

1-1929

Students' Department

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Students' Department

H. P. BAUMANN, *Editor*

AMERICAN INSTITUTE EXAMINATIONS

(NOTE.—The fact that these solutions appear in THE JOURNAL OF ACCOUNTANCY should not cause the reader to assume that they are the official solutions of the board of examiners. They represent merely the opinion of the editor of the *Students' Department*.)

EXAMINATION IN ACCOUNTING THEORY AND PRACTICE—PART I

November 15, 1928, 1 P. M. to 6 P. M.

The candidate must answer the first three questions and one other question.

No. 1 (23 points):

From the data following, prepare profit-and-loss account for the year ended December 31, 1927. In addition thereto, show the average gross profit per pound, the selling expense per pound and the average operating profit per pound to the nearest cent.

	Pounds	Amount
Sales	2,963,915	\$988,114
Raw material consumed	3,342,730	561,715
Inventory—finished goods—Jan. 1, 1927	285,588	80,894
Manufacturing expenses		383,508
Selling expenses		34,080
Waste recovery		18,694

The closing inventory of finished goods was shown as 271,753 pounds, valued at the cost of goods manufactured during the year.

Solution:

X MANUFACTURING COMPANY

Statement of cost of goods manufactured and sold for the year ended
December 31, 1927

	Pounds	Amount	Per pound
Raw material consumed		\$561,715.00	
Manufacturing expenses		383,508.00	
Total		\$945,223.00	
<i>Less:</i> Waste recovery		18,694.00	
Cost of goods manufactured	2,950,080	\$926,529.00	\$. 314
<i>Add:</i> Inventory, January 1, 1927	285,588	80,894.00	
Total	3,235,668	\$1,007,423.00	
<i>Deduct:</i> Inventory, December 31, 1927	271,753	85,330.44	.314
Cost of goods sold	2,963,915	\$922,092.56	.311

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The number of pounds manufactured during the year was obtained as follows:

Sold	2,963,915
Add: Inventory, December 31, 1927	271,753
Total	3,235,668
Deduct: Inventory, January 1, 1927	285,588
Pounds manufactured	2,950,080

X MANUFACTURING COMPANY

Statement of profit and loss for the year ended December 31, 1927

	Amount	Per pound
Sales (2,963,915 pounds)	\$988,114.00	\$.333
Cost of goods sold	922,092.56	.311
Gross profit	\$66,021.44	\$.022
Selling expenses	34,080.00	.011
Operating profit	\$31,941.44	\$.011

No. 2 (20 points):

Albert Jones died on September 10, 1928. From the data following, found among his private papers, and from facts ascertained from other sources (also given), show how these items and any others indicated should be set forth in the accounts of the executor, distinguishing between the corpus and income of the estate.

	Cost	Market Sept. 10, 1928
\$10,000 American Telephone and Telegraph Co. sinking fund 5's. of 1960; interest dates, Jan. 1st and July 1st	\$100	\$105 $\frac{1}{8}$
5,000 Anaconda Copper Mining Co. 6's. of 1953; interest dates, Feb. 1st and Aug. 1st	97	105
5,000 Anaconda Copper Mining Co. 7% convertible debentures; interest dates, Feb. 1st and Aug. 1st	95	133 $\frac{1}{4}$
10,000 Kansas City Southern Refunding and Improvement 5's. of 1950; interest dates, Jan. 1st and July 1st	100	99 $\frac{3}{4}$

The deceased was president and sixty per cent. owner of the capital stock of the Crow Hollow Mills, Inc., which had, on September 1, 1928, declared a dividend of ten per cent. payable September 20, 1928, to stockholders of record at September 8, 1928.

The condensed balance-sheet of the company, as at August 31, 1928, and summary of earnings for five years to June 30, 1928, are as follows:

Balance-sheet	
Plant and machinery	\$100,000
Patents	50,000
Current assets	75,000
	\$225,000

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Capital stock—1,000 shares, par value \$100 each . . .	\$100,000
Accounts payable	25,000
Surplus	100,000
	<u>\$225,000</u>

Summary of earnings

Year ended June 30th	Sales	Cost	Profit before federal taxes
1928	\$265,000	\$170,000	\$95,000
1927	250,000	165,000	85,000
1926	240,000	150,000	90,000
1925	225,000	140,000	85,000
1924	200,000	125,000	75,000

Jones' account with the bank, according to his cheque book, showed a balance of \$1,978.43. The executor, notifying the bank of Jones' death and his appointment on September 11th, received a statement showing a balance of \$2,782.19.

The executor reconciled the account as follows:

Balance, as per bank	\$2,782.19
Cheques outstanding:	
Smith & Co. (tailors)	\$125.00
Collector of internal revenue (3rd quarterly instalment of tax on 1927 income)	328.76
Black & White, Inc. (Rent of apartment for September)	350.00
	<u>803.76</u>
	<u>\$1,978.43</u>

A cheque for \$397.00 to John Brown had been paid by the bank on September 10, 1928.

Solution:

An inventory of the assets of Albert Jones as of September 10, 1928, shows:

Bonds owned (valued at market, September 10, 1928):

	Par	Price	Amount
\$10,000 American Telephone and Telegraph Co. sinking-fund 5's of 1960	\$100.00	\$105 ¹ / ₈	\$10,512.50
5,000 Anaconda Copper Mining Co. 6's of 1953	100.00	105	5,250.00
5,000 Anaconda Copper Mining Co. 7% convertible debentures	100.00	133 ³ / ₄	6,662.50
10,000 Kansas City Southern refunding and improvement 5's of 1950	100.00	99 ³ / ₄	9,975.00

Accrued interest on bonds at September 10, 1928:

	Rate	Par	Days	Amount
American Telephone and Telegraph Co. sinking-fund 5's of 1960. Jan. 1st and July 1st	5%	\$10,000.00	72	\$100.00
Anaconda Copper Mining Co. 6's of 1953. Feb. 1st and Aug. 1st	6%	5,000.00	41	34.17

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	Rate	Par	Days	Amount
Anaconda Copper Mining Co. 7% convertible debentures. Feb. 1st and Aug. 1st.....	7%	5,000.00	41	\$39.86
Kansas City Southern refunding and improvement 5's of 1950. Jan. 1st and July 1st.....	5%	10,000.00	72	100.00
				<u>\$274.03</u>
Dividend on capital stock of Crow Hollow Mills, Inc., declared on September 1, 1928, 10% on 600 shares (\$100.00 par).....				6,000.00
Capital stock of Crow Hollow Mills, Inc., 600 shares, book value \$190.00 per share.....				114,000.00
Cash in bank, per bank statement.....				2,782.19
				<u>\$155,456.22</u>
<p>The marketable securities are inventoried at their true value (market price). No estimate is made as to the true value of the stock in Crow Hollow Mills, Inc., a close corporation, for although the average sales and profits for the past five years are given, the factors of management, earning power of patents, the rate of capitalization of excess earnings and other variables are unknown. For practical purposes, a tentative valuation (book value), is used for the inventory, subject to later revision.</p>				
Balance at August 31, 1928 (per balance-sheet):				
Capital stock.....				\$100,000.00
Surplus.....				100,000.00
				<u>\$200,000.00</u>
Less: 10% dividend declared September 1, 1928.....				10,000.00
				<u>\$190,000.00</u>
				<u>\$190.00</u>
<p>The following journal entry should be made and posted:</p>				
American Tel. & Tel. Co. S. F. 5's 1960.....		\$10,512.50		
Anaconda Copper Mining Co. 6's 1953.....		5,250.00		
Anaconda Copper Mining Co. 7% conv. debentures.....		6,662.50		
Kansas City Southern ref. & imp. 5's 1950.....		9,975.00		
Accrued interest on bonds (see schedule).....		274.03		
Dividends receivable.....		6,000.00		
Stock—Crow Hollow Mills, Inc.....		114,000.00		
Cash in bank.....		2,782.19		
				<u>155,456.22</u>
Estate corpus.....				<u>155,456.22</u>
To record the inventory of assets.				

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The liabilities or debts of the decedent need not be entered until authorized and paid. It will be noted that the third and fourth quarterly instalments of tax on 1927 income are unpaid.

No. 3 (30 points):

On January 1, 1925, the A company acquired 90 per cent. of the capital stock of the B company at a cost of \$800,000. At this date, B company held 80 per cent. of the capital stock of the C company. This interest had been acquired on January 1, 1922. During the period from January 1, 1922, to December 31, 1924, the profits from operations and the dividends paid were as follows:

	B Co.	C Co.
Profits from operations.....	\$200,000	\$35,000
Dividends paid.....	180,000	75,000

Companies A and B carry the investments at original cost and have not taken up the profits nor losses of the subsidiaries but have credited income with dividends received.

From the following statements, transcribed from the books of the several companies, prepare a consolidated balance-sheet as at December 31, 1927.

Balance-sheets—December 31, 1927

<i>Assets</i>	A	B	C
Cash.....	\$90,000	\$60,000	\$20,000
Accounts receivable.....	700,000	340,000	100,000
Inventories.....	400,000	200,000	75,000
Investment in B company.....	800,000		
" " C ".....		250,000	
Prepaid expenses.....	10,000	10,000	5,000
Fixed assets, less depreciation.....	1,700,000	640,000	200,000
	\$3,700,000	\$1,500,000	\$400,000
<i>Liabilities</i>			
Notes payable.....	\$400,000	\$120,000	\$100,000
Accounts payable.....	300,000	80,000	120,000
Funded debt.....	1,000,000	500,000	
Capital stock.....	1,500,000	600,000	250,000
Surplus.....	500,000	200,000	70,000*
	\$3,700,000	\$1,500,000	\$400,000

* Deficit

Surplus accounts			
	A	B	C
Balances—January 1, 1925.....	\$300,000	\$150,000	\$20,000
1925:			
Profit from operations.....	175,000	80,000	40,000
Dividends received.....	54,000	20,000	
	\$529,000	\$250,000	\$60,000
Dividends paid.....	225,000	60,000	25,000
	\$304,000	\$190,000	\$35,000
1926:			
Profit from operations.....	\$225,000	\$20,000	\$20,000*
Dividends received.....	40,500		
	\$569,500	\$210,000	\$15,000

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	A	B	C
Dividends paid	\$225,000	\$45,000	
	\$344,500	\$165,000	\$15,000
1927:			
Profit from operations	299,500	125,000	85,000*
Dividends received	81,000		
	\$725,000	\$290,000	\$70,000*
Dividends paid	225,000	90,000	
	\$500,000	\$200,000	\$70,000†
Balances—December 31, 1927	\$500,000	\$200,000	\$70,000†

* Loss
† Deficit

Solution:

In solving a problem involving major and minor holding companies, goodwill and minority interests, a statement of adjusted surplus and investment accounts taking up the profits, losses and dividends should be prepared. Such a statement will be found on pages 64 and 65.

Before the goodwill arising from the purchase of the capital stock of the minor holding company (B) by the major holding company (A) can be determined, the book value of the minor holding company (capital stock and true surplus) must be computed. The surplus on the books of companies A and B is not the true surplus of the companies, as the surplus accounts were credited with the dividends received rather than the proportionate interest in the profits of the subsidiaries.

The true surplus of companies B and C are necessary also to compute the minority stockholders' interests.

NOTE.—The surplus accounts of companies B and C at January 1, 1922, were determined by "working back" from the balances in the accounts at January 1, 1925, as follows:

	Company B	Company C
Balance—January 1, 1925	\$150,000.00	\$20,000.00
Add: Dividends paid	180,000.00	75,000.00
Total	\$330,000.00	\$95,000.00
Deduct: Profits for years 1922, 1923 and 1924	200,000.00	35,000.00
B's 80% of C's dividends of \$75,000 credited to surplus	60,000.00	
Balance, January 1, 1922	\$70,000.00	\$60,000.00

Working papers are on page 66, and the required consolidated balance-sheet itself is on page 67.

COMPANY A AND SUBSIDIARIES B AND C
Statement of adjusted surplus and investment accounts

	Company A Investment in B	Company B Investment in C	Company C Surplus
Years 1922, 1923, 1924:			
Cost of company B's investment in company C (80%)		\$250,000.00	\$70,000.00
Surplus, January 1, 1922 (see note)			\$60,000.00
Profits for years 1922, 1923, 1924:			
From own operations			200,000.00
From subsidiaries:			
B's 80% of C's \$35,000 gain		28,000.00	28,000.00
Total		\$278,000.00	\$298,000.00
Less: Dividends paid			180,000.00
			<u>75,000.00</u>
Surplus, December 31, 1924	\$300,000.00	\$118,000.00	\$20,000.00
Entry in investment account for dividends received:			
B's 80% of C's dividends of \$75,000		60,000.00*	
Year 1925:			
Cost of company A's investment in company B (90%)	\$800,000.00		
Profits for 1925:			
From own operations			80,000.00
From subsidiaries:			
B's 80% of C's \$40,000 gain		32,000.00	32,000.00
A's 90% of B's \$112,000 gain (\$80,000+\$32,000)	100,800.00		
Total			\$230,000.00
Less: Dividends paid			60,000.00
			<u>25,000.00</u>
Surplus, December 31, 1925	\$350,800.00	\$170,000.00	\$35,000.00
Entries in investment accounts for dividends received:			
A's 90% of B's dividend of \$60,000			
B's 80% of C's dividend of \$25,000		20,000.00*	

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Year 1926:				
Profits for 1926:				
From own operations	225,000.00	20,000.00	20,000.00*	
From subsidiaries:				
B's 80% of C's \$20,000 loss		16,000.00*		
A's 90% of B's \$4,000 gain (\$20,000—\$16,000)	3,600.00			
Total	\$579,400.00	\$174,000.00	\$15,000.00	
Less: Dividends paid	225,000.00	45,000.00		
Surplus, December 31, 1926	\$354,400.00	\$129,000.00	\$15,000.00	
Entry in investment account for dividend received:				
A's 90% of B's dividend of \$45,000	40,500.00*			
Year 1927:				
Profits for 1927:				
From own operations	299,500.00	125,000.00	85,000.00*	
From subsidiaries:				
B's 80% of C's \$85,000 loss		68,000.00*		
A's 90% of B's \$57,000 gain (\$125,000—\$68,000)	51,300.00			
Total	\$705,200.00	\$186,000.00	\$70,000.00*	
Less: Dividends paid	225,000.00	90,000.00		
Adjusted surplus, December 31, 1927	\$480,200.00	\$96,000.00	\$70,000.00*	
Entry in investment account for dividend received:				
A's 90% of B's dividend of \$90,000	81,000.00*			
Adjusted balances of investment accounts	\$780,200.00			
Investment and surplus accounts, per books	800,000.00	500,000.00	200,000.00	70,000.00*
Adjustments	\$19,800.00	\$19,800.00	\$104,000.00	\$
	CR.	DR.	CR.	DR.

As the dividends received by the holding companies are in excess of the profits earned, the surplus accounts are overstated. Adjustments (A) and (B) are made in the working papers to correct the overstatement.

* Red

COMPANY A AND SUBSIDIARIES B AND C						
Consolidated balance-sheet, working papers, December 31, 1927						
Assets	Company A	Company B	Company C	Dr. Adjustments	Cr.	Eliminations
Cash	\$90,000.00	\$60,000.00	\$20,000.00			
Accounts receivable	700,000.00	540,000.00	190,000.00			
Inventories	400,000.00	200,000.00	70,000.00			
Prepaid expenses	10,000.00	10,000.00	5,000.00			
Fixed assets, less depreciation	1,700,000.00	640,000.00	200,000.00			
Investment in company B (90%) cost					\$19,800.00 (A)	
Adjustment for company B dividends received in excess of profits earned						\$540,000.00
Eliminate present book value						86,400.00
Capital stock, 90% of \$600,000.00						153,800.00 (G)
Surplus, 90% of \$96,000.00						
Goodwill in company C (80%) cost		250,000.00				
Investment in company C					104,000.00 (B)	
Adjustment for company C dividends received in excess of profits earned						200,000.00
Eliminate present book value						56,000.00*
Capital stock, 80% of \$250,000.00						2,000.00 (G)
Surplus, 80% of \$70,000.00*						\$4,705,800.00
Goodwill	\$3,700,000.00	\$1,500,000.00	\$400,000.00			
Liabilities						
Notes payable	\$400,000.00	\$120,000.00	\$100,000.00			
Accounts payable	300,000.00	80,000.00	120,000.00			
Funded debt	1,000,000.00	500,000.00				
Capital stock:						
Company A	1,500,000.00	600,000.00				
Company B						\$540,000.00
Eliminate company A's 90%						60,000.00 M in B
Minority 10%						
Company C			250,000.00			
Eliminate company B's 80%						200,000.00
Minority 20%						50,000.00 M in C
Surplus:						
Company A	500,000.00					
Adjustment for excess of company B dividends received in excess of profits earned					\$19,800.00 (A)	
Adjusted surplus						480,200.00
Company B		200,000.00				
Adjustment for excess of company C dividends received in excess of profits earned					104,000.00 (B)	
Adjusted surplus=\$96,000.00						86,400.00
Eliminate company A's 90% of \$96,000.00						
Minority 10% of \$96,000.00						9,600.00 M in B
Company C			70,000.00*			
Eliminate company B's 80% of \$70,000*						56,000.00*
Minority 20% of \$70,000.00*						14,000.00* M in C
	\$3,700,000.00	\$1,500,000.00	\$400,000.00	\$123,800.00	\$123,800.00	\$4,705,800.00

* Red.

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COMPANY A AND SUBSIDIARIES B AND C

Consolidated balance-sheet, December 31, 1927

Assets

Current assets:		
Cash	\$170,000.00	
Accounts receivable	1,140,000.00	
Inventories	675,000.00	
		\$1,985,000.00
Prepaid expenses		25,000.00
Fixed assets, less depreciation		2,540,000.00
Goodwill		155,800.00
		\$4,705,800.00

Liabilities

Current liabilities:		
Notes payable	\$620,000.00	
Accounts payable	500,000.00	
		\$1,120,000.00
Funded debt		1,500,000.00
Minority interest:		
Company B	\$69,600.00	
Company C	36,000.00	
		105,600.00
Capital:		
Capital stock	\$1,500,000.00	
Surplus	480,200.00	1,980,200.00
		\$4,705,800.00

No. 4 (27 points):

Smith and Jones are engaged, as individuals, in the same kind of business. They propose to amalgamate and form a corporation.

Smith owns buildings and machinery having a book value of \$100,000, now appraised at \$200,000, and net other assets having a book value of \$50,000. Jones owns buildings and machinery having a book value of \$200,000, now appraised at \$300,000, and net other assets having a book value of \$150,000.

It is agreed that "net other assets," in each case, are worth their book values and shall be transferred to the books of the corporation at such values. It is further agreed that the buildings and machinery shall be transferred to the books of the corporation at book values and that 5,000 shares of capital stock, par value \$100, shall be issued to the property owners.

Jones proposes that the 5,000 shares be divided pro rata to the total net assets of each individual as shown by the books but Smith, because of the lower book value of his buildings and machinery, claims that the net assets of each individual should first be adjusted by a redistribution of the total book values of buildings and machinery pro rata to the appraisals and that the capital stock should be divided on the basis of the new total net assets so found.

You are called upon to adjudicate. Show how many shares Smith and Jones would each receive under the two proposed plans; also show how many shares you would apportion to each, giving reasons for your decision.

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Solution:

Under the method proposed by Jones, i. e., that the 5,000 shares of the new corporation be divided pro rata to the total net assets of each individual, Jones would receive 3,500 shares and Smith 1,500 shares, as shown in the following:

	Jones	Smith	Together
Book value:			
Buildings and machinery.....	\$200,000.00	\$100,000.00	\$300,000.00
Net other assets.....	150,000.00	50,000.00	200,000.00
	<u>\$350,000.00</u>	<u>\$150,000.00</u>	<u>\$500,000.00</u>

Number of shares in new corporation divided pro rata to the total net assets.....	3,500	1,500	5,000
	<u>3,500</u>	<u>1,500</u>	<u>5,000</u>

Under the method proposed by Smith, i. e., that "the net assets of each individual should first be adjusted by a redistribution of the total book values of buildings and machinery pro rata to the appraisals", Jones would receive 3,300 shares and Smith 1,700 shares, as shown in the following:

The appraised values of the buildings and machinery are—

Jones.....	\$300,000.00
Smith.....	200,000.00
	<u>\$500,000.00</u>

If the book values of the buildings and machinery are adjusted pro rata to the appraisals we have:

	Book values buildings and machinery	Pro rata to appraisals	Adjusted buildings and machinery
Jones.....	\$200,000.00	$\frac{3}{5}$	\$180,000.00
Smith.....	100,000.00	$\frac{2}{5}$	120,000.00
	<u>\$300,000.00</u>	<u>$\frac{5}{5}$</u>	<u>\$300,000.00</u>

	Jones	Smith	Together
Adjusted values of buildings and machinery.....	\$180,000.00	\$120,000.00	\$300,000.00
Net other assets.....	150,000.00	50,000.00	200,000.00
	<u>\$330,000.00</u>	<u>\$170,000.00</u>	<u>\$500,000.00</u>

Number of shares in new corporation divided according to the plan of Smith.....	3,300	1,700	5,000
	<u>3,300</u>	<u>1,700</u>	<u>5,000</u>

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It is reasonable to assume that the book values of the fixed assets (buildings and machinery) represent cost less depreciation. The book value of these assets of one of the companies may be relatively lower than that of the other company, because a fortunate purchase under a forced sale may have been made, or property may have been constructed or acquired during a period of low costs. Furthermore, the depreciation rates applied by one company may have been considerably higher than those used by the other company.

The corporation purchasing these assets with its capital stock is acquiring certain properties which should be valued at present appraised values and not at an amount paid sometime in the past, less a more or less arbitrary deduction for depreciation.

The capital stock of the new corporation should be distributed on the basis of the present worth of the assets as follows:

	Jones	Smith	Together
Appraised values of buildings and machinery.....	\$300,000.00	\$200,000.00	\$500,000.00
Net other assets.....	150,000.00	50,000.00	200,000.00
Total.....	\$450,000.00	\$250,000.00	\$700,000.00

Number of shares in new corporation divided as follows:

Jones.....	45/70	3,214 $\frac{2}{7}$		
Smith.....	25/70		1,785 $\frac{5}{7}$	
Total.....	70/70			5,000

Cash adjustment could be made for the fractional shares.