5. Silent non-programmable calculators may be used, but ALL necessary working should be clearly shown.
Belmopan Manufacturing Company (BMC) had the following cost and expense data for the year ending December 31, 2006:

- Direct materials, January 1, 2006: $30,000
- Direct materials, December 31, 2006: $20,000
- Direct materials purchases: $205,000
- Indirect materials purchases/used: $15,000
- Work-in-progress, January 1, 2006: $80,000
- Work-in-progress, December 31, 2006: $50,000
- Finished goods, January 1, 2006: $110,000
- Finished goods, December 31, 2006: $120,000
- Direct labor: $350,000
- Factory manager’s salary: $35,000
- Insurance, factory: $14,000
- Property taxes, factory building: $6,000
- Sales (net): $1,500,000
- Delivery expenses: $100,000
- Sales commissions: $150,000
- Indirect labor: $90,000
- Factory machine rent: $40,000
- Factory utilities: $65,000
- Depreciation, factory building: $24,000
- Administrative expenses: $300,000

(a) Prepare a cost of goods manufactured schedule for Belmopan Manufacturing Company for the period ending December 31, 2006. [10 marks]

(b) Prepare an income statement for Belmopan Manufacturing Company for the period ending December 31, 2006. [8 marks]

(c) The manager of BMC is considering shifting from the weighted average cost method for valuing ending inventory to either the first-in-first-out (FIFO) or last-in-last-out (LIFO) method. The following information relates to the company’s materials inventory.

<table>
<thead>
<tr>
<th>Date</th>
<th>Units</th>
<th>Unit Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 1, 2006</td>
<td>800</td>
<td>$9.00</td>
</tr>
<tr>
<td>Purchases:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>January 5, 2006</td>
<td>1,500</td>
<td>$10.00</td>
</tr>
<tr>
<td>June 25, 2006</td>
<td>1,200</td>
<td>$10.50</td>
</tr>
<tr>
<td>September 16, 2006</td>
<td>600</td>
<td>$12.00</td>
</tr>
<tr>
<td>November 26, 2006</td>
<td>900</td>
<td>$13.50</td>
</tr>
</tbody>
</table>
A physical inventory taken on December 31, 2006, showed 1,500 units on hand. BMC uses a periodic inventory system.

Prepare schedules to calculate the value of BMC’s inventory on December 31, 2006, under EACH of the following inventory cost flow methods:

(i) First-in-first-out (FIFO) [3 marks]

(ii) Last-in-first-out (LIFO) [3 marks]

You are required to show supporting computations.

(d) Which inventory cost flow method would you recommend to BMC if it wishes to maximise net income for the year ending December 31, 2006? [1 mark]

(e) The managing director is evaluating the performance of the company’s six divisions located throughout Belize, and suggests that the Corozal division should be eliminated. He asserts that “if the Corozal division is eliminated our total profits would increase by $24,500.” The following information relates to performance of the six divisions.

<table>
<thead>
<tr>
<th></th>
<th>Corozal division</th>
<th>The other five divisions</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>$100,000</td>
<td>$1,664,200</td>
<td>$1,764,200</td>
</tr>
<tr>
<td>Cost of goods sold</td>
<td>$76,500</td>
<td>$978,520</td>
<td>$1,055,020</td>
</tr>
<tr>
<td>Gross profit</td>
<td>$23,500</td>
<td>$685,680</td>
<td>$709,180</td>
</tr>
<tr>
<td>Operating expenses</td>
<td>$48,000</td>
<td>$527,940</td>
<td>$575,940</td>
</tr>
<tr>
<td>Net income</td>
<td>$24,500</td>
<td>$157,740</td>
<td>$133,240</td>
</tr>
</tbody>
</table>

In the Corozal division, cost of goods sold is $60,000 variable and $16,500 fixed, and operating expenses are $25,000 variable and $23,000 fixed. None of the Corozal division’s fixed costs will be eliminated if the division is discontinued.

Is the managing director right in eliminating the Corozal division? Prepare a schedule to support your answer. [10 marks]

Total 35 marks
2. (a) Castries Beverage Company produces fruit juice for the St. Lucian market. In 2005, the company produced 40,000 cases of fruit juice and sold 30,000 cases. The selling price was $30 per case; variable manufacturing costs were 15 per cent of the sales price of units produced; variable selling expenses were 10 per cent of the sales price of units sold; fixed manufacturing costs were $240,000 and fixed administrative expenses were $90,000.

(i) Assuming that the company uses absorption (full) costing, calculate the manufacturing cost per unit.

(ii) Assuming that the company uses marginal (variable) costing, calculate the manufacturing cost per unit.

(iii) Prepare a variable costing income statement for 2005.

(iv) Prepare an absorption costing income statement for 2005.

(v) Reconcile the difference between the net income computed under variable and under absorption costing.

(b) Edwards and Associates, an auditing firm operating in Barbados, uses a job costing system. There were no audit jobs in process at the beginning of April. The data below relate to three audit jobs conducted by Edwards and Associates during April.

<table>
<thead>
<tr>
<th></th>
<th>Bay Street Shop</th>
<th>Lopinot Inn</th>
<th>Piarco Roti Shop</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct materials</td>
<td>$1,200</td>
<td>$800</td>
<td>$400</td>
</tr>
<tr>
<td>Auditor labour costs</td>
<td>$10,800</td>
<td>$13,200</td>
<td>$3,375</td>
</tr>
<tr>
<td>Auditor hours</td>
<td>144</td>
<td>176</td>
<td>90</td>
</tr>
</tbody>
</table>

Edwards and Associates estimated overhead costs and auditor hours for April at $21,000 and 420 hours respectively. Overheads are applied on the basis of auditor hours. Actual overhead costs incurred during April was $21,500. The Bay Street Shop audit was the only incomplete job at the end of April.

(i) Determine the pre-determined overhead application rate for Edwards and Associates.

(ii) Determine the cost of EACH job.

(iii) Determine the cost of jobs completed during April.

(iv) Determine the cost of ending work-in-progress for April.

(v) Calculate the ending balance in the overheads accounts at the end of April and indicate whether overheads were over-applied or under-applied.

Total 35 marks
3. Brighton Partners manufactures and sells homemade wine, and wants to develop a standard cost per gallon to use as a basis for pricing its products.

Brighton Partners produced eight 100-litre batches of homemade wine during the past month and used 3,560 kilograms of local fruit at $0.98 per kilogram. During this period, Brighton Partners also incurred direct labour costs of $14,775, paying an average wage rate of $7.50 per hour.

The standard amount of local fruit for producing a 100-litre batch of homemade wine is 417 kilograms at $1.00 per kilogram and the standard labour hours per 100-litre batch of homemade wine are 224 hours at $7.00 per hour.

Overhead is allocated per 100-litre batch of homemade wine using direct labour hours. The standard rate for overhead allocation is $3.00 per direct labour hour. The company incurred total overhead costs of $15,707, of which $9,600 were fixed. The budgeted fixed overhead was $10,000.

(a) (i) Compute the direct labour rate and efficiency variances for Brighton Partners. [4 marks]

(ii) Compute the local fruit (direct materials) quantity and price variances for Brighton Partners. [4 marks]

(iii) Compute the variable overhead spending and efficiency variances. [4 marks]

(iv) Compute the total overhead variance. [1 mark]

(b) The following inputs are required for production of a 100-litre batch of wine:

- 400 kilograms of local fruit at $1.00 per kilogram
- 108 kilograms of granulated sugar at $1.10 per kilogram
- 120 lemons at $0.60 each
- 100 yeast tablets at $0.50 each
- 100 nutrient tablets at $0.40 each
- 320 litres of water at $0.40 per litre
- 224 hours of direct labour at $7.00 per hour

Brighton Partners estimates that 4 per cent of the local fruit is wasted, 10 per cent of the sugar is lost and 20 per cent of the lemons cannot be used.

Compute the standard cost of one litre of homemade wine. [7 marks]
(c) Brighton Partners collected the following information after its first year of operation:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales (150 000 units)</td>
<td>$3 000 000</td>
</tr>
<tr>
<td>Selling expenses (40% variable and 60% fixed)</td>
<td>$360 000</td>
</tr>
<tr>
<td>Direct materials used</td>
<td>$766 500</td>
</tr>
<tr>
<td>Direct labour</td>
<td>$427 500</td>
</tr>
<tr>
<td>Administrative expenses (20% variable and 80% fixed)</td>
<td>$420 000</td>
</tr>
<tr>
<td>Manufacturing overheads (70% variable and 30% fixed)</td>
<td>$540 000</td>
</tr>
</tbody>
</table>

You have been asked by the management of Brighton Partners to do a CVP analysis so that plans can be made for the coming year.

(i) Compute the unit contribution margin for Brighton Partners. [2 marks]

(ii) Compute the contribution margin ratio for Brighton Partners. [2 marks]

(iii) Compute the break-even point in dollars for Brighton Partners. [4 marks]

(iv) What is the required sales in dollars if the firm wishes to achieve a target net income of $550 000? [4 marks]

(v) Compute the firm’s margin of safety in dollars and as a percentage of last year’s net sales. [3 marks]

Total 35 marks

END OF TEST