

BU247 W11 - SAMPLE QUESTIONS

To all of the BU247 W11 students:

At the request of my BU247 students, I have pulled together some extra homework questions that are of a nature I might expect to see on the final exam.

At the time of posting of these questions, I have had no input on what will be on the final exam and I do not expect to see the final exam until it is all but complete.

ie. I have NOT and will NOT have input on the content of the final exam!

The other document is the suggested solutions to these questions.

To maximize the benefit of this extra work, I would strongly recommend that you do each question completely before looking at the solution.

To just read the question and then look at the solution and say "I knew that!" will make a significant contribution to a poor mark.

Good luck
John Young

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1. The Harbinger Company manufactures oak bookcases that sell for \$400 each. Budgeted sales for the first four months of the year are as follows:

<u>Month</u>	<u>Budgeted Sales (Units)</u>
January	1,000
February	1,500
March	2,500
April	2,000

Each bookcase requires 5 hours of direct labour at a cost of \$8.00 per hour. Variable manufacturing overhead is budgeted at \$2.00 per direct labour hour.

Monthly fixed overhead consists of the following:

Supervisors' salaries	\$ 6,000
Insurance	2,000
Depreciation on production equipment	500
Depreciation on production facility	<u>10,000</u>
Total	<u>\$18,500</u>

a. The company normally pays for 70% of its purchases in the month of purchase. The remaining 30% is paid in the following month. Accounts payable at the beginning of the year is \$54,000 (which is 30% of last year's December purchases of \$180,000). Prepare a schedule of cash payments on accounts payable for each month and in total for the first quarter.

b. Each bookcase requires 20 square feet of oak at a cost of \$10 per square foot. The company wants to maintain an inventory of bookcases equal to 10% of the following month's sales. Inventory on January 1 consisted of 80 bookcases. Prepare a production budget, in units, for each month and in total for the first quarter.

c. Prepare a purchases budget, in dollars, for direct materials for each month and in total for the first quarter using the following additional information. The company wants to maintain an inventory of oak equal to 20% of the next month's requirements. Materials inventory on January 1 consisted of 11,000 square feet of oak. The company estimates an inventory of oak on hand at the end of March of approximately 8,000 square feet.

d. Prepare a sales budget, in dollars, for each month and in total for the first quarter of the year.

e. Prepare a manufacturing overhead budget for each month and in total for the first quarter.

f. The company expects 60% of the sales each month to be collected in that month, and 35% to be collected in the following month. Five percent of all sales are un-collectible and written off in the following month. The accounts receivable balance at the beginning of the year is \$200,000 (which is 40% of last year's December sales of \$500,000). Prepare a schedule of cash collections on accounts receivable for each month and in total for the first quarter.

g. Prepare a direct labour budget for each month and in total for the first quarter.

h. Using the information from above, prepare a pro forma income statement for each month and in total for the first quarter.

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2. The following data are for the month of August for Murdock Corporation, a company that makes saucers.

	<u>Standard Inputs Expected for Each Unit of Output</u>	<u>Standard Price per Unit of Input</u>
Direct material	10 pounds	\$ 6 per pound
Direct labour	3 hours	\$10 per hour

During the month of August, the company actually produced 1,000 saucers, which is 50 units less than expected. Direct material purchased and used amounted to 10,500 pounds at a cost of \$6.25 per pound. Actual direct labour was 2,900 hours at an actual cost of \$10.50 per hour.

Required:

- What is the standard cost per saucer for direct material and direct labour?
- Compute the price and usage variances for direct material and direct labour.

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3. The Produce and Can Divisions are part of the same company. Currently the Can Division buys a part from Produce for \$24. The Produce Division wants to increase the price of the part it sells to Can by \$6 to \$30. The manager of Can has stated that it cannot afford to go that high, as it will decrease the division's profit to near zero. Can Division can buy the part from an outside supplier for \$28. The cost data for the Produce Division is as follows:

Direct materials	\$ 8.50
Direct labour	12.50
Variable overhead	2.50
Fixed overhead	2.40

Required:

a. If Produce ceases to produce the parts for Can, it will be able to avoid one-third of the fixed manufacturing overhead. The Produce Division has excess capacity but no alternative uses for its facilities. From the standpoint of the company as a whole, should Can continue to buy from Produce or start to buy from the outside supplier? If so, what should the transfer price for the part be?

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4. Given the following data:

	<u>Direct Material</u>	<u>Direct Labour</u>
Standard price per unit of input	\$15 per foot	\$15 per hour
Actual price per unit of input	\$17 per foot	\$14 per hour
Standard inputs allowed per unit of output	4 feet	2 hours
Actual units of input	1,750 feet	850 hours
Actual units produced	400 units	

Required: Compute the price, usage and flexible-budget variances for direct material and labour.

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5. Crickmore Industries has two divisions, the D division and the J division. Information about a component that the D division produces is as follows:

Revenue	\$100 per unit
Variable manufacturing costs	\$25 per unit
Fixed manufacturing overhead	\$15 per unit
Expected sales in units	7,000 units

The D division can produce up to 8,000 components per year. The J division needs 500 units of the component for a product it manufactures.

- Determine the minimum transfer price that the D division would accept.
- Determine the maximum transfer price that the manager of the J division would pay.
- How would your answers to requirements [A] and [B] above, change if the D division did not have excess capacity?

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6. The following data are available for the three divisions of Pomeroy Company:

	Division A	Division B	Division C
Income	(a)	\$90,000	(h)
Revenue	(b)	(d)	\$168,000
ROI	15 percent	(e)	12 percent
Invested capital	\$300,000	(f)	\$70,000
Return on sales	8 percent	9 percent	(i)
Cost of capital	12 percent	(g)	10 percent
Residual income	(c)	\$30,000	(j)

Required: Provide the missing data.

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7. Raymer Incorporated has just formed a new division and the following four investment opportunities are available to the division. The firm requires a minimum return of 20 percent.

Investment Opportunity	Income	Investment
1	\$ 80,000	\$200,000
2	120,000	600,000
3	80,000	500,000
4	50,000	200,000

- If you were the division manager and your evaluation was based on ROI, which investment opportunities would you accept?
- If your evaluation was based on RI, which investment opportunities would you accept?
- If you were president, which projects would you want the division to accept and which performance measure would you use to encourage this action?

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8. Stirton Industries is a decentralized company that evaluates its divisions based on ROI.

Division R has the capacity to make 10,000 units of a product. Division R's variable costs are \$60 per unit.

Division J can use the product as a component in one of its products. Division J would incur \$40 of variable costs to convert the component into its own product, which sells for \$200.

The following requirements are independent of each other.

a. Division R can sell all that it produces for \$120 each. Division J needs 1,000 units. What is the correct transfer price?

b. Division R can sell 8,000 units at \$150 each. Any excess capacity will be unused unless the units are purchased by the J division, which could use up to 1,000 units. Determine the floor and ceiling of the bargaining range.

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9. The Softtail Company Inc. is considering two unrelated projects.
- (i) The Street Bob Project (SBP) which requires an investment of \$100,000 and,
 - (ii) The Night Bob Project (NBP) requires an investment of \$110,000.

If the company accepts SBP, projected revenues are \$40,000 in year 1, \$60,000 in year 2, \$70,000 in year 3, and \$80,000 in year 4. Revenue projections for NBP are \$60,000 in year 1, \$75,000 in year 2, \$51,000 in year 3, and \$45,000 in year 4.

- Fixed costs associated with the projects are \$6,000 per year for SBP and \$7,000 per year for NBP.
- The company also estimates that at the end of the fourth year, SBP will have a salvage value of \$20,000 and NBP will have a salvage value of \$10,000.
- The contribution margin percentage is 75% for SBP and 67% for NBP. The company uses a discount rate of 14%.

Required:

Which project should the company accept. Use the Net Present Value and the Incremental Cost Approach.

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10. Swenson Company produces a part that is used in the manufacture of one of its products. The costs associated with the production of 10,000 units of this part are as follows:

Direct materials	\$ 100,000
Direct labour	170,000
Variable factory overhead	300,000
Fixed factory overhead	<u>250,000</u>
	<u>\$ 820,000</u>

Of the fixed factory overhead costs, \$35,000 is avoidable.

Required:

- a. Assuming there is no alternative use for the facilities, should Swenson take advantage of an offer from a supplier who is willing to sell Swenson 10,000 units of the same part for \$64 per unit?
- b. Would your answer to Part (a) change if the facilities could be rented for \$50,000 a year?

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11. The Tippett Company manufactures two products, 12-07 and 19-01. Contribution margin per unit is determined as follows:

	<u>12-07</u>	<u>19-01</u>
Revenue	\$ 25	\$ 20
Variable costs	<u>15</u>	<u>12</u>
Contribution margin	<u>\$ 10</u>	<u>\$ 8</u>

Total demand:

12-07 - 5,000 units

and

19-01 - 10,000 units.

Direct labour:

- Only 40,000 direct labour hours are available during the year.
- 12-07 requires 5 direct labour hours per unit
- 19-01 requires 2 labour hours per unit.

Required: How many units of 12-07 and 19-01 should the Royer Company produce?

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12. Van Sickle Corporation has a joint process which produces three products, D, E and F. Each product may be sold at split-off or processed further and then sold. Joint processing costs for a year amount to \$150,000. Other relevant data are as follows:

<u>Product</u>	<u>Sales Value at Split-off</u>	<u>Separable Processing Costs after Split-off</u>	<u>Sales Value at Completion</u>
D	\$ 42,500	\$ 11,000	\$ 52,500
E	82,500	27,000	102,500
F	120,000	57,500	187,500

Required:

- Which products should Van Sickle process further?
- What will be the effect on profits of processing each product further?

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13. WN Company manufactures high quality Wagnuts. It is a growing company and is therefore considering the purchase of some new equipment to help expand production. The following data are relevant to the decision:

Cost of new equipment	\$850,000
Resulting annual increase in revenue	\$100,000
Additional annual cash expenses	\$ 30,000
Terminal salvage value	-0-
Straight line amortization rate	30%
Tax rate	15%

Required: What is the annual net after-tax cash flow generated by the investment?

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14. A capital investment project requires an investment of \$200,000. It has an expected life of 5 years with annual cash flows of \$50,000 received at the end of each year.

Required:

- a. Compute the payback period for the project.
- b. Compute the internal rate of return for the project.
- c. Compute the net present value of the project using a 6% discount rate.

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15. The Denim Division of Jean, Inc. manufactures sweat denim jeans. The zippers used in production are presently purchased from an outside supplier at a cost of \$7.00 each. A division of Jean, Inc. called the Zipper Division has just begun producing a similar zipper, which can be used by the Denim Division. Current per unit cost data for the zipper produced by the Zipper Division are as follows:

Direct material	\$2.20
Direct labour	1.60
Manufacturing overhead	
Variable	.50
Fixed	.20
Selling expenses	
Variable	.40
Fixed	.30

Required:

- What is the minimum transfer price that the Zipper Division should charge the Denim Division for each zipper?
- What is the maximum transfer price that the Denim Division should be willing to pay for each zipper?

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16. Raymer Incorporated has just formed a new division and the following four investment opportunities are available to the division. The firm requires a minimum return of 20 percent.

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