THESIS REVIEWER'S REPORT

I. IDENTIFICATION DATA

Thesis title:	**"IoT based Smart Home"**
Author's name:	**Singh Guneet**
Type of thesis :	master
Faculty/Institute:	Faculty of Electrical Engineering (FEE)
Department:	**Dept. of Microelectronics**
Thesis reviewer:	Ing. Josef NÁHLIK, CSc
Reviewer's department:	Now: Pensioner; Previously: UCT Prague, Dept. of Solid State Eng.

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment	**ordinarily challenging**

How demanding was the assigned project?

The author's task is to study the possibilities of using ESP32 and ESP8266 and use this knowledge to design and implement a Home Automation system and compare its parameters with products on the market. This is a common difficulty.

Fulfilment of assignment	**fulfilled with minor objections**

How well does the thesis fulfil the assigned task? Have the primary goals been achieved? Which assigned tasks have been incompletely covered, and which parts of the thesis are overextended? Justify your answer.

Final evaluation of the proposed system parameters and its comparison with any commercial products is missing.

Methodology	**correct**

Comment on the correctness of the approach and/or the solution methods.

Author´s approach to task is correct. I have no principal comments. Only final evaluation of his work is missing in the thesis.

Technical level	**C - good.**

Is the thesis technically sound? How well did the student employ expertise in the field of his/her field of study? Does the student explain clearly what he/she has done?

Technical level of the diploma thesis is good, I think. Allow me some comments. The research part of the diploma thesis contains only a brief literature overview and an extensive set of data sheets of components usable for system design. Data sheets are brief and have the same format without further author comments. The unit of memory capacity is Byte (kB, MB, etc. not KiB, KB, etc.). See p. 4 and p. 5. Similarly kilogram = kg (not Kg). In the next part of thesis the model of two-floor house with garden and garage is presented. Detailed schematic interconnection of ESP 8266 (ESP32) with all used sensors (motors, relays etc.) is presented too. For this model dashboard is created in Ubidots to access all the functions of the home automation system and the home security system as well. I think, the flow diagram in Fig. 43 is not correct (both water level sensors must be take in to account separately). The description of Fig. 51 is incomplete (alternative signal paths are not described). Comparison of proposed system with any commercial products is missing.

Formal and language level, scope of thesis	**B - very good.**

Are formalisms and notations used properly? Is the thesis organized in a logical way? Is the thesis sufficiently extensive? Is the thesis well-presented? Is the language clear and understandable? Is the English satisfactory?

The submitted thesis is organized in a logical way. I have no fundamental objections. I am only a user, not an English professor. I state that I understand the author's English well. The English is satisfactory. The final correction of thesis text was done carefully. There are minimum of grammar errors in the thesis (eg. p. 30 in the text of Figure 30: .. Air-coditiner .. to replace by ..Air-conditioner ..). The scope of the submitted work as a whole is reasonable.

Selection of sources, citation correctness	B - very good.
Does the thesis make adequate reference to earlier work on the topic? Was the selection of sources adequate? Is the student's original work clearly distinguished from earlier work in the field? Do the bibliographic citations meet the standards?	
Number of literature sources is sufficient. They are relevant with regard to solved task (see Literature Review on p. 2 and p. 3.) . Student's original work is not formally distinguished from earlier work quite clearly (It is clear for me, I think). Bibliographic citations meet the standards.	

Additional commentary and evaluation (optional)
Comment on the overall quality of the thesis, its novelty and its impact on the field, its strengths and weaknesses, the utility of the solution that is presented, the theoretical/formal level, the student's skillfulness, etc.
I have no additional comments.

III. OVERALL EVALUATION, QUESTIONS FOR THE PRESENTATION AND DEFENSE OF THE THESIS, SUGGESTED GRADE

The submitted diploma thesis has a good professional level. At the end of the work, the author only neglected to evaluate the proposed system and compare it with commercial products. You can do that in the defense. I definitely recommend the thesis for defense.

Questions for the diploma thesis defense:

1. Could the author explain how periodic automatic pumping of water into the roof tank works (in Fig. 43)? I believe that automation must work with both level sensors.

2. Briefly evaluate the designed system, please.

The grade that I award for the thesis is:

C - good.

Date: **4.6.2020**   Signature: