

**MULTIPLE CHOICE QUESTIONS (45 POINTS)**

1	C
2	B
3	A
4	C
5	A
6	D
7	D
8	D
9	D
10	B
11	B
12	C
13	D
14	B
15	A

16	A
17	A
18	A
19	C
20	A
21	C
22	A
23	D
24	B
25	C
26	B
27	A
28	C
29	B
30	D

**Question 1 (15 points)**

1. Compute the total cost of producing and packaging 50,000 baby seats. Also compute the average cost per seat.

Total Cost of Order and Average Cost per seat:

Direct materials: 50,000 seats × \$11.00 per seat	\$550,000
Direct labor: 10,000 DL hrs × \$25.00 per DL hour	\$250,000
Manufacture overhead	
Machining 400 machine hrs×\$30 per machine hour	\$12,000
Assembling, (50,000×20 parts)×\$0.5 per part.	\$500,000
Packaging 50,000 seats×\$0.90 per seat	45,000
Total cost of order	\$1,375,000
Divide by number of seats	÷50,000
Average cost per seat	\$ 27.14

2. For bidding, DAP adds a 30% markup to total cost. What price will the company bid for the Chrysler order?

Bid Price (ABC System)

Bid price (\$1,375,000 × 130%) = \$1,764,100

3. Suppose that instead of an ABC system, DAP has a traditional product costing system that allocates manufacturing overhead at a plant-wide overhead rate of \$65 per direct labor hour. The baby-seat order will require 10,000 direct labor hours. Compute the total cost of producing the baby seats and the average cost per seat. What price will DAP bid using this system's total cost?

3. Bid Price (Traditional System)

Direct materials: 50,000 seats × \$11.00	\$ 550,000
Direct labor: 10,000 DL hours × \$25.00 per DL hour	250,000
Manufacturing overhead: 10,000 DL hours × \$65 per DL hour	650,000
Total cost of order	<b>\$1,450,000</b>
Divide by number of seats	<u>÷ 50,000</u>
Average cost per seat	<b>\$ 29.00</b>
Bid price (\$1,450,000 × 130%)	<b>\$1,885,000</b>

4. Use your answer to 2 & 3 (above) to explain how ABC can help DAP make a better decision about the bid price it will offer Chrysler.

DAP's bid would be \$120,900 higher using the plant-wide overhead rate than using ABC (\$1,885,000 versus \$1,764,100). Assuming that the ABC system more accurately captures the costs caused by the order, the traditional plant-wide overhead system over-costs the order. This leads to higher bid price that reduces DAP's chance of winning the bid by bidding a lower price and still make a profit.

**Question 2 (20 Points)**

Prepare each of the following budgets for Adam for the year ended 2016:

**1. Production budget**

In preparing the production budget, the forecasted unit sales from the sales budget are added to the desired ending inventory to determine the total units needed; then the estimated beginning inventory is deduced from the total to determine the unit production needed.

Adam Tire Co. Production Budget for the Year Ended December 31, 2016

	Units	
	Passenger car tires	Truck tires
Sales	60,000	12,500
Plus desired ending inventory, Dec. 31	5,000	2,000
<b>Total</b>	<b>65,000</b>	<b>14,500</b>
Less estimated beginning inventory, Jan. 1	6,000	2,500
<b>Total production</b>	<b>59,000</b>	<b>12,000</b>

**2. Direct Materials Budget**

In preparing the direct material budget, the quantities of materials needed for production must be added to the desired ending inventory of materials to determine the materials needed. Then, the estimated beginning inventory must be subtracted from this total to determine the quantity of materials to be purchased.

Adam Tire Co. Direct Materials Budget for the Year Ended December 31, 2016

Quantities required for production	Direct Materials		Total
	Rubber (kg)	Steel belts (kg)	
Passenger car tires	59,000 x 15 kg= 885,000	59,000 x 2.0 kg= 118,500	
Truck tires	12,500 x 35 kg=420,000	12,000 x 4.5kg= 54,000	
Plus desired ending inventory, Dec. 31	60,000	6,000	
<b>Total</b>	<b>1,365,000</b>	<b>178,000</b>	
Less estimated beginning inventory, Jan 1	75,000	7,500	
<b>Total quantity to be purchased</b>	<b>1,290,000</b>	<b>170,500</b>	
Unit price	\$ 3	\$ 2	
<b>Total direct material purchases</b>	<b>\$3,870,000</b>	<b>\$341,000</b>	<b>\$4,211,000</b>

**3. Direct Labor Budget**

In preparing the direct labor budget, the total direct labor hours that should be worked on the product must be determined for each department and then multiplied by the wage rate for that department.

Adam Tire Co. Direct Materials Budget for the Year Ended December 31, 2016

	Department		Total
Hours required for production			
	Molding	Finishing	
Passenger car tires	59,000 x 0.10 = 5,900	59,000 x 0.05 = 2,950	
Truck tires	12,000 x 0.20 = 2,400	12,000 x 0.10 = 1,200	
Total	8,300	4,150	
Hourly rate	\$ 13	\$ 15	
Total direct labor cost	\$107,900	\$62,250	\$170,150

**4. Cost of goods Sold Budget**

The information from the direct materials, direct labor, in addition to data on desired beginning and ending inventories, is used to prepare the cost of goods budget.

Adam Tire Co. Cost of Goods Sold Budget for the Year Ended December 31, 2016

Finished goods inventory, Jan. 1		\$ 400,510
Direct materials inventory, Jan. 1	\$ 240,000	
Direct material purchases	<u>4,211,000</u>	
Total direct materials available	\$4,451,000	
Less direct material inventory, Dec. 31	<u>192,500</u>	
Cost for direct materials used	\$4,259,500	
Direct labor	170,150	
Factory overhead	553,680	
Cost of goods manufactured		4,982,830
Cost of goods available for sale		\$5,383,340
Less finished goods inventory, Dec. 31		<u>326,478</u>
Cost of goods sold		<u>\$5,056,862</u>

**Question 3 (20 Points)**

Prepare, in an appropriate format, a columnar statement that will help the managers of the hotel to plan for next year. Your statement should show the hotel's activities by season and in total.

Season	Peak	Mid	Low
Number of days	90	120	150
Price charged per room per night	(\$)100.00	80	55
Hotel room occupancy	95%	75%	50%
Average number of guests per room	1.8	1.5	1.2
No of Bedrooms 100			
Total room revenue	(\$)855,000	720,000	412,500
Guest Related Charges	12	12	12
cleaning and laundry costs	5	5	5
power and lighting costs	3	4	6
Hot Snacks usage	10%	30%	30%
Revenue hot snacks per guest per night	10	10	10
Restaurant & Bar Demand / hotel guests	30%	50%	70%
Average spending	15	20	30

<b>room revenue</b>	855,000	720,000	412,500	1,987,500	Revenue
<b>Guest related costs</b>	184,680	162,000	108,000	454,680	Cost
<b>Room related costs</b>				-	
cleaning and laundry costs	42,750	45,000	37,500	125,250	Cost
power and lighting costs	25,650	36,000	45,000	106,650	Cost
<b>Hot snacks Revenue</b>	15,390	40,500	27,000	82,890	Revenue
Hot snacks Cost	10,773	28,350	18,900	58,023	Cost
Cost of Cooks	5,000	6,667	8,333	20,000	Cost
<b>Restaurant &amp; Bar income</b>	69,255	135,000	189,000	393,255	Revenue
<b>Restaurant &amp; Bar cost</b>	51,941	101,250	141,750	294,941	Cost
<b>Cost of Chefs</b>	13,500	18,000	22,500	54,000	Cost
<b>Operating Cost</b>	300,000	400,000	500,000	1,200,000	Cost
<b>Other costs</b>	50,000	66,667	83,333	200,000	Cost
				(49,899)	