Managerial Accounting: Business Administration
Mid-term Exam Review
Answer Key

1. Break even in units = \( \frac{\text{Fixed Expenses}}{\text{Contribution Margin}} \)
   \[ = \frac{90000}{20-14} = 15000 \text{ units} \]

Break even in Dollars:
Fixed Expenses = \( \frac{90000}{30} = 300000 \) dollars
CM Ratio = \( \frac{CM}{Sales} \)
CM Ratio = \( \frac{\text{Selling Price}}{\text{Variable expense}} \) = \( \frac{20}{14} = 100\% \)
Variable expense = 14 \( \frac{70\%}{30\%} \)
Contribution Margin = 6 \( \frac{30\%}{30\%} \)

b. If sales increase by $70,000. That means that the contribution margin will be increased by 21,000 (70,000 x 30)

Contribution Margin = 21000
Less: Increase in Fixed Expense (8000)
Increase in Operating Income = 13000

6. Decrease in selling price (per unit)
20 - (1 - 0.10) = $18
Unit Sales = 13500 x 2 = 27000

Prepared by: Charanjit Singh
Managerial Accounting
Midterm Exam Review

AJ Company

Contribution format Income Statement

Sales \( (27,000 \times 18) \) \( \quad 486,000 \)

Less: Variable Expenses \( (27,000 \times 14) \) \( \quad 378,000 \)

Contribution Margin \( \quad 108,000 \)

Less: Fixed Expenses \( (281,000 + 35,000) \) \( \quad 125,000 \)

Operating Loss \( \quad 17,000 \)

This option probably shouldn’t be implemented because has faced a greater loss than previous year.

Degree of Operating Leverage

\[
\text{Contribution Margin} = \frac{108,000}{-6,35} \text{ Operating Income/Loss } (17,000)
\]

(2)

Sterlings Manufacturing

Cost of Goods Manufacturing

- Direct Materials:
  - Beginning Raw Materials Inventory \( \quad \$20,000 \)
  - Add: Raw Materials Purchased \( \quad 89,000 \)
  - Less: Ending Raw Materials \( \quad 31,000 \)
  - Raw Materials used into production \( \quad 78,000 \)

  Add: Direct Labour

  Add: Manufacturing Overhead:
  - Factory Maintenance \( \quad 36,000 \)
  - Depreciation \( \quad 8,000 \)
  - Factory Supplies \( \quad 7,000 \)
  - Indirect Labour \( \quad 7,000 \)

  Add: Beginning Work in Process \( \quad 14,000 \)

  Less: Ending Work in Process \( \quad (33,000) \)

  Cost of Goods Manufactured \( \quad 49,000 \)

Prepared by: Chanonit Thian
Managerial Accounting
Mid Term Exam Review
Stergling's Manufacturing
Income Statement

Sales: $100,000

Less: COGS:
Beginning Finished Goods 12,000
Add: COGM 29,500
Goods Available for Sale 30,700
Less: Ending Finished Goods (7,000) (23,700)

Gross Margin 46,300

Less: Selling and Admin Expenses
Selling Expenses 9,800
Admin Expenses 70,000 (165,000)

Operating Income $24,800

3. a. High Low Method:

High: May = 6,100
Less: Low: April = (2,000)

Variable Cost per package = 4100 / 373 = 11

Fixed Cost (Using High):
Total cost for May = 6,100
Less: Variable Cost (5,222) (14X373) 878

878

y = a + bx
y = 878 + 373x

b = 9.
y = 878 + 373(9)

Total Cost = 4,235

Prepared by: Charanjit Singh
Managers Accounting
Midterm Exam Review

6. The factors that would likely affect the company's shipping expenses are:
   - Weight and volume
   - Distance
   - Speed

4. A-

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Materials</td>
<td>100,000</td>
</tr>
<tr>
<td>Accounts Payable</td>
<td>100,000</td>
</tr>
<tr>
<td>Works in Process</td>
<td>75,000</td>
</tr>
<tr>
<td>Manufacturing OH</td>
<td>10,000</td>
</tr>
<tr>
<td>Raw Materials</td>
<td>85,000</td>
</tr>
<tr>
<td>Manufacturing OH Insurance Expense</td>
<td>15,000</td>
</tr>
<tr>
<td>Prepaid Insurance</td>
<td>3,000</td>
</tr>
<tr>
<td>Work in Process</td>
<td>75,000</td>
</tr>
<tr>
<td>Manufacturing Overhead</td>
<td>65,000</td>
</tr>
<tr>
<td>Admin Salaries Expense</td>
<td>40,000</td>
</tr>
<tr>
<td>Salaries/Wages Payable</td>
<td>180,000</td>
</tr>
</tbody>
</table>

Prepared by: Champaithi Singh
Managerial Accounting
Midterm Exam Review

e. Advertising Expense: 5000
   Manufacturing O/H: 10000
   Accounts Payable: 15000

f. Manufacturing O/H \[20000 \times 15\%\]: 15000
   Depreciation Expense \[20000 \times 25\%\]: 5000
   Accumulated Depreciation: 20000

g. Predetermined Overhead Rate (POHR) =
   Estimated Overhead Cost
   Estimated Machine Hours
   \[\text{POHR} = \frac{80000}{35000} = 2.29/\text{Machine Hours}\]
   \[\text{POHR} \times \text{Actual Activity}\]
   \[2.29 \times 45000 = 103050\]

   Work in Process: 103050
   Manufacturing O/H: 103050
   Finished Goods: 250000
   Work in Process: 25000

h. Accounts Receivable:
   Sales: 320000
   COGS: 220000
   Finished Goods: 220000

B. Manufacturing O/H:
   b. 101000
   c. 15000
   d. 65000
   e. 101000
   f. 15000

   103050

   11950

   prepared by: Charanjit S 05
Managerial Accounting
Midterm Exam Review

Manufacturing O'H 11950
COGS 11950

5

Ripper Inc.
Production Report (Weighted Average)

<table>
<thead>
<tr>
<th>Description</th>
<th>Units</th>
<th>Material</th>
<th>Conversion</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginning Work in Process</td>
<td>75000</td>
<td>500000</td>
<td>500000</td>
<td>500000</td>
</tr>
<tr>
<td>Add: Units started into production</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Units</td>
<td></td>
<td></td>
<td></td>
<td>595000</td>
</tr>
</tbody>
</table>

- Units accounted for as follows:
  - Equivalent Units
    - Total Material
      - Units completed and transferred 500000
      - Ending Work in Process 95000
      - Material 95000 x 60% 57000
      - Conversion 95000 x 40% 38000
      - Total Equivalent Units 595000
    - Conversion
      - By Equivalent Units 834200
      - By Units 0.871992819
      - By Total Cost 0.647769517
      - Total Unit Cost: 1.519762336

OR => 1.52 (If Rounding)

Prepared by: Harvijit Singh
Managerial Accounting
Mid Term Exam Review.

- Costs Accounted for as follows:
  cost of units completed and transferred 759881.168
  Add: Ending WIP
  Material: 57000 x 0.87992819 49703.59068
  Conversion: 38000 x 0.647769517 24615.24165
  834200.4

6.

a. Direct Material
   Product 1: $7
   Product 2: $5.5
   Direct Labour
   Product 1: 24
   Product 2: 19

\[
\text{POHP} = \frac{400000}{18000} = 22.22
\]

\[
\begin{array}{ccc}
0.2 \times 22.22 & = & 4.44 \\
0.1 \times 22.22 & = & 2.22 \\
\hline
36.64 & = & 26.72
\end{array}
\]

b. Activity Rates:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Overhead</th>
<th>Total Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supporting DLH</td>
<td>$300000</td>
<td>11000</td>
</tr>
<tr>
<td>Quality Review</td>
<td>$15000</td>
<td>230</td>
</tr>
<tr>
<td>Product Testing</td>
<td>$15000</td>
<td>180</td>
</tr>
</tbody>
</table>

Overhead Applied to each Product

<table>
<thead>
<tr>
<th>Activity</th>
<th>Product 1</th>
<th>Product 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supporting DLH</td>
<td>3000 x 27.3 = 81900</td>
<td>8000 x 27.3 = 218400</td>
</tr>
<tr>
<td>Quality Review</td>
<td>120 x 326.1 = 39132</td>
<td>110 x 326.1 = 35871</td>
</tr>
<tr>
<td>Product Testing</td>
<td>90 x 83.3 = 7497</td>
<td>90 x 83.3 = 7497</td>
</tr>
</tbody>
</table>

\[
\frac{128529}{10000} = 12.855
\]

\[
\frac{261768}{30000} = 8.73
\]

Prepared by: Charanjit Singh (7)
### Managerial Accounting: Midterm Review

<table>
<thead>
<tr>
<th></th>
<th>Product 1</th>
<th>Product 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit Cost</td>
<td>$7</td>
<td>$5.5</td>
</tr>
<tr>
<td>Direct Material</td>
<td>$24</td>
<td>$19</td>
</tr>
<tr>
<td>Direct Labour</td>
<td>$12.85</td>
<td>$8.73</td>
</tr>
<tr>
<td>Overhead</td>
<td>$43.085</td>
<td>$33.23</td>
</tr>
</tbody>
</table>

To a.

<table>
<thead>
<tr>
<th></th>
<th>Absorption</th>
<th>Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Material</td>
<td>$15</td>
<td>$15</td>
</tr>
<tr>
<td>Direct Labour</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Variable O/H</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Fixed O/H</td>
<td>8.8</td>
<td></td>
</tr>
<tr>
<td>(220,000 ÷ 25,000)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unit Cost</td>
<td>$34.8</td>
<td>$26</td>
</tr>
</tbody>
</table>

Zeek Ltd

### Income Statement (Absorption)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Less: (DCS):</td>
<td></td>
</tr>
<tr>
<td>Beginning Inventory</td>
<td>$0</td>
</tr>
<tr>
<td>Add: COBM (34.8 × 25,000)</td>
<td>870,000</td>
</tr>
<tr>
<td>Less: Ending Inventory (50,000 × 34.8)</td>
<td>(174,000)</td>
</tr>
<tr>
<td>Gross Profit</td>
<td>304,000</td>
</tr>
<tr>
<td>Less: Operating Expenses</td>
<td></td>
</tr>
<tr>
<td>Variable Selling and Admin</td>
<td>140,000</td>
</tr>
<tr>
<td>Fixed Selling and Admin</td>
<td>150,000</td>
</tr>
<tr>
<td>Operating Income</td>
<td>(290,000)</td>
</tr>
<tr>
<td></td>
<td>$14,000</td>
</tr>
</tbody>
</table>

Prepared by: Charanjit Singh
Zee Co. Ltd
Income Statement (Variable)

Sales (20000x50)  $1,000,000

Less: Variable Costs:
  - GFS (26x 20000)  520000
  - Selling and Admin (20000x7)  140000  (660000)

Contribution Margin  340000

Less: Fixed Costs:
  - Fixed Mfg O/H  220000
  - Fixed Selling and Admin  150000  (370000)

Operating Loss  $(30000)

Prepared by: Charayt Singh