.     Allocation base for Service Department A costs = 2,000 + 21,000 + 18,000 = 39,000 Allocation base for Service Department B costs = 31,000 + 3,000 = 34,000 |

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| 56. | Flinders Company has two service departments, Factory Administration and Maintenance, and two operating departments. Selected information relating to these departments is given below:      The company allocates service department costs by the step-down method. Costs of Factory Administration are allocated first on the basis of number of employees, and then costs of Maintenance are allocated on the basis of total labor hours.  **Required:**  Prepare a schedule showing the allocation of service department costs to other departments.     Allocation base for Factory Administration costs = 200 + 300 = 500 Allocation base for Maintenance costs = 400,000 + 600,000 = 1,000,000 |

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| *AACSB: Analytic AICPA BB: Critical Thinking AICPA FN: Measurement Blooms: Apply Difficulty: 2 Medium Learning Objective: 04B-11 Allocate service department costs to operating departments using the step-down method.* |