ARAHAH:

1. This examination booklet has TWO (2) pages.

2. The examination consists of NINE (9) questions, and you are required to answer ALL questions.

3. Do not use pencil. Use pen or ballpen only.

4. Submit your answers in the same sequence as the questions in the examination booklet.
QUESTION 1: (21 points)

a. What are the phases in the Systems Development Life Cycle? (3 points)
b. For each phase, describe the purpose(s), and decision paths involved. (12 points)
c. For each phase, describe the roles taken on by the participants in the project team. (6 points)

QUESTION 2: (15 points)

COMPUCAD Incorporated is a company engaged in the development of computer-aided design software packages. The management of COMPUCAD has requested the development of a computerized project tracking system which will accumulate and report data on projects, employees, and departments. John Baker, the systems analyst assigned to the project, has developed the initial design of the data store in the system. Below is the description of this data store.

<table>
<thead>
<tr>
<th>Name: Projects</th>
<th>Component</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repeated</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Project Number</td>
<td>Primary key</td>
</tr>
<tr>
<td></td>
<td>Project Name</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Start Date</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Project Status</td>
<td></td>
</tr>
<tr>
<td>1-?</td>
<td>Employee Data</td>
<td>A = active; C = complete</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Employee Number</td>
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<td></td>
<td>Job Title</td>
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<tr>
<td></td>
<td>Project-Hours</td>
<td></td>
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</tbody>
</table>

Normalize the design of the data store. Use DATA STORE CONTENTS forms to present your answers. (15 points)

QUESTION 3: (6 points)

Compare critically the prototyping approach with the traditional detailed systems design approach.

QUESTION 4: (13 points)

a. What functions are provided by a CASE Tool? Describe each one. (8 points)
b. Which phase(s) of the systems development life cycle do the CASE Tools automate? (5 points)
QUESTION 5: (10 points)
What are the criteria that end-users use to evaluate the initial prototype of an information system? Describe in detail what is involved in each criterion.

QUESTION 6: (8 points)
During systems implementation, several kinds of documents are consolidated and/or prepared.
a. What are these types of documentation? (3 points)
b. For each type, list the specific documents that should be included, if applicable. (5 points)

QUESTION 7: (3 points)
How do you avoid making the prototyping process an endless cycle?

QUESTION 8: (15 points)
In the spectrum of business computer systems, the following types of information systems are included:

   (1) Transaction processing systems
   (2) Fixed-format reporting systems
   (3) Decision support systems

a. What type of information system is the Horatio & Co. Cost Control system? Explain why. (3 points)

b. For each type of information system listed above, what is the most suitable design choice in each of the following factors? (12 points)

   (1) User interface
   (2) Record identifiers
   (3) Data component
   (4) Purging process

   Explain the reasons for your answers.

QUESTION 9: (9 points)
What are the implications for systems analysis and for systems design and implementation in the following types of information systems?

   a. Transaction processing systems (3 points)
   b. Decision support systems (3 points)
   c. Expert systems (3 points)