National University of Science and Technology

FACULTY OF COMMERCE

DEPARTMENT OF ACCOUNTING

SECOND SEMESTER EXAMINATION: 2014

DATE:	**APRIL 2014**
SUBJECT:	**MANAGEMENT AND COST ACCOUNTING**
	CAC 2205
TIME ALLOWED:	**THREE (3) HOURS**
MARKS:	**100**

INSTRUCTIONS TO THE CANDIDATES

1. Answer **all** questions
2. Begin each Full question on a new page

INFORMATION FOR CANDIDATES

1. All workings should be shown
2. All answers should be presented in good style

Question 1 [25 marks]

AB plc is engaged in the manual assembly of finished products A and B from bought-in materials. These products are sold to external customers. The budgeted sales volumes and prices for Month 9 are as follows:

Product	**Units**	**Price**
A	34 000	$50.00
B	58 000	$30.00

Finished goods stockholding budgeted for the end of Month 9, is 1 000 units of A and 2 000 units of B, with no stock at the beginning of that month. The purchased components M3 and M4 are used in the finished products in the quantities shown below. The unit price is for just-in-time delivery of the materials; the company holds no material stocks.

	Materials	
Product	**M3**	**M4**
A (per unit)	8 units	4 units
B (per unit)	4 units	3 units
Price (each)	$1.25	$1.80

The standard direct labour times and labour rates and the budgeted monthly manufacturing overhead costs for the assembly and finishing departments for Month 9 are given below:

Product	**Assembly**	**Finishing**
A (per unit)	30 minutes	12 minutes
B (per unit)	15 minutes	10 minutes
Labour rate (per hour)	$5.00	$6.00
Manufacturing overhead cost for the month	$617 500	$204 000

Every month a predetermined direct labour hour recovery rate is computed in each department for manufacturing overhead and applied to items produced in that month.

The selling overhead of $344 000 per month is applied to products based on a predetermined percentage of the budgeted sales value in each month.

Required:

(a) Prepare summaries of the following budgets for Month 9:

(i) Material purchase and usage (units and value);

(ii) Direct labour (hours and value);

(iii) Departmental manufacturing overhead recovery rates;

(iv) Selling overhead recovery rate;

(v) Stock value at the month-end. **[10]**

(b) Tabulate the standard unit cost and profit of each of A and B in Month 9**.** **[4]**

(c) Prepare a budgeted profit and loss account for Month 9 which clearly incorporates the budget values obtained in (a) above. **[4]**

(d) Discuss the top-down and bottom-up approaches to budget setting and briefly discuss the limitations of using these methods. **[7]**

Question 2 [25 marks]

A software company has just won a contract worth $80 000 if it delivers a successful product on time, but only $40 000 if this is late. It faces the problem now of whether to produce the work in house or to sub contract it. To sub contract the work would cost $50 000 but the local sub contractor is so fast and reliable as to make it certain that successful software is produced on time

If the work is produced in house the cost would be only $20 000 but based on past experience would have only 90% chance of being successful .In the event of the software not being successful there would be insufficient time to re write the whole package internally, but there would still be the options of either a 'late rejection 'of the contract (at a further cost of $10 000) or of 'late sub- contracting' the work on the same terms as before. With this late start the local sub- contractor is estimated to have only a 50/50 chance of producing the work on time or of producing it late. In this case the sub – contractor still has to be paid $50 000 regardless of whether he meets the deadline or not.

Required

a) Draw a decision tree for the software company, using squares for decision points and circles for outcome (chance) points including all relevant data on the diagram. [**14]**

b) Calculate expected values as appropriate and recommend a course of action to the software company with reasons [**5]**

c) Outline the circumstances under which decision tree analysis can be used**.[3]**

d) List any THREE limitations of the decision tree method. **[3]**

Question 3 [25 marks]

Modern Tech manufactures electronic adding machines and calculators. One specific model, the New Features, has a forecast production of 600 units in the forthcoming period and the company has produced a standard costing card as follows:

	Unit Costs	**Quantity Used**	**Price per Unit**
	$	Kg/Hours	$
Materials	10	4	40
Labour	5	2	10
Variable overheads	5	1	5
Total production cost			55
Selling price			90
Contribution			35
Fixed overheads (based on 500 units)			30
Profit			5

The company uses this information to prepare a projected profit and loss account under the absorption system.

	Budgeted Profit and Loss	
	$	$
Sales revenue		54 000
Materials	24 000	
Labour	6 000	
Variable overheads	3 000	
Total direct cost		33 000
Contribution		21 000
Fixed overheads		15 000
Profit		6 000

The actual results during the year were as follows:

Sales price	$95 per unit
Produced and sold	600 units
Direct material (6 140 kg)	$24 420
Variable overheads	$3 180
Fixed overheads	$15 110
Labour (3 250 hours)	$6 760

Using the above information, the company can prepare a profit and loss account using the marginal costing statement as follows:

Actual Profit and Loss

	$	$
Sales revenue		57 000
Materials	24 420	
Labour	6 760	
Variable overheads	3 180	
Total direct cost		34 360
Contribution		22 640
Fixed overheads		15 110
Profit		7 530

Required

(a) Analyse why there is a difference between the budgeted profit $6 000 and the actual profit $7 530.(i.e. calculate all the relevant variances and reconcile the profits) **[15]**

(b) Identify the potential limitations of the learning curve concept**.** **[3]**

(c)) Explain the types of standard costs and its effects on employee motivation. **[7]**

Question 4 [25 marks]

New Version is a manufacturing company that manufactures replacement parts for Ex Japanese cars .There are a number of different departments in the company including a sales, finance, grinding department, milling department and machining department .New Version plc, prepared its budget for the year ending 31 December 2013 using an incremental budgeting system. The budget is set centrally and is then communicated to each of the managers who have responsibility for achieving their respective targets .The following report has been produced for the machining department for October 2013.

	Budget	*Actual*	*Variance*	
Number of machine hours	9,000	11,320	2,320(F)	
	$	$	$	
Cleaning materials	1,350	1,740	390	(A)
Steel	45,000	56,000	11,000	(A)
Other direct materials	450	700	250	(A)
Direct labour	29,000	32,400	3,400	(A)
Production overheads	30,000	42,600	12,600	(A)
Total	105,800	133,440	27,640	(A)

The manager of the machining department has received a memo from the financial controller requiring him to explain the serious overspending within his department.

Additional information

The manger has sought your help and, after some discussions, you have ascertained the following:

(a) The cleaning materials, steel and other direct materials vary in proportion to the number of machine hours.

(b) The budgeted direct labour costs include fixed salary costs of $4 250 the balance is variable in proportion to the number of machine hours.

(c) The production overhead costs include a variable cost that is constant per machine hour at all activity levels, and a stepped fixed cost, which changes when the activity level exceeds 10,000 machine hours. A further analysis of this cost is shown below:

Activity (machine)	3,000	7,000	14,000
Costs ($)	13,500	24,500	45,800

Required

a) Prepare a revised budgetary control statement using the additional information that you have obtained from the manager of the machining department [**12]**

b) **(i)** Explain the differences between an incremental budgeting system and a zero based budgeting system [**4]**

(ii) Explain why New Version plc and other similar organisations would find it difficult to introduce a system of zero based budgeting . [**4]**

c) Explain the benefits of involving the managers of New Version plc in the budget setting process, rather than setting the budget centrally as is New Version's current policy. [**5]**

END OF EXAMINATION PAPER