Guidelines for design research

I. Your research should include four sections:

                        1) Introduction

                        2) Design

                        3) Implementation

                        4) References

II. Formatting:

1) paper size A4

2) font type times new roman

3) font size 14

4) spacing 1.5

5) alignment justify

6) page number on every page

note: there will be template on your course site which contains all these requirements.

Design an application from your day life using ASM method and write its VHDL

1) **Introduction**

   Good and clear explanation of your chosen application. This application should contain at least four states in the design beside one or more counter /timer. Also the application should contain at least two conditions/inputs.

2) **Design**

   In this section, draw your ASM based on the written specifications in section 1. Please try to explain each component of your ASM. Also, indicate the name of inputs are abbreviation for what. i.e. if you use input **S,** this input is the abbreviation of the start of your design.

3) **Implementation and results**

   Write your VHDL code associated with comments. Take screenshots of your simulation results.

4) **References**

   If your reference is **book: The author(s), The title**, book.

   If your reference is **lecture notes:** The author(s), year, The title, Lectures note, University.

   If your reference is **URL:** URL, Access time

Design an application from your day life using state diagram method and write its VHDL

1) **Introduction**

   Good and clear explanation of your chosen application. This application should contain at least four states in the design beside one or more counter /timer. Also the application should contain at least two conditions/inputs.

2) **Design**

   In this section, draw your state diagram based on the written specifications in section 1. Please try to explain each component of your diagram. Also, indicate the name of inputs are abbreviation for what. i.e. if you use input **S,** this input is the abbreviation of the start of your design.

3) **Implementation and results**

   Write your VHDL code associated with comments. Take screenshots of your simulation results.

4) **References**

   If your reference is **book: The author(s), The title**, book.

   If your reference is **lecture notes:** The author(s), year, The title, Lectures note, University.

   If your reference is **URL:** URL, Access time

Design an application from your day life using ASM method and draw its logic blocks/gates

1) **Introduction**

Good and clear explanation of your chosen application. This application should contain at least four states in the design beside one or more counter /timer. Also the application should contain at least two conditions/inputs.

2) **Design**

In this section, draw your ASM based on the written specifications in section 1. Please try to explain each component of your ASM. Also, indicate the name of inputs are abbreviation for what. i.e. if you use input **S,** this input is the abbreviation of the start of your design.

3) **Implementation and results**

Implement the ASM in section 2 by logic blocks/ gates.

4) **References**

If your reference is **book: The author(s), The title**, book.

If your reference is **lecture notes:** The author(s), year, The title, Lectures note, University.

If your reference is **URL:** URL, Access time

Design an application from your day life using state diagram method and draw its logic blocks/gates

1) **Introduction**

   Good and clear explanation of your chosen application. This application should contain at least four states in the design beside one or more counter /timer. Also the application should contain at least two conditions/inputs.

2) **Design**

   In this section, draw your state diagram based on the written specifications in section 1. Please try to explain each component of your state diagram. Also, indicate the name of inputs are abbreviation for what. i.e. if you use input **S,** this input is the abbreviation of the start of your design.

3) **Implementation and results**

   Implement the state diagram in section 2 by logic blocks/ gates.

4) **References**

   If your reference is **book: The author(s), The title**, book.

   If your reference is **lecture notes:** The author(s), year, The title, Lectures note, University.

   If your reference is **URL:** URL, Access time

Guidelines for the comparative study research

a) Your research should include six sections:

   1) Introduction

   2) PLD devices survey

   3) ROM fabrication survey

   4) Application

   5) Summary

   6) References

b) Formatting:

   1) paper size A4

   2) font type times new roman

   3) font size 14

   4) spacing 1.5

   5) alignment justify

   6) page number on every page

   note: there will be template on your course site which contains all these requirements.

Comparative study of PLD devices, ROM fabrications. Give an application that use one of the PLD devices and explain each logic block.

1) **Introduction**

   In this section, you give a brief introduction about what you will discuss in the following sections.

2) **PLD devices survey**

   There are different PLD devices as mentioned in your lectures. Try to compare between these PLD devices from the view points; density timing, cost, vendor…....etc. Moreover, support your comparison by giving an example for each PLD device.

3) **ROM fabrication survey**

   There are different methods to fabricate/program ROM. Try to compare at least four of them. There are different elements that you can use in the comparison; brief explanation, advantages, disadvantages, ….. etc.

4) **Application**

   Choose one application that depend on one of the PLD devices. This application should contain at least one or more PLD device, one or more counter /timer, one or more register. Finally, explain the purpose of each logic block in this application to fulfill the aim of the application. Note: search for a designed application not design your own. It is not required to design an application.

5) **Summary**

   Summarize your work.

6) **References**

   If your reference is **book: The author(s), The title**, book.

   If your reference is **lecture notes:** The author(s), year, The title, Lectures note, University.

   If your reference is **URL:** URL, Access time