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Study program „Biomedical and Clinical Technology“
 Study branch „ Biomedical Engineering“

OPPONENT REVIEW OF DIPLOMA THESIS (MASTER PROJECT THESIS)

student: Rasim Muftiev, advisor: Roman Matejka
 with title: System for dynamic cultivation of pericardium

Evaluation of the diploma thesis reaches the following level:

	Evaluation criteria of thesis	Points
1.	Their objectives and appropriateness of the content structure thesis in terms of a given topic (performance specification). (0 – 30)* <i>Each part of the award or sentence must have a clear reflection in the processed work. Excellently fulfilled input can be evaluated by the maximum number of points. The ratio in the range of entries that is not properly or fully processed, the evaluation could be accordingly reduced.</i>	28
2.	Theoretical level and the use of available literature in the thesis. (0 – 30)* <i>Opponent assesses the relevance of the theoretical part of the award, retrieval range and the systematic arrangement of the findings. If prevails verbatim texts, opponent reduces to score 15 points (of course, provided that the copyright holder). The reason for the reduction in the overall evaluation is also inadequate selection of theoretical knowledge, literature and resources.</i>	28
3.	Range of experimental work (SW, HW), applied knowledge and knowledge level processing methodology and conclusions of this work. (0 – 30)* <i>The maximum number of points can be given a thesis that is suitable for publication. This aspect is particularly in terms of importance to enhance the theoretical knowledge and practical importance. Especially positively evaluated is a model, software product as well as technical implementation. For minor methodological flaws, the assessment can be reduced by up to 5 points. Inconsistency of treatment with theoretical and unclear or not fully professional approach has led to a reduction of at least 15 points. Further downgrades may be granted for the lack of discussion and relevant conclusions. A total of 30 points for a very complex and error-free work, including other activities such as participation in scientific-research project or grant, active participation in the creation of publications, patents and industrial designs can be applied.</i>	28
4.	Formalities and finish thesis (level writing, markings structure of the text, graphs, tables, citations in the text, bibliography, etc.). (0 – 10)* <i>Opponent evaluates formal requirements in terms of compliance with the rules of writing, theses attributes, i.e. text formatting, structure of the work, a list of references, availability thesis charts and tables, the method of citation. The total points can be reduced for non-compliance of rules by the maximum score of 2 points for each attribute disrespect. Also, for the occurrence of grammatical errors, typos and improper terminology and stylistics is reduced by 2-4 rating points as well. Within the thesis should appear only standard terminology, especially in the English language (must evaluate the ability to express the technical language - 2 points), graphs are formed according to the principles (see tolerance and the influence of statistical processing - 2 points) for graphs and tables are appropriate legends and everything is legible (2 points) and there are followed by the citation rules ISO690 and ISO690-2 (2 point).</i>	8
5.	Total points	92

* In case of further comments carry on the overleaf

Proposal issues for defence

1.
2.
3.
4.



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The overall assessment of the level elaboration of the diploma thesis:

A (excellent)	B (very good)	C (good)	D (satisfactory)	E (sufficient)	F (failed)
100-90 points	89-80 points	79-70 points	69-60 points	59-50 points	< 50 points
<input type="checkbox"/> **					

** - check the appropriate classification level, in the case of evaluation of F (fail), please provide detailed comments

Diploma thesis was evaluated at classification level ...A..... mentioned above.

Comments

The objective of the masters thesis is to construct the perfusion/ cultivation chamber. Most of the results reported in the text are in designing the electronic device, equipped with several sensors. The hardware and software of this device controls the cultivation chamber. Part of the thesis are experiments with the cultivation chamber. My review of the thesis focuses on the part of the project within the subject of electrical engineering and hardware and software design. I put its interdisciplinary connections a bit aside.

From the formal point of view the thesis looks good. Its English language level is satisfactory (as far as I can judge as I am not a native speaker). Several minor typos and grammatical errors are present.

I grade the thesis with the A mark. My conclusion is that the thesis reports on a substantial and original work results of the sole author of the thesis.

Minor points

In general, Figures are poorly annotated, mostly by giving Figure the title. No further descriptions or legends, or credits in case of reprinted Figures are given. (Figs 2.1, 2.2, etc look like reprinted.) Many Figure titles are a bit too sketchy.

Further examples: Figures 4.12 and 4.16 jut show messy setups on a work bench or in a thermostat, containing peristaltic pump, hardware device and many other paraphernalia... I guess some of Figures in Results section are print-screens from the supporting software. Some (like Fig. 5.3.) are poorly annotated. Sometimes showing less Figures (like for example omitting 5.10, 5.11, 5.12) would leave a better impression. Some Figs are better, but good examples are hard to find, like Fig. 5.7...

Some literary references in the text do not have corresponding items in the list of references (like: (Wikipedia, 2016) on page 40).

Questions for the defense:

1. The author of the thesis should clearly state, what was his contribution to the project.
2. What part of this work and what particular solutions to realization problems he values most?
3. What was the main obstacle to realization works?

Name and Surname incl. degrees: Petr Marsalek

Signature:

Institution: First Medical Faculty, Charles University in Prague

Date: June 13, 2016

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