This paper describes the IMTKU (Information Management at Tamkang University) question answering system for world history exams in Japanese university entrance exams at NTCIR-13 QA Lab-3. The IMTKU team proposed a question answering system that integrates natural language processing with deep learning approach for Japanese university entrance exams at NTCIR-13 QA Lab-3. In QA Lab-3 phase-2, the IMTKU team submitted 3 English End-to-End multiple-choice run results, 2 English End-to-End essay run results, 2 Japanese End-to-End essay run results, 2 English extraction essay run results, 2 Japanese extraction essay run results, 1 English summarization essay run result, and 1 Japanese summarization essay run result for National Center Tests and Second-stage Examinations. The best total score of IMTKU QA system is 40 in English multiple-choice subtask phase-3 and the best score is 0.408 for the complex Japanese essay subtask at NTCIR-13 QA Lab-3.

**System Architecture**

- **System Components**
- **Question Analysis**
- **Document Retrieval**
- **Answer Extraction**
- **Answer Generation**

**Performance**

<table>
<thead>
<tr>
<th>Run</th>
<th>Correct</th>
<th>Incorrect</th>
<th>Total</th>
<th>Total Score</th>
</tr>
</thead>
<tbody>
<tr>
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<td>24</td>
<td>36</td>
<td>12/36</td>
</tr>
<tr>
<td>IMTKURUN02</td>
<td>14</td>
<td>22</td>
<td>36</td>
<td>14/36</td>
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<tr>
<td>IMTKURUN03</td>
<td>7</td>
<td>29</td>
<td>36</td>
<td>7/36</td>
</tr>
</tbody>
</table>

**Discussion**

- **Limitations of Essay Subtask**
  The summaries include some matched words which are compared with the gold-standard answers although the presentations of the orders of words do not have a similar pattern.

- **Limitations of Multiple Choice**
  Question types remain to be resolved:
  - Unique-image questions
  - Unique-time questions
  - Slot-Filling questions

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