<table>
<thead>
<tr>
<th>KOD KURSUS</th>
<th>PN 5023 HUMAN RESOURCE MANAGEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>TARIKH</td>
<td>8 NOVEMBER 1999</td>
</tr>
<tr>
<td>MASA</td>
<td>2.30 – 5.00 PETANG</td>
</tr>
<tr>
<td>TEMPAT</td>
<td>DS 1 - SEKOLAH SISWAZAH</td>
</tr>
</tbody>
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**ARAHAN**

<table>
<thead>
<tr>
<th>NO. MATRIK</th>
<th>:</th>
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<tr>
<td>NO. KAD PENGENALAN</td>
<td>:</td>
</tr>
<tr>
<td>NAMA PENSYARAH</td>
<td>PUAN NORIZAN HAJI AZIZAN</td>
</tr>
</tbody>
</table>

**JANGAN BUKA SOALAN INI SEHINGGA DIBERI ARAHAN**
FINAL EXAMINATION

QUESTION # 1: (24 marks)

Starting a business of your own is not an easy task. To turn an idea into a workable plan needs a detailed and thorough study and planning.

After a few months of sweat, headaches, and hard work, your business plan is finally ready. Now is the time to “test” the plans.

*** Attach your business plan and mark it as Attachment 1. ***

a) How did you construct your strategic Human Resource Planning (HRP)? i.e why was HRP necessary, what was the HRP process & method that you adopted?

b) Outline the source(s), process and method(s) of Recruitment, and the Selection process and device(s) you planned to use. Why did you choose the specific recruitment method(s) and selection device(s)?

c) What specific Training & Development (T&D) did you propose for the new employees? Briefly describe the training process involved.

d) What did you include in your Compensation & Benefit package, and why? How are they determined or derived?

QUESTION # 2: (6 marks)

During our study trip to MODENAS recently, we were briefed on their Human Resource Management (HRM) practices, and were taken on a tour around the premises.

From the briefing and tour, and also from your own observation, briefly discuss and comment on TWO (2) HRM functions practiced by the organization.
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THE GRADUATE SCHOOL
UNIVERSITI UTARA MALAYSIA

FINAL EXAM

Code       : PN5033
Course     : Decision Analysis
Date       : 11 September 1999
Time       : 2.00 - 5.00 p.m.
Venue      : Sekolah Siswazah, UUM
Lecturer   : Dr. Adel A. K. Yaseen

Instructions:
Answer All The Following 8 Questions (4 Pages)

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1. Max. \[ Z = 2X_1 + 4X_2 \]
   \[ \text{S.T.: } 4X_1 + 8X_2 \leq 48 \]
   \[ 8X_1 + 4X_2 \geq 48 \]
   \[ X_2 \leq 3 \]
   \[ X_1, X_2 \geq 0 \]
   (i) Solve Graphically For Optimal Solution
   (ii) Find Slack/Surplus At Optimality

2. Max. \[ Z = 4X_1 + 8X_2 \]
   \[ \text{S.T.: } 2X_1 + X_2 \geq 20 \]
   \[ 3X_1 + 2X_2 \leq 36 \]
   \[ X_2 \geq 6 \]
   \[ X_1, X_2 \geq 0 \]
   (i) Find Optimal Solution Using The Simplex Method.
   (ii) Introduce The Dual Model

3. The Following Is A Partial Optimal Tableau For A LLP

   \[
   \begin{array}{ccccc|c}
   \rightarrow & 8 & 10 & 0 & 0 & 0 & \text{RHS} \\
   \downarrow C_j & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \\
   \text{B.V} & X_1 & X_2 & S_1 & S_2 & S_3 & \\
   \hline
   1 & 0 & -\frac{2}{3} & 0 & 1 & & 8 \\
   0 & 0 & -2 & 1 & 2 & & 12 \\
   0 & 1 & \frac{1}{3} & 0 & -1 & & 2 \\
   \end{array}
   \]

   (i) Complete The Tableau And Provide Solution
   (ii) Is It A Max. Or Min. Problem ... Why?
   (iii) Compute The Range Of Optimality For \( C_2 \).
   (iv) Identify The Shadow Price For First Constraint And Explain What It Means.
   (v) Find The Range Of Optimality For Third Constraint Quantity "\( Q_3 \)", Provided That The Constraint Is \( \geq \) Type And The Original Value Of "\( Q_3 \)" Is 12.
   (vi) Introduce The Solution Of The Dual For The Above LLP.
4. The Following Table Defines Cost/Unit Of Transportation From Source To Destination:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>From</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>4</td>
<td>6</td>
<td>3</td>
<td>5</td>
<td>120</td>
</tr>
<tr>
<td>2</td>
<td>8</td>
<td>4</td>
<td>6</td>
<td>2</td>
<td>80</td>
</tr>
<tr>
<td>Demand</td>
<td>50</td>
<td>60</td>
<td>20</td>
<td>70</td>
<td></td>
</tr>
</tbody>
</table>

(i) Discuss If It Is Balanced Or Not And Reintroduce It In A Transportation Standard Form.
(ii) Use The North-West-Corner Method To Introduce An Initial Basic Solution And Find The Expected Cost.
(iii) Use Modi Method For Testing For Optimality.
(iv) Identify The Optimal Solution Of The Minimal Cost.

5. Here Is A Network For A Project, That Follows "AOA" Format While Numbers On Activities Refer To Duration In Days:

![Network Diagram]

(i) Introduce A Table That Describes Above Network.
(ii) Find The Earliest Possible Event Date (ET) And The Latest Allowable Event Date (LT) For Each Event.
(iii) Identify The Critical Path And Its Duration By Using ET, LT & Activity Slack.
6. The following is a table describing the possible person-job assignments and relevant costs. Use the Hungarian method for identifying the optimal solution and compute total minimum cost.

<table>
<thead>
<tr>
<th>Person</th>
<th>Cost For Job</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>A</td>
<td>5</td>
</tr>
<tr>
<td>B</td>
<td>6</td>
</tr>
<tr>
<td>C</td>
<td>9</td>
</tr>
<tr>
<td>D</td>
<td>19</td>
</tr>
</tbody>
</table>

7. A company wants to invest in one of four projects under three possible states of nature $S_1$, $S_2$ & $S_3$. The following table describes the profit payoffs.

<table>
<thead>
<tr>
<th>Alternatives</th>
<th>States Of Nature</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$S_1$</td>
</tr>
<tr>
<td>$A_1$</td>
<td>10</td>
</tr>
<tr>
<td>$A_2$</td>
<td>20</td>
</tr>
<tr>
<td>$A_3$</td>
<td>10</td>
</tr>
<tr>
<td>$A_4$</td>
<td>15</td>
</tr>
</tbody>
</table>

(i) Provided complete uncertainty, identify the possible decision under maximin criterion.
(ii) Provided complete uncertainty, identify the possible decision under the minimax regret criterion.
(iii) Provided that $P(S_1) = 0.20$, $P(S_2) = 0.20$, $P(S_3) = 0.60$, construct a decision tree for the situation and recommend a decision on basis of the expected value approach.
(iv) What is the possible price of perfect information.

(i) Identify "λ", The Average Number Of Arrival Per Time Period, And "μ" The Average Number Served Per Time Period.
(ii) Find The Average Number Of Customers In The Queue And The Average Time Spent In The Queue.
(iii) Find The Average Number Of Customers In The System And The Average Time Spent In The System.
(iv) Find The Probability That There Are "2" Customers In The System.
(v) Find The Probability There Are More Than "2" Customers In The System.