PART A
INSTRUCTIONS:  ANSWER ALL THREE (3) QUESTIONS.

Question 1

1. Discuss the difference between profit maximisation and shareholder wealth maximisation. Which of these is a more comprehensive statement of a company’s economic objectives?  
   [5 marks]

2. What effect would each of the following have on the value of the firm?
   a. A new advertising campaign increases the sales of the firm substantially.  
      [2 marks]
   b. A new competitor enters the market.  
      [2 marks]
   c. The production department achieves a technological breakthrough which reduces production costs.  
      [2 marks]
   d. The firm is required to install pollution-control equipment.  
      [2 marks]
   e. The work force votes to unionise.  
      [2 marks]
3. The following is a quote from a New Straits Times article:

“If a company makes product donations to the school - computers for instance - then the image of a company goes up as graduate students use the company’s products.”

Is such action consistent with a company’s objective of profit maximisation? Discuss in brief.

[5 marks]

[TOTAL : 20 MARKS]
Question 2

The maker of a leading brand of low-calorie microwavable food estimated the following demand equation for its product using data from 26 supermarkets around the country for the month of April:

\[ Q = -5200 - 42P + 20P_x + 5.2I + 0.20A + 0.25M \]

\[
\begin{align*}
(2,002) & \quad (17.5) \quad (6.2) \quad (2.5) \quad (0.09) \quad (0.21) \\
R^2 &= 0.55 \quad n=26 \quad F=4.88 
\end{align*}
\]

Assume the following values for the independent variables:

- **Q** = Quantity sold per month
- **P** (in cents) = Price of the product = 500
- **P_x** (in cents) = Price of leading competitor’s product = 600
- **I** (in dollars) = Per capita income of the standard metropolitan statistical area (SMSA) in which the supermarket is located = 5,500
- **A** (in dollars) = Monthly advertising expenditure = 10,000
- **M** = Number of microwave ovens sold in the SMSA in which the supermarket is located = 5,000.

Using this information, answer the following questions:

1. Compute elasticities for each of the variables. [5 marks]

2. How concerned do you think this company would be about the impact of a recession on its sales? Explain. [5 marks]

3. Do you think that this firm should cut its price to increase its market share? Explain. [5 marks]
4. What proportion of the variation in sales is explained by the independent variables in the equations? How confident are you about this answer? Explain.

[5 marks]

[TOTAL : 20 MARKS]
Question 3

You are given the following:

- Production = quantity of output (tonnes),
- Labour = amount of labour used to produce the output (man-days),
- Capital = value of capital used to produce output (RM),
- lnprod = natural log of production,
- Inlab = natural log of labour, and
- Incap = natural log of capital.

Based on the results of the regression analysis as shown in the following tables, answer the following questions:

1. What is the dependent variable in this production study? [2 marks]

2. What are the independent variables? [2 marks]

3. What does the R² mean? Use the result. [2 marks]

4. What does the F-statistics mean? Use the result. [2 marks]

5. What does the t-statistics mean? Use the results. [2 marks]

6. Using Model A, provide an economic interpretation for each of the coefficients. [2 marks]

7. Using Model A, calculate the relevant elasticities when capital = RM20,000 and labour = 800 man-days. [2 marks]

8. Which is the better model: Model A or Model B? Why? [2 marks]
9. Using Model B, determine the relevant elasticities. [2 marks]

10. Determine the return to scale. Is it decreasing, increasing or constant returning to scale? [2 marks]

MODEL A

Variables Entered/Removed (b)

<table>
<thead>
<tr>
<th>Model</th>
<th>Variables Entered</th>
<th>Variables Removed</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Labour, Capital(a)</td>
<td>.</td>
<td>Enter</td>
</tr>
</tbody>
</table>

a All requested variables entered.
b Dependent Variable: Production

Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.954(a)</td>
<td>.910</td>
<td>.896</td>
<td>73.73431</td>
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a Predictors: (Constant), Labour, Capital

ANOVA(b)

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
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</thead>
<tbody>
<tr>
<td>Regression</td>
<td>664188.769</td>
<td>2</td>
<td>331810.976</td>
<td>61.031</td>
<td>.000(a)</td>
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<tr>
<td>Residual</td>
<td>65051.395</td>
<td>12</td>
<td>5436.748</td>
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<tr>
<td>Total</td>
<td>729240.164</td>
<td>14</td>
<td></td>
<td></td>
<td></td>
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</table>

a Predictors: (Constant), Labour, Capital
b Dependent Variable: Production
# Coefficients(a)

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
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<tr>
<td>1</td>
<td>(Constant)</td>
<td>-349.8682</td>
<td>123.266</td>
<td>-2.838</td>
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<tr>
<td></td>
<td>Labor</td>
<td>1.022</td>
<td>.314</td>
<td>.646</td>
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<tr>
<td></td>
<td>Capital</td>
<td>.013</td>
<td>.008</td>
<td>.330</td>
</tr>
</tbody>
</table>

a  Dependent Variable: Production

## MODEL B

### Variables Entered/Removed (b)

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<thead>
<tr>
<th>Model</th>
<th>Variables Entered</th>
<th>Variables Removed</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lnlab, Lncap(a)</td>
<td>.</td>
<td>Enter</td>
</tr>
</tbody>
</table>

a  All requested variables entered.
b  Dependent Variable: Lnprod

## Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
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<td>.974(a)</td>
<td>.948</td>
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<td>.08998</td>
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a  Predictors: (Constant), Lnlab, Lncap
**ANOVA (b)**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.763</td>
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<td>.881</td>
<td>108.856</td>
<td>.000(a)</td>
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<tr>
<td></td>
<td>.097</td>
<td>12</td>
<td>.008</td>
<td></td>
<td></td>
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<tr>
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<td></td>
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</tbody>
</table>

a Predictors: (Constant), Lnlab, LnCap

b Dependent Variable: Lnprod

**Coefficients (a)**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>-4.749</td>
<td>.809</td>
<td></td>
<td>-5.901</td>
</tr>
<tr>
<td>Lnlab</td>
<td>1.078</td>
<td>.250</td>
<td>.586</td>
<td>4.303</td>
</tr>
<tr>
<td>LnCap</td>
<td>.415</td>
<td>.135</td>
<td>.418</td>
<td>3.070</td>
</tr>
</tbody>
</table>

a Dependent Variable: Lnprod

[TOTAL : 20 MARKS]
PART B
INSTRUCTIONS:  1. THERE ARE **FOUR (4) QUESTIONS IN THIS PART.**
                  2. ANSWER **TWO (2) QUESTIONS ONLY.**

Question 1

a) What are the criteria that you would use to select an appropriate forecasting technique?  
   [5 marks]

b) The economic analysis division of Mapco Enterprises has estimated the demand function for its line of weed trimmers as
   \[ Q_D = 18,000 + 0.4N - 350P_M + 90P_S \]
   Where
   - \( N \) = number of new homes completed in the primary market area
   - \( P_M \) = Price of the Mapco trimmer
   - \( P_S \) = price of its competitor’s Surefire trimmer

   In 2006, 15,000 new homes are expected to be completed in the primary market area. Mapco plans to charge RM50 for its trimmer. The Surefire trimmer is expected to sell for RM55.

   i. What sales are forecast for 2006 under these conditions?  
      [5 marks]

   ii. If its competitor cuts the price of the Surefire trimmer to RM50, what effect will this have on Mapco’s sales?  
      [5 marks]

   iii. What effect would a 30 percent reduction in the number of new homes completed have on Mapco’s sales (ignore the impact of the price cut of the Surefire trimmer)?  
      [5 marks]

   [TOTAL : 20 MARKS]
Question 2

a) Define and compare the following types of costs:

i. Sunk cost versus incremental cost [2.5 marks]

ii. Fixed cost versus variable cost [2.5 marks]

iii. Incremental cost versus marginal cost [2.5 marks]

iv. Opportunity cost versus out-of-pocket cost [2.5 marks]

b) State which of the costs in question 2(a) are considered “relevant” and which are considered “irrelevant” to a business decision. State your reasons. [5 marks]

c) You overheard somebody said: “I think our company should take advantage of economies of scale by increasing our output, thereby spreading out our overhead costs.”

Would you agree with this statement (assuming this person is not your boss)? Explain. [5 marks]

[TOTAL : 20 MARKS]
Question 3

a) Explain the importance of free entry and exit in the perfectly competitive market. If free entry and exit do not exist, what impact would this have on the allocation of resources and on the ability of firms to earn above-normal profits over time?

[5 marks]

b) “The perfectly competitive model is not very useful for managers because very few markets in the Malaysian economy are perfectly competitive.”

Do you agree with this statement? Why? What lessons can managers learn by studying perfectly competitive markets?

[5 marks]

c) Explain why the demand curve facing a perfectly competitive firm is assumed to be perfectly elastic (i.e. horizontal at the going market price).

[5 marks]

d) Explain why the demand curve facing a monopolist is less elastic than one facing a firm that operates in a monopolistically competitive market (all other factors held constant).

[5 marks]

[TOTAL : 20 MARKS]
Question 4

Malaysian Export-Import Shipping Company (MEISC) operates a general cargo carrier service between Port Klang and several European ports. It hauls two major categories of freight: manufactured items and semi-manufactured raw materials. The demand functions for these two classes of goods are:

\[ P_1 = 100 - 2Q_1 \]
\[ P_2 = 80 - Q_2 \]

where, \( Q_i \) = tons of freight moved. The total cost function for MEISC is

\[ TC = 20 + 4(Q_1 + Q_2) \]

a) Calculate the firm’s total profit function.

[4 marks]

b) What are the profit-maximising levels of price and output for the two freight categories?

[4 marks]

c) At these levels of output, calculate the marginal revenue in each market.

[4 marks]

d) What are MEISC total profits if it is effectively able to charge different prices in the two markets?

[4 marks]

e) If MEISC is required by law to charge the same per-ton rate to all users, calculate the new profit-maximising level of price and output. What are the profits in this situation?

[4 marks]

[TOTAL : 20 MARKS]

[TOTAL : 100 MARKS]