



**THESIS DEFENSE – GUIDELINES FOR STUDENT**

This document defines the minima for thesis defense (Pre-defense and Final defense). A student will be expected to know these at a minimum and no student should be allowed to appear for a defense by the GEC unless he/she demonstrates the required level of preparation.

**1. Research**

**1.1 Statement of Work**

- Be able to justify your methodology
- Be able to justify your choice of software / code

**1.2 Domain Knowledge**

- Be able to define / describe the basic concepts relevant to your work
- Be able to describe the literature research leading to your work
- Be able to identify gap of knowledge between existing literature and proposed research work leading to problem identification emphasizing novelty of research.

**1.3 Analytical to Computational**

- Know the mathematical model(s) applied in your work
- Know the process of converting the relevant mathematical model to the algorithm / computational method for your work

**1.4 Contribution to the Real World Issue**

- Be able to explain “actual contribution” to a real world problem
- Be able to explain novelty and practical implementation of the work
- Be able to explain the limitations of the work

**1.5 International Community in the Field**

- Know (preferably interact with) at least one international research group working in the same area.

**1.6 Validation concept**

- Know the concept of validation
- Be able to explain your process of validation
  - o For the software / code
  - o For your own work

**1.7 Opinion**

- Your opinion on
  - o The value of the project
  - o Complexity of work
  - o Knowledge/experience gained
  - o Future implications



## **THESIS DEFENSE – GUIDELINES FOR STUDENT**

### **2. Presentation**

#### **2.1 Standardized Title Slide**

- The title slide needs certain content (in addition to the thesis title) as a standard:
  - NUST logo
  - SINES (or the full name)
  - Number of total slides
  - Date

#### **2.2 Format & Page Numbering**

- A clean (uncluttered) slide theme with font sizes visible from end of conference table
- Slide numbers visible on all slides

#### **2.3 Problem Statement**

- A slide on the problem statement

#### **2.4 Spellings / Grammar**

- No spelling mistakes or major grammatical mistakes

#### **2.5 Summary of Achievement**

- One slide on technical achievements of the thesis work. Should be placed after conclusions but before 'Future Work'
- A final slide with a 2-3 sentence summary of the work done, in layman English. Should not take more than 30 seconds to speak

#### **2.6 Graphs / Charts / Diagrams**

- Know your graphs / charts / diagrams
- Be able to describe diagrams / flowcharts / algorithms
- Label your graphs / diagrams properly and be able to describe the concepts being shown

#### **2.7 Conduct of Presentation**

- It's a formal exam, so wear formal clothes and present yourself in your most formal demeanor
- Presentation will be in English. Q&A should also preferably be in English, but Urdu may be used to clarify your response if required
- To start, greet the audience, introduce yourself, and then talk about your thesis title and anything else you want to cover on the title slide

#### **2.8 Recommended Template for Presentation**

- Introduction.
  - Theoretical Background
  - Motivation



School of Interdisciplinary Engineering & Science (SINES)  
National University of Sciences & Technology (NUST)

## **THESIS DEFENSE – GUIDELINES FOR STUDENT**

- Problem Statement
- Literature Review
  - o Gaps in literature
  - o Aim and objectives of proposed solution
- Proposed Solution Methodology
- Validations / Examples / Case study
- Results/Discussion
- Conclusion
- Future work

**3. Thesis Write-up:** Before submission following points must be thoroughly fulfilled;

### **3.1 Mechanics of Report**

- o Style & Report Formatting is up to mark
- o Grammar is correct

### **3.2 Problem / Understanding**

- o Problem Statement is well defined
- o Theoretical Background covers sufficient literature

### **3.3 Methods and Approaches**

- o Details of Procedure are well explained
- o Graphs & Pictures are illustrated appropriately
- o Derivations & Discussions including comparative analysis (if any)

### **3.4 Results**

- o Conclusions are clearly drawn and Recommendations including limitations are highlighted accordingly

### **DECLARATION by Student**

I declare that I have read & incorporated the above mentioned points accordingly.

Student Name & Reg#: \_\_\_\_\_ Signature & Date: \_\_\_\_\_

### **Recommended / Not Recommended**

Supervisor: \_\_\_\_\_ Date: \_\_\_\_\_

### **Approved / Not Approved**

HoD: \_\_\_\_\_ Date: \_\_\_\_\_