

SKILLS EVALUATION SYSTEM  
PROMOTION PROGRAM (SESPP)

**REPORT ON THE TRAINING SESSION  
IN CAMBODIA**

Experts	Mr. UCHIYAMA Akira / DENSO CORPORATION
Period	Monday, September 2, 2019 ~Friday, September 6, 2019
Venue	Phnom Penh City, Kingdom of Cambodia Preah Kossamak Polytechnic Institute (PPI)
Training courses	Skills Evaluation Method (SEM), Skills Evaluation Trial (SET)
Trade & Grade	Sequence Control work, 3rd grade

**September, 2019**

# Outline of Results

## 1. <SEM>

**Number of participants: 7 / Number of completed participants: 7**  
**<SET>**

**Number of Assessors: 7**

**Number of Examinees: 9 / Number of successful applicants: 3**

## 2. Schedule

Date & Time	Contents
Sep. 2 (Mon) 8:30 AM ~4:30 PM	<b>【Skills Evaluation Method (SEM) Day 1】</b> Opening ceremony  Technical instruction (Level of skills test 3rd grade) <ul style="list-style-type: none"> <li>· Design ( flowchart )</li> <li>· Programming</li> </ul>
Sep. 3 (Tue) 8:30 AM ~4:30 PM	<b>【Skills Evaluation Method (SEM) Day 2】</b> Technical instruction (Level of skills test 2nd grade) <ul style="list-style-type: none"> <li>· PLC product of Fuji Electric ( data type, mmap, command )</li> <li>· Design ( flowchart )</li> <li>· Programming ( processing order, debugging)</li> </ul>
Sep. 4 (Wed) 8:30 AM ~4:30 PM	<b>【Skills Evaluation Method (SEM) Day 3】</b> Technical instruction <ul style="list-style-type: none"> <li>· Hardware configuration of PLC</li> <li>· Electricity / general</li> </ul> Preparation of the trial <ul style="list-style-type: none"> <li>· Check up the contents of theoretical test ( laws, standards and translation)</li> <li>· Check up the contents of practical test (translation)</li> <li>· Setup of the venue</li> <li>· Check up the equipment of practical test</li> </ul>
Sep. 5 (Thu) 8:30 AM ~4:30 PM	<b>【Skills Evaluation Trial (SET) Day 1】</b> ★Practical test (examinees: 5) 9:00 AM- 10:35 AM (95 min.+ additional 20 min.) Scoring: 11:00 AM~  ★Theoretical test (examinees: 9) 1:30 PM - 2:30 PM (60 min.) Scoring: 3:00 PM~  Review
Sep. 6 (Fri) 8:30 AM ~2:00 PM	<b>【Skills Evaluation Trial (SET) Day 2】</b> ★Practical test (examinees: 5 * including 1 examinee on re-do) 9:00 AM- 10:35 AM (95 min.+ additional 20 min.) Scoring: 11:00 AM~ Summary

### 3. Reviews

- The training of cultivation of skills assessors was conducted. Although last time there were some problems with work space, safety aspects such as outlets and equipment trouble, this time they have been improved so I was impressed with that. Everybody worked more positively than the last time and the training was done while keeping discipline. Particularly in regards safety aspects, their understanding has been improved by repeatedly calling to attention any errors they made.
- In regards to the basic skills of sequence control work, in order to strengthen the designing and programing abilities, let the participants study about it by creating the assignments in steps. Although the degree of acquisition are somewhat scattered due to their regular work and knowledge, everyone's abilities have been improved.

### 4. Results of questionnaire

< SEM >

◆ Participants : 7 (Respondents : 7)

Satisfaction level:	Very satisfied	= 6	Satisfied	= 1
Usefulness level :	Very useful	= 6	Useful	= 1
Needs of continuation:	Must do	= 6	Should do	= 1

#### 【Meaningful contents】

- I want to take Mr. Matsumoto (JICA)'s lecture more.
- I understand everything is important. (I am very satisfied.)
- Scoring and operation checks are interesting。
- Utilization of equipment
- Programing
- Making of faults
- Practicing of evaluation method
- programing to PLC

#### 【Suggestions for improvement】

- I want to learn about Edit Wizard/ Logical programing.
- It would be better to implement the training in October or November so it won't be piling up with other examinations at the training institutes.
- It is more effective if the training takes place in October.
- It would be nice if carrying out the training in long-term while extending the time for lecture.
- It would be better to make a variety of assignments.
- Creating assignments and check sheets
- I wish to have training at higher levels to improve my skills to the 2<sup>nd</sup> grade next time.
- Further practices of programing to PLC.

#### 【Opinions / comments / preferred training session for the future】

- I would like to learn about touch panel and pneumatics.
- I hope that Japan continues this project as long as possible.
- Skills evaluation of PLC based on feedback control
- Practical test with level 1

- Electrical installation, Electrical system maintenance, Sequence control level 2, Motor control level 3

◆Manager

Needs of continuation: Must do = 1

【Suggestions for improvement】

- It would be better to implement the training in October or November because it is one of the busiest season for PPI in September.

【Opinions / comments / preferred training session for the future】

- Electrical installation, Wiring \*according to the needs of market.

< SET >

◆Participants : 7 (Respondents : 7)

Satisfaction level:	Very satisfied	= 7	Satisfied	= 0
Usefulness level :	Very useful	= 5	Useful	= 2
Needs of continuation:	Must do	= 6	Should do	= 1
Improvement level:	Very improved	= 6	Improved	= 1

【Suggestions for improvement】

- Preparation of the check list for the assessors.
- It would be better to implement the training in October because some assessors are busy with classes in September.
- Please extend the time of training.
- Implementing sequence control 2nd grade.
- More tests to practice PLC.
- Extending the time for programming to PLC for the assessors training.
- Training for I/O and basic flowchart creation, and extension of the training time of the assessors are needed.

【Opinions / comments / preferred training session for the future】

- Electrical installation. Electrical system maintenance (2 people), Servomotor (3 people), Stepper motor (2 people), VFD controlled by PLC, Sequence control 2nd grade, Electrical wiring
- I would like to learn more about PLC combined with SCADA system.
- Using of PID control function in PLC, using of HMI, PLC with inverter
- PLC programming based on feedback control by using A/D converter and control the step / servomotor.
- Sensors are necessary for the assessors so please include it to the training program.

< SET >

◆Examinees : 9 (Respondents : 9)

Satisfaction level:	Very satisfied	= 7	Satisfied	= 2
Usefulness level :	Very useful	= 5	Useful	= 4
Needs of continuation:	Must do	= 6	Should do	= 3

**【Suggestions for improvement】**

- It would be appreciated if a variety of training course were carried out prior to the exam.
- I hope Japan will support with equipment and technique next year as well.
- Please provide the examinees with at least one day of training.
- Preparation of PLC
- I did not understand why the programming to PLC was not successful. Also, I do not understand the conditions to operate PLC.
- Not enough time to complete the assignment considering its level of difficulty.
- The translation of test questions was not clear.
- I would like to take a short training course before the exam.

**【Opinions / comments / preferred training session for the future】**

- I would like to take the exam after taking the JICA's training.
- I want to experience more.
- It would be nice if the training course of sequence control at a higher level takes place according to the needs of my current work.
- I hope that the training of PLC will be continued.
- CAM
- Higher level of sequence control

**◆Manager**

Needs of continuation: Must do = 1

**【Suggestions for improvement】**

- It would be better to implement the training in October or November because it is one of the busiest season for PPI in September.

**【Opinions / comments / preferred training session for the future】**

- Electrical installation, Wiring \*according to the needs of market.