

**FORMAT GUIDELINES**  
**for**  
**THESES AND DISSERTATIONS**



**GRAND ASIA UNIVERSITY SIALKOT**  
**(GAUS)**

## Composition and Structure

Thesis consist of four major sections and should be placed in the order listed:

**Preliminary Pages** Title Page

(required)

Copyright (optional, Ph.D. only) Dedication

(optional) Acknowledgment (optional)

Table of Contents (required) List of Tables

(required)

List of Figures (required)

List of Abbreviations/Nomenclature/Symbols (optional)

**Text**

Abstract

Introduction (may be referred to as Chapter 1)

Literature Review (may be referred to as Chapter 2)

Materials and Method (may be referred to as Chapter 3)

Results (may be referred to as Chapter 4)

Discussion (may be referred to as Chapter 5)

Conclusion (may be referred to as Chapter 6)

**References** (required) **Appendices**

(optional)

THESIS  
PREPARATION

*The above titles should be written in 14 bold Times New Roman in upper case and centered. All text should be written in 12 Times New Roman. The specimen of title page approval sheet and guidelines for acknowledgements can be seen at the end.*

**Chapter 1 (14 font size, bold, Times New Roman, Centered)**

**Introduction (14 font size, bold, Times New Roman, Centered)**

It should go from general to specific; the last paragraph(s) should reflect the justification of the study; and content organization should be well observed so as to avoid gaps. Rationale or justification of the study may be clearly written under heading of significance of the study. Under introduction, following headings are included.

- Statement of the Problem
- Significance of the Study
- Objectives of the Study
- Research Questions and/or Hypotheses
- Assumptions (if applicable)
- Limitations (if applicable)
- Delimitations (if applicable)
- Operational Definitions of Key Terms (if applicable)

*Note: All of the above headings should be written in 14 font size, bold, Times New Roman style and left side adjusted. Other recommended type styles of APA 7 may be used as per instruction of the supervisor.*

**Chapter 2 (14 font size, bold, Times New Roman, Centered)**

**Review of Related Literature (14 font size, bold, Times New Roman, Centered)**

- It should focus latest researches in the field (both local and global contexts) in the field.

- Different primary and secondary sources should be used such as books, journals, Internet, national or international reports, master, MPhil and PhD theses etc.
- The headings should appear in 14 font size, bold, Title Case, Times New Roman style, and left side adjusted.
- The 1<sup>st</sup> level subheadings should appear in 12 font size, bold, Title case, Times New Roman style, and left side adjusted
- The 2<sup>nd</sup> level subheadings should appear in 12 font size, bold, Italic, Title case, Times New Roman style, and left side aligned.
- The 3<sup>rd</sup> level subheadings should appear in 12 font size, bold, sentence case, Times New Roman style, and left side indented
- The 4<sup>th</sup> level subheadings should appear in 12 font size, bold, Italic, sentence case, Times New Roman style, and left side indented.

### **Chapter 3 (14 font size, bold, Title case, Times New Roman, Centered)**

#### **Research Methodology (14 font size, bold, Title Case, Times New Roman, Centered)**

Nature of the Study (qualitative/quantitative/mixed-methods design)

Population/Universe of the Study (mention nature, size)

Sampling Design (number of participants, sampling technique/s used)

Instrumentation (if use more than one instrument, then give detail of all instruments about main themes on which questions designed, types of questions included, and validation mechanism of instruments).

Data Collection Procedure (It should include answers of questions: When data were collected? Who were involved? Whether personally collected or team were involved or data was collected via email, Skype, telephone etc.)

Data Analysis Techniques (possible data analysis techniques should be mentioned for each of the instruments of the study. If study is qualitative, then better to draw a flow chart/figure showing steps of thematic analysis)

Ethical Considerations

### **Chapter 4 (14 font size, bold, Times New Roman, Centered)**

#### **Data Analysis and Interpretation (14 font size, bold, Times New Roman, Centered)**

- After an introductory paragraph, analysis and interpretation of data should be presented in some logical order e.g. objective, research question/hypothesis-wise, instrument-wise etc.
- Unnecessary tables and figures should be avoided. Wherever tables serve the purpose, figures should be avoided and vice versa.

## **Chapter 5 (14 font size, bold, Times New Roman, Centered)**

### **Summary, Findings, Discussion, Conclusions and Recommendations**

#### **(14 font size, bold, Times New Roman, Centered)**

- Summary should reflect key objectives and significance of the study, brief of methodology/research design, data analysis procedure and key findings.
- If more than one research instruments were used for data collection, then findings of each should preferably be discussed separately.
- Discussion should be supported with previous studies findings in an analytical way.
- Conclusions should be aligned with the findings. These are written in present indefinite tense.
- Recommendations should be specific related to the key findings and conclusions. There should be also some recommendations for future research.

#### **References (14 font size, bold, Title case, Times New Roman, Centered)**

- All references should be written in alphabetically by last name of the author.
- References should be made as per APA manual 7<sup>th</sup> edition. A few most commonly used examples are given below.

American Psychological Association (2019). *Publication manual of APA 7<sup>th</sup> edition*. American Psychological Association.

Creswell, J. W. & Plano Clark, V. L. (2007). *Designing and conducting mixed-methods research*. Sage.

Elliott, S. M., Busse, R. T., & Shapiro, E. S. (1999). Intervention techniques for academic performance problems. In C.R. Reynolds & T.B. Gitkin (Eds.) *The handbook of school psychology*, pp. 664-685. Sage.

Government of Pakistan (2009). *National Education Policy (2009)*. Islamabad: Federal Ministry of Education, Curriculum Wing.

Madise, N. J. & Mpona, M. O. (1997). Child malnutrition and feeding and feeding practices in Malawi. *Food Nutrition Bull*, 18, 190-201.

Shafqat, H. & Saeed, M. (2012). Assessing performance of secondary school head teachers: A survey study based on teachers' views in Punjab. *Educational Management Administration & Leadership*, 37(6), 766-783.

#### **Appendices**

##### **Appendix A (Title case, 14 font size, right side adjusted) Appendix B**

##### **(Title case, 14 font size, right side adjusted) Appendix C .....**

- Each appendix should be reflected at the separate page.
- The title should be written in 14 font size and centered.
- Appendices should appear in sequence the way presented in the te

**PLANT TISSUE CULTURE AS A PERPETUAL SOURCE FOR  
PRODUCTION OF INDUSTRIALLY IMPORTANT BIOACTIVE  
COMPOUNDS**



***MINAL FATIMA***

***Roll no.***

***2023-2027***

**DEPARTMENT OF BIOSCIENCES**

**GRAND ASIAN UNIVERSITY SIALKOT**

**SIALKOT**

**November, 2023**

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**DEPARTMENT OF BIOSCIENCES  
GRAND ASIAN UNIVERSITY SIALKOT  
SIALKOT**

**SEPTEMBER, 2023**

**APPROVAL SHEET**

The thesis titled “**PLANT TISSUE CULTURE AS A PERPETUAL SOURCE FOR PRODUCTION OF INDUSTRIALLY IMPORTANT BIOACTIVE COMPOUNDS**” is accepted hereby at the Department of BioSciences, Grand Asian University Sialkot, Sialkot in partial fulfillment of the requirements for the award of the degree of Master of Science (MS).

***Thesis Evaluation Committee***

	<b>Name</b>	<b>Position</b>	<b>Signature</b>
_____	Supervisor	_____	_____
_____	Internal Examiner	_____	_____
_____	External Examiner	_____	_____

**Dated:** \_\_\_\_\_

**HOD**  
**Department of BioSciences**



## ***Acknowledgements***

Following sequence should be observed while writing acknowledgements. Supervisor

Internal member

HOD of Department

Other teachers at Department who taught and/or provided guidance in course work and/or thesis

Other professionals and friends who helped at any stage during research work (if desired) Parents and other relatives (if desired)

Any other persons (if desired)

## ***Abstract***

- Length should be 200-300 words.
- Write up should be in double line spacing as of the main body of thesis.
- Should be written in normal text type and style (i.e. 12 Times New Roman)
- Should include few background sentences, key objective/s, brief methodology (sample, instrumentation, data analysis procedure), key findings and pertinent recommendation/s.

## *Table of Contents*

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Objectives  
Research Questions and/or Hypotheses  
Delimitations of the Study  
Operational Definitions of Key terms

### **Chapter 2**

#### **Review of Related Literature**

Teaching  
What is teaching?  
Indicators of effective teaching Effective  
teaching at university level  
Assessment and its Types Definition  
of assessment Purposes of  
assessment

**Materials and Methods** **Chapter 3**  
**Chapter 4**

**Analysis and Interpretation of Data**

**Chapter 5**

**Summary, Findings, Discussion, Conclusion and Recommendations**

Summary Findings

Discussion

Conclusion

Recommendations

Appendix A: Instrument of the Study

Appendix B: Permission Letter for Data Collection

*Note: In chapter 5, the titles and headings under it may be changed as per advice of the supervisor, keeping in view the nature of the study.*

***General Guidelines***

- 1. Paper Size:** A4 size/22cm x 28cm/8½” x 11”  
(except for drawings and maps)
- 2. Paper Weight:** 80/90 gms (computer paper)
- 3. Margin**

Left hand	3.81 cm (1½”)
Top & right	2.54 cm (1”)
Bottom`	2.0 cm (0.75”)

#### 4. **Type/font size and style**

Text type	12 Time New Roman(TNR) left side margin
Main Headings	14 TNR (bold) text left side margin, Title case 1 <sup>st</sup> level Sub-heading 12 TNR (bold) text left side margin, Title Case
2 <sup>nd</sup> level Subheading	12 TNR (bold) text left-side aligned, Italic, Title case
3 <sup>rd</sup> level Subheading	12 TNR (bold) text left-side aligned & indented, sentence case 4 <sup>th</sup> level Subheading 12 TNR (bold) text left aligned & indented, Italic, sentence case
Chapter Numbers (bold) Title case, centered)	14 TNR (bold) Title case, centered) Chapter Titles 14 TNR

#### 5. **Typeface/composing**

- The thesis should be error free. No correction ink shall be acceptable on any page of thesis.
- Typing should only be on one side of page.

#### 6. **Binding**

- Rexine/cloth, edges uncut, Dark Green color for MS and Maroon color for PhD
- The spine of thesis should show name of the author in the middle, and year of approval at the bottom across the width.

#### **Master's Thesis**

The master's student must submit 3 copy of the thesis, with original signatures of the committee members and of the advisor to the department.

#### **Ph.D.Dissertation**

The master's student must submit 3 copy of the thesis, with original signatures of the committee members and of the advisor to the department

