Family Name	
Given Names	
Student Number	
Teaching Period	Semester 1, 2017

FINAL EXAMINATION	DURATION
ACT202 – Management Accounting	Reading Time: **10** minutes Writing Time: **180** minutes

INSTRUCTIONS TO CANDIDATES

EXAM CONDITIONS

You may begin writing from the commencement of the examination session. The reading time indicated above is provided as a guide only.

This is a RESTRICTED OPEN BOOK examination

Any non-programmable calculator is permitted

No handwritten notes are permitted

Hard copy, unannotated English translation dictionary only

ADDITIONAL AUTHORISED MATERIALS	EXAMINATION MATERIALS TO BE SUPPLIED
No additional printed material is permitted	1 x 16 Page Book 1 x 4-Multiple Choice Answer Sheet 1 x Scrap Paper

THIS EXAMINATION IS PRINTED DOUBLE-SIDED.

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Section B

Short Answer Questions

Total No of Marks for this section: 50

This section should be answered in the Answer Booklet provided.

Marks for each question are indicated. Suggested Time allocation for Section B: 115 mins

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Question 1 **(10 Marks - Suggested time approx. 23 minutes)**

Northern Lights Company is considering the purchase of a new machine. The invoice price of the machine is $140,000, freight charges are estimated to be $4,000, and installation costs are expected to be $6,000. Salvage value of the new equipment is expected to be zero after a useful life of 5 years. Existing equipment could be retained and used for an additional 5 years if the new machine is not purchased. At that time, the salvage value of the equipment would be zero. If the new machine is purchased now, the existing machine would have to be scrapped. Northern Lights' accountant, Lisah Huang, has accumulated the following data regarding annual sales and expenses with and without the new machine.

- Without the new machine, Northern Lights can sell 12,000 units of product annually at a per unit selling price of $100. If the new machine is purchased, the number of units produced and sold would increase by 10%, and the selling price would remain the same.
- The new machine is faster than the old machine, and it is more efficient in its usage of materials. With the old machine the gross profit rate will be 25% of sales, whereas the rate will be 30% of sales with the new machine.
- Annual selling expenses are $180,000 with the current equipment. Because the new equipment would produce a greater number of units to be sold, annual selling expenses are expected to increase by 10% if it is purchased.
- Annual administrative expenses are expected to be $100,000 with the old machine, and $113,000 with the new machine.
- The current book value of the existing machine is $36,000. Northern Lights uses straight-line depreciation.

Required

Prepare an incremental analysis (over the 5 years) showing whether Northern Lights should keep the existing machine or buy the new machine. (Ignore income tax effects.)

Question 2 **(20 Marks - Suggested time approx. 46 minutes)**

Colter Company prepares monthly cash budgets. Relevant data from operating budgets for 2017 are as follows.

	January	February
Sales	$360,000	$400,000
Direct materials purchases	120,000	125,000
Direct labour	90,000	100,000
Manufacturing overhead	70,000	75,000
Selling and administrative expenses	79,000	85,000

All sales are on account. Collections are expected to be 50% in the month of sale, 30% in the first month following the sale, and 20% in the second month following the sale. Sixty percent (60%) of direct materials purchases are paid in cash in the month of purchase, and the balance due is paid in the month following the purchase. All other items above are paid in the month incurred except for selling and administrative expenses that include $1,000 of depreciation per month.

Other data:

- Credit sales: November 2016, $250,000; December 2016, $320,000.
- Purchases of direct materials: December 2016, $100,000.
- Other receipts: January—collection of December 31, 2016, notes receivable $15,000; February—proceeds from sale of securities $6,000.
- Other disbursements: February—payment of $6,000 cash dividend.

The company's cash balance on January 1, 2017, is expected to be $60,000. The company wants to maintain a minimum cash balance of $50,000.

Required

(a) Prepare schedules for (1) expected collections from customers and (2) expected payments for direct materials purchases for January and February.

(7 Marks - Suggested time approx. 16 minutes)

(b) Prepare a cash budget for January and February in columnar form.

(13 Marks - Suggested time approx. 30 minutes)

Question 3 (10 Marks - Suggested time approx. 23 minutes)

Geelong Electronics manufactures TVs and DVD players. During February, the following activities occurred:

	TVs	DVDs
Budgeted units sold	17,640	66,360
Budgeted contribution margin per unit	$90	$156
Actual units sold	20,000	80,000
Actual contribution margin per unit	$100	$158

Required:
Compute the following variances in terms of the contribution margin.

a. Determine the total sales-mix variance. (5 marks)
b. Determine the total sales-quantity variance. (3 marks)
c. Determine the total sales-volume variance. (2 marks)

Question 4 (10 Marks - Suggested time approx. 23 minutes)

Armidale University offers only high-tech graduate-level programs. Armidale has two principal operating departments, Engineering and Computer Sciences, and two support departments, Facility and Technology Maintenance and Enrollment Services. The base used to allocate Facility and Technology Maintenance is budgeted total maintenance hours. The base used to allocate Enrollment Services is number of credit hours for a department. The Facility and Technology Maintenance budget is $500,000, while the Enrollment Services budget is $1,200,000. The following chart summarises budgeted amounts and allocation-base amounts used by each department:

	Services Provided (Annually)				
	Budget	**Engineering**	**Computer Sciences**	**F&T Maintenance**	**Enrollment Services**
F&T Maintenance (in hours)	$500,000	1,000	2,000	Zero	5,000
Enrollment Services (in credit hrs)	$1,200,000	24,000	36,000	2,000	Zero

Required:
Prepare a schedule which allocates service department costs using the step-down method with the sequence of allocation based on the highest-percentage support concept. Compute the total amount of support costs allocated to each of the two principal operating departments, Engineering and Computer Sciences.

*****End of Exam*****