Managerial Accounting Fall 2007 Exam 3 Version 1

Name: SOLUTION

Remember: small rounding errors on time-value-of money problems are common.
For all questions: Provide the **best** answer.

1. Carter Manufacturing Company experienced an accounting event that affected its financial statements as indicated below:

Assets	=	Liab.	+	Equity		Rev.	–	Exp.	=	Net Inc.		Cash Flow
+ –		n/a		n/a		n/a		n/a		n/a		n/a

Which of the following accounting events could have caused the indicated effects on the firm's accounting equation?

a. Purchased raw materials inventory with cash ✓, except for cash flow (there is an effect)
b. Transferred cost of goods completed from work in process to finished goods inventory ✓
c. Recognized revenue from merchandise sold for cash ✗, Income Stmt
d. Paying off debt to suppliers ✗, Liab
e. None of the above

2. The Kapoor Company has two divisions with the following 2007 information:

	Restaurants Division	Commissary Division
Operating Income	$ 4,000,000	$ 1,500,000
Operating Assets	$30,000,000	$10,500,000

Kapoor has a target ROI of 12%.

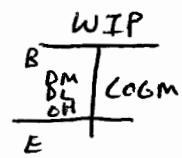
ROI = 13.3% 14.3% ✓
RI = $400,000 ✓ $240,000

Which division performed better during 2007?

a. Restaurant Division
b. Commissary Division
c. Both divisions performed the same.
d. It depends on upper management's views of ROI vs residual income.
e. All the above

3. Which of the following correctly computes cost of goods manufactured?

a. Beginning finished goods + Cost of goods sold – Ending finished goods
b. Beginning work in process + Direct materials used + Direct labor + Applied overhead – Ending work in process
c. Beginning work in process + Direct materials used + Direct labor + Applied overhead
d. Cost of goods sold + raw materials purchased – beginning inventory.
e. None of the above



4. The Grant Company estimates for the 2007 accounting period that its overhead costs will amount to $425,000 and that it will work 85,000 direct labor hours. If actual overhead costs for the year amounted to $465,000 and actual labor hours amounted to 90,000, then overhead would be

a. overapplied by $40,000.
b. underapplied by $15,000.
c. overapplied by $15,000.
d. underapplied by $40,000.
e. None of the above.

predetermined OH
$425/85 = $5 per DL hr

Overhead Control

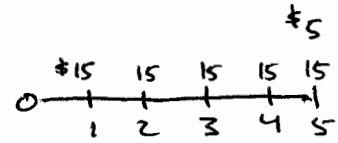
465,000	450,000 = 90,000 x $5
	15,000 → correction needed
Actual	Applied

$PV_{n=5, i=12\%} = .567 \times \$5,000 = \$2,835$

$PVA_{n=5, i=12\%} = 3.605 \times \$15,000 = \$54,075$

$\$56,910 - 40,000 = \$16,910$

5. An investment that costs $40,000 will produce annual cash flows of $15,000 for a period of 5 years. Given a desired rate of return of 12% and a salvage value for the investment of $5,000, what would be the investment's net present value (NPV)?
   a. Negative NPV of $28,651
   b. positive NPV of $56,909
   c. positive NPV of $54,072
   d. positive NPV of $16,909
   e. None of the above.



6. Select the **incorrect** statement concerning the internal rate of return (IRR) method of evaluating capital projects.
   a. The internal rate of return is the rate that makes the present value of the initial outlay equal to zero. ● REALLY CONFUSING ... WE GAVE CREDIT FOR A
   b. If a project has a positive net present value then its IRR will exceed the hurdle rate. TRUE
   c. The higher the IRR the better. TRUE
   d. A project whose IRR is less than the cost of capital should be rejected. TRUE
   e. IRR is sometimes known as the discount rate. ● NO ... This is the intended answer.

7. Which of the following is the approximate internal rate of return for an investment that costs $49,465 and provides a $6,000 annuity for 14 years?
   a. Less than 7%
   b. 8%
   c. 9%
   d. 10%
   e. More than 11%

$\$6,000 \times PVA_{n=14, i=?} = \$49,465$

$PVA_{n=14, i=?} = 8.244 \approx 8\%$ column of table

8. Earth, Wind, and Burning Company is considering a capital project that delivers a $30,000 annual net cash flow before tax. The investment will result in annual depreciation expense of $8,000 over the project's four-year useful life. Assuming a tax rate of 30%, what amount of annual after-tax net cash flow will be provided by this project?
   a. $13,000
   b. $21,000
   c. $23,400
   d. $30,000
   e. None of the above.

30,000
− 8,000
$22,000 taxable inc.
× 30%
6,600 Annual tax

Before tax cash flow = $30,000
− tax payments = 6,600
$23,400

9. Schrute Corporation has a desired rate of return of 10%. Dwight is in charge of one of Schrute's three investment centers. Currently Dwight controls operating assets of $2,600,000 with an ROI of 14%. Moe, Dwight's supervisor, has asked Dwight to consider taking on an additional investment. The new investment is $1,500,000 and has an expected ROI of 12%. If the new investment is accepted, what will be the residual income of Dwight's division?
   a. $ 30,000
   b. $104,000
   c. $134,000
   d. $544,000
   e. None of the above

original $14\% \times 2,600,000 = \$104,000$

new $9\% \times 1,500,000 = 30,000$

$RI = \$134,000$

10. Beesly Company has current year sales of $500,000. The company has an ROI of 30% and a turnover of 2. What is the company's operating income for the current year?
    a. $300,000
    b. $250,000
    c. $100,000
    d. $ 75,000
    e. None of the above

$ROI = \text{Margin} \times \text{turnover}$

$30\% = \text{Margin} \times 2$

$\text{Margin} = 15\%$

$\text{Margin} = \frac{\text{profit}}{\text{sales}}$

● $15\% \times \$500,000 = \text{profit}$

11. Red and Black, Inc. has two investment opportunities. Both investments cost $5,000 and will provide the same total future cash inflows. The cash receipt schedule for each investment is given below:

	Investment I	Investment II
Period 1	$1,000	$3,000
Period 2	1,000	2,000
Period 3	2,000	2,000
Period 4	4,000	1,000
Total	$8,000	$8,000

Select the **correct** statement from the following:

a. Red and Black Ink should choose Investment I because of the time value of money. ✗
b. Red and Black Ink should choose Investment II because it generates more immediate cash inflows. ✓
c. Red and Black Ink should be indifferent between the two investments because they provide the same total cash inflows. ✗
d. Time value of money techniques are not useful for comparing these investments ✗
e. Because this was an in-class problem, I'll answer "e" ✗

12. California Hotel Company is considering a capital project that costs $22,000. The project will deliver the following cash flows:

Year 1	Year 2	Year 3	Year 4	Year 5
$8,000	$6,000	$5,000	$6,000	$5,000

Assuming California Hotel evaluates projects using the payback period method, select the **correct** statement from the following:

a. Using the incremental approach will result in a shorter payback period than the averaging approach. YES, because more cash during YR 1 (relative to Avg. cash)
b. Using the averaging approach will result in a shorter payback period than the incremental approach. ✗
c. The incremental approach and the averaging approach will result in the same payback period. ✗
d. None of the above ✗
e. Both A and C ✗

13. Halpert Company calculated its return on investment as 12%. Sales are currently at $100,000 and the amount of operating assets is $300,000. If Elliot reduces expenses by $9,000 and sales and operating assets remain unchanged, what return on investment will result?

a. 15%
b. 14%
c. 13%
d. 12%
e. None of the above

$ROI = \frac{Profit}{Sales} \times \frac{Sales}{Invest.}$

currently, $12\% = \frac{profit}{\$100,000} \times \frac{1}{3} \Rightarrow profit = \$36,000$

If expenses ↓ by $9,000, profit will be $45,000.

14. Product costs are expensed as cost of goods sold

a. when the production is complete. ✗
b. at the start of production ✗
c. when the related revenue is collected ✗
d. when the related products are sold
e. it depends upon whether the products costs are direct material or direct labor ✗

$ROI = \frac{\$45}{\$100} \times \frac{\$100}{\$300} = .15$

15. The Stanford Division of Dunder Mifflin Corporation has a current ROI of 22%. The company has a target ROI of 14%. The Stanford Division has an opportunity to purchase a new operating asset that will generate income of $560,000, but is reluctant to do so because the division's total ROI will fall to 20%. The present investment base for the division is $6,000,000. What is the cost of the proposed new asset?
    a. $ 692,600
    b. $1,200,000
    c. $1,880,000
    d. $3,400,000
    e. $1,760,000

Current ROI: $22\% = \frac{\text{profit}}{\$6{,}000{,}000} \Rightarrow$ current profit $= \$1.32$m

w/ proposed asset: $20\% = \frac{(\$1.32 + \$.56)}{(\$6 + \text{cost of new})}$

$\$6\text{M} + \text{cost of new} = \$9.4\text{M} \Rightarrow \text{cost} = \$3.4\text{m}$

16. Michael Scott's Company has current sales of $400,000 generated from $800,000 of operating assets. The company also has a 30% margin. What is the company's residual income assuming the company has a desired return of 10%?
    a. $10,000
    b. $40,000
    c. $80,000
    d. $120,000
    e. None of the above

$\text{Margin} = \frac{\text{Profit}}{\text{SALES}} \Rightarrow \text{profit} = 30\% \times \$400{,}000 = \$120{,}000$

$RI = \text{profit} - (\text{investment} \times \text{rate})$
$= \$120{,}000 - (\$800{,}000 \times 10\%) = \$40{,}000$

17. Wilson Company applies overhead based on direct labor cost. During 2007, Wilson Company estimated that it would incur $90,000 in manufacturing overhead costs and $60,000 of direct labor costs. In 2007, actual manufacturing overhead cost totaled $75,000 and actual direct labor costs totaled $55,000. If total manufacturing costs were $160,000, what amount of direct materials was used during the period? As a helpful hint, 'total manufacturing costs' = DM + DL + OH added to WIP inventory.
    a. $15,000
    b. $30,000
    c. Insufficient information available
    d. $22,500
    e. none of the above.

RATE

$\frac{90{,}000}{60{,}000} = \$1.50$ per DL$

$\$160{,}000 = DM + DL + \underset{\text{APPLIED}}{OH}$

$160{,}000 = DM + 55{,}000 + 82{,}500$

$DM = 22{,}500$

18. The Johnson Corporation was started on January 1, 2007. The company incurred the following transactions during the year (Assume all transactions involve cash):
    1) Acquired $1,000 of capital from the owners.
    2) Purchased $300 of direct raw materials.
    3) Used $200 of these direct raw materials in the production process.
    4) Paid production workers $400 cash.
    5) Paid $200 for manufacturing overhead (applied and actual overhead are the same).
    6) Started and completed 200 units of inventory.
    7) Sold 50 units at a price of $6 each.
    8) Paid $40 for selling and administrative expenses.

The amount of cost of goods manufactured would be
    a. $1,000
    b. $ 900.
    c. $ 700
    d. $ 600
    e. None of the above.

WIP

DM	200	800	CGM
DL	400		
OH	200		
End	0		

19. The entry to dispose of underapplied manufacturing overhead will
    a. Reduce finished goods inventory
    b. Increase finished goods inventory
    c. Reduce cost of goods sold
    d. Increase cost of goods sold
    e. None of the above

OH control (Assumed numbers)

100	90
	10 *

Actual | Applied

COGS

* 10

20. The accounting records for Eisenhower Manufacturing Company disclosed the following cost information for 2007

Direct materials	$30,000
Direct labor	$40,000
Fixed manufacturing overhead:	$50,000
Variable manufacturing overhead	$10,000

Absorption
$130,000 / 10,000u = $13/unit
x 6,000 sold
$78,000 COGS

Assume the company produced 10,000 units and sold 6,000 (also assume there was no beginning inventory). Total expenses under variable and absorption costing would be, respectively

a. $130,000 and $130,000
b. $78,000 and $78,000
c. $98,000 and $78,000
d. $78,000 and $98,000
e. None of the above

Variable (only VC included in product)
$80,000 / 10,000u = $8/unit x 6,000 = $48,000 COGS
+ 50,000 FC
$98,000

21. Jim Company has an investment in assets of $900,000, income that is 10% of sales, and an ROI of 18%. Based on this information, the amount of sales would be

a. $1,620,000
b. $ 162,000
c. $ 90,000
d. $ 10,000
e. None of the above

ROI = profit / investment ⇒ 18% = profit / $900,000

profit = $162,000 = SALES x 10% ⇒ sales = $1,620,000

22. What is the value today of a payment of cash of $24,000 to be received in three years, if the rate of return is 10%?

a. $59,684
b. $24,000
c. $18,032
d. $ 9,651
e. None of the above

$PV_{n=3, i=10\%} = .7513 \times \$24,000 = \$18,031.2$

23. Antoinette projects that she can get $60,000 cash per year for 4 years on a real estate investment project. If Antoinette wants to earn a rate of return of 14%, what is the maximum that she should pay for the investment?

a. $240,000
b. $174,823
c. $142,000
d. $ 35,525
e. None of the above

$PVA_{n=4, i=14\%} = 2.914 \times \$60,000 = \$174,840$

24. At the beginning of the month, Turk Furniture Company had work in process of 500 units that were 80% complete (beginning WIP value = $8,800). During the month, 5,000 units were transferred to finished goods. At the end of the month, there were 1,000 physical units remaining in WIP (on average, 60% complete). Total manufacturing costs for the month were $108,109. What is the dollar value of the month-end WIP balance? Use the FIFO equivalent units method.

a. $19,4830
b. $13,800
c. $21,620
d. $12,474
e. None of the above

	Last mth	This mth	Next mth
Begin	400	100	
Start & Fin		4500	
End		600	400

WIP (phys. units)
B 500
Start 5500 → 5,000 Fin
E 1000

$\$108,109 / 5,200 = \$20.79 \times 600 = \$12,474$ (E. units) // E.U. 5,200

25. Cox & Company produces custom cabinets. Last month, the company worked on three jobs – Job 707, Job 808, and Job 909. Cost information from last month follows:

	Job 707	Job 808	Job 909
Beginning Balance	$5,000	$3,000	- 0 -
Direct Materials	$10,000	$12,000	$14,000
Direct Labor	$8,000	$6,000	$10,000
Direct Labor Hrs	400 hrs	300 hrs	500 hrs
	SOLD	Still WIP	

Cox applies overhead using a predetermined overhead rate of $5 per direct labor hour. During the month Job 707 and Job 909 were completed, but Job 808 was not. Job 707 was also sold during the current period. What is the balance in finished goods at the end of the period?

a. $26,500
b. $24,000
c. $25,000
d. $51,500
e. None of the above

$14,000 DM
$10,000 DL
$2,500 OH (5 x 500 Hrs)
$26,500