



Q1. Elaborate one example of research question and one example of hypothesis in your area of research.

[What is intended here is that you practice the format, not that you find a relevant research problem]
[Try to CAREFULLY formulate them according to the discussed rules]

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Q2. Consider the application of either the “traditional” scientific method or the design science research method to your work plan.

In this context, which strategy can you foresee to validate your thesis? How will you get validation data? Which validation approach?

Give details and be concrete.

[Focus ONLY on the validation step, do not describe the other steps]

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<https://www.scijournal.org>
<https://www.scimagojr.com/>

Q3. Searching on ISI SCI and SCIMAGO, identify 3 relevant journals in your area

(with simultaneously good impact factor SCI and quartile Q1 Scimago)

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Q4. Assume that you are a member of the Program Committee for a conference. As such, choose and evaluate one paper:

- <https://sites.fct.unl.pt/doutoramento-engenharia-electrotecnica-computadores/files/doceis-03.pdf>
- <https://sites.fct.unl.pt/doutoramento-engenharia-electrotecnica-computadores/files/doceis-14.pdf>

▪ **Evaluation form:**

<https://sites.fct.unl.pt/doutoramento-engenharia-electrotecnica-computadores/files/reviewform.doc>

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Q5. Multi-disciplinary research is becoming more and more important to address complex problems.

- A) Identify 5 (potential) relevant benefits and 5 main risks of multi-disciplinary research.**
- B) What is the difference between interdisciplinarity and multi-disciplinarity?**
- C) Identify 3 benefits and 3 obstacles in collaboration university-industry.**

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Q6.

- 1) Searching on Internet, find 1 or 2 examples of programs (besides the European Commission programs) that fund research projects and have Calls for 2025.**

- 2) Identify 2 or 3 tools/platforms for developing a project portal.**
 - Define and justify your criteria for tools selection (... Take into account the collaboration needs)**
 - Apply AHP to rank them.**

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[groups of 3 or 2 students]

- Q7.** Using both ISI Web of Science / or SCOPUS and Scholar Google, verify the number of citations and h-index of
- Your supervisor
 - Another professor in the department
 - Another professor from University of Cardiff (UK) or University of Valencia (Spain)

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- Q8.** Write a short survey paper (min 3, max 4 pages) on (choose one):
- Option 1: the role of ethical issues regarding publication of results [see Unit 10]
- Option 2: the impact of GDPR on research data [see Unit 10]
- Option 3: how to prepare review meetings in an international research consortium [see Unit 8]

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focusing your area of research (i.e. electrical and computer engineering).

*Consider the guidelines for writing survey papers studied in the course. [See Unit 3 & Unit 4]. **Use IEEE template format***

- Q9. A.** Briefly describe the steps of “Environmental scanning”

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- B.** Briefly describe the what you understand by “gap analysis” and “feasibility checking” in roadmapping.

**Q10. Briefly distinguish between IP protection and IP enforcement.
Which mechanisms for each case?**

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Q11.

- **Prepare a Mini-project proposal for one of the programs presented at the class.** 21 Feb 2025
5:00 PM
- **Prepare a Powerpoint summary presentation (~20 min) of the highlights of the proposal to present in class.** 28 Feb 2025