

THESIS MANUAL

Guide Lines/ Format for M.Sc. / M.S. / M.Phil. and Ph.D. Thesis



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Introduction

These guidelines have been prepared for postgraduate students to provide a standard format for write up of synopsis and thesis to be presented at the MUST University. It would ensure uniformity in the preparation of synopsis / thesis towards a standard style of presentation of their research plans/ findings.

There is a little difference in the general writing of a synopsis and a thesis. A synopsis is a brief presentation of future research plans, while the thesis is an elaborate presentation of the final research findings. Therefore, the basic guidelines for typing and presentation remain same for both (given in typing, numbering and binding section).

FORMAT OF SYNOPSIS FOR Ph.D. PROGRAM

Synopsis shall be submitted by Ph.D. scholars to the Directorate Advanced Studies and Research Board (ASRB) for approval of Advanced Studies and research Board (ASRB) before undertaking the actual research. The main aim of the synopsis is to outline the suitability of the topic of further research under the available conditions. The research topic selected should be problem oriented, thought provoking and innovative in nature. The organizational sequence of synopsis should be as follows:

1. **Title Page:** The first page of the synopsis should contain the exact title of the research, the full name (along with registration number) of the student and the approval of the Supervisory Committee, Chairman, Dean and Director AS&RB (as per general regulations). The facsimile of the title page appears in Annexure-I
2. **Text:** The text of synopsis should be organized into following sections, which appear continuously one after another without a page break:
 - i. **Abstract:** An abstract of the synopsis should very briefly narrate the general features of the proposed study.
 - ii. **Introduction:** A brief account of the previous information on the research topic, justifying the need of proposed research. Only important recent work should be reviewed, emphasizing that the studies are not a duplication of the previous work. It should include the objectives/proposed hypothesis of the study. There will not be any sub heading in the Introduction.
 - iii. **Materials and Methods:** The methodology to be followed in the proposed research should be clearly spelled out, giving the study area, probable population, sampling/census techniques and/or experimental design, mode of collection of data and/or parameters to be analyzed and possible analytical techniques to be exploited. In case field study is involved, the standard techniques and methodology of survey etc. be described. Relevant references(s) to the techniques followed may be given, as and where needed.

- iv. **Literature Cited:** Full citations (as given in typing section) of all the references appearing in the different parts of the text should be listed in alphabetical order/numbering.

FORMAT FOR THESIS

The final form of the thesis containing the preliminary pages and the text pages should be arranged in the following sequence:

Preliminary pages:

- i. **Title Page:** It should reflect the major contents covered in the thesis. The title page must bear the full title of the thesis (In Block Capital Letters), full name of the candidate, registration number, degree for which the thesis has been submitted, the name of the department, Faculty and year (facsimile of the page appears as Annexure-II). This should not bear page number.
- ii. **Approval page:** Title page will be followed by an approval page, duly signed by the members of the Supervisory Committee and Co-supervisor (if any), at the time of its submission and the External Examiner, after viva-voce/ oral examination. It shall be prepared in accordance with the Annexure-III
- iii. **Dedication:** The candidate, if so desire, may dedicate his/ her work to some particular person (s).
- iv. **Contents:** Thesis must contain and elaborate list of contents for the convenience of the readers indicating the page number for each title appearing in sequence, as it appear in the text. These must be arranged in their numeral order indicating the text page (Annexure-IV). Lists of Tables, Figures (maps, diagrams, charts, etc.) plates or illustrations (photographs, etc.) which appear in the text, may (if required) follow the “Table of Contents” in the same sequence (Annexure-V).
- v. **Abbreviations:** Special abbreviations, specifically used in the text, can be arranged in alphabetical order with explanation after the “Contents”.
- vi. **Acknowledgement:** The candidate, if so desires (the scientific ethics generally demand), may acknowledge the help he/she received from person(s) during the course of research. This should be brief (around 200 words) and dignified.
- vii. **Abstract/Summary:** An abstract/Summary, not more than 600 words. The abstract/summary should be brief and written in complete sentences. It should state succinctly the objectives/problem, the experimental design, the principle observations and conclusion. Headings and references should not appear in the abstract/summary.

Text:

The preliminary pages should be followed by the main text. The main text may contain the following sections:

- i. **Introduction:** Introducing the problem, critical review of literature updating the reader about the current status of the research findings in the field duly supported by suitable references (very general and/or universal facts may not be supported by reference). This should be in the form of an integrated running text, presenting a general synthesis of the known facts on the problem under study, rather than presenting a summary of the papers appearing in chronological order. It may be prepared under different heading that from the part of the study. It should spell out the main objectives/ hypothesis of the research.
- ii. **Materials and Methods/Experimental:** A detailed objective narration of the study area, materials used sampling/ census techniques, methods/ instruments exploited and the technique(s) used in analyses is composed, which may help the reader in analysis of the results.
- iii. **Results:** The results (without giving explanations / comparison with other studies) of the study should be presented in running text, duly supported by the data, presented in tables, figures, plates, etc., mentioning the salient points. The results should lead to the generalized statements of the researcher, which may be carried for discussion. The statistical legends and symbols can be presented in consultation with the supervisor.
- iv. **Discussion:** The discussion is the most important part of the thesis, where the results are interpreted with scientific logic duly supported by the previous studies/ references. The causes and effect phenomenon should prevail in discussion section. The discussion should be based upon the result of the study. Usually the generalizations of the result carried by the discussion.
- v. **Results and Discussion:** Results and Discussion may also be presented in one chapter as “Results and Discussion”.

Each Department / Institute may follow the format of most important impact factor Research Journal in respective field of study preferably of technologically advanced countries.

- vi. **Conclusion:** It encompasses a brief statement of the results obtained, conclusions drawn and recommendations at the end.
- vii. **Literature Cited:** All the references in the text and notice should in variably appear in this section. These should be arranged in alphabetical order to the last name of the author. The style of citing references is given in section III of the guidelines. Usually different formats of presenting references are applicable in different subjects; therefore it would not be appropriate to

specify any format for all subjects. Each Department/ Institute may follow the format of most important impact factor research Journal in respective field of study preferably of technologically advanced countries if applicable.

- viii. **Appendices:** This section may contain supporting data for the text in the form of one and more appendices. It may include table(s), facsimile of the questionnaire /data collection sheet (s) illustrations, maps and other similar data which cannot be placed in the order parts of the main text. This data should be in an organized form.

Sections:

Each of these sections should be considered as separate chapters, numbered in consecutive order except for conclusion and appendices that should not be numbered as a chapter. In case, research topic dealing with different fields and demands and separate handling of different parts of the research, considering each part as a chapter may contain separate introduction, review of literature, in such case a general overall introduction and discussion/conclusion shall be developed, appearing as the first text chapter and the last chapter respectively. The references should always appear before appendices.

Foot Notes:

Foot note should generally be avoided unless decided by the supervisor. Notes may appear as foot notes at the bottom of individual pages or may be gathered in section at the end of each chapter or may be placed all together in section at the very end of the text.

Language and Style:

- i. The thesis must be written in English or in such other languages as Academic Council may approve.
- ii. Great care should be taken to make the thesis a scholarly contribution to knowledge, including the usage of language and accuracy of expression.
- iii. A research thesis must be accurate and accordingly language must be precise. The level of presentation should be formal. Colloquial conversational modes of expression are inappropriate in a scholarly presentation. The expression should normally be in the third person.
- iv. Proper attention should be paid to such skills as correct spellings, punctuation, sentences formation, capitalization and proper use of italic. Students are advised to consult a good handbook on language usage and dictionary.

page. The page number at the start of the chapter is marked at the bottom of the page. Page numbers must fall on or within the specified margins which as are following: left margin (or binding edge) = 3.8 cm, all other margins 3.00 cm.

- x. Do not start a sentence with mathematical abbreviation or number.

Example:

Seventy percent of the crop was damaged due to salts. (Correct)
70 percent of the crop was damaged due to salts (Incorrect)

Headings:

- i. All the headings, except those beyond fifth level, should appear in bold letters and in Font, 12TNR, except for the Chapter heading appearing in Font 14 TNR. The heading for the chapter numbers should be in italics and justified to the right hand side of the page appearing with fist letter (i.e., “C”). in capital (uppercase). The chapter headings should be all capital (in upper case) adjusted in the center. All other headings in the text should be set over to the left hand margin and the text should begin on the next line with indentation. The first level headings should be all in bold capital. Second level heading should be typed in small (lowercase) bold letter with the first letter of each main word a capital. For third level headings, only the letter of the first word should be a capital, while fourth level headings may appear in the text like the third level headings. All the headings should be assigned digital number.

Examples:

3. MAIN HEADING (Chapter)
3.1 SUB HEADING
3.1.1 Sub Sub Heading
3.1.2 Sub Sub Heading
3.2 SUB HEADING

- ii. No full stop should be used after the heading/ Sub heading/ Sub sub heading. Collins (:) can be used after the fifth degree of headings, when these are directly followed by the text.

Tables:

Tables should be prepared in such a way that they could be read and understood without reference to the text of the thesis. A good table contributes to the processes of analysis and valid generalization of finding inherent in the original data. Tables without text should be brief and clear. Long table containing raw data should normally be inserted in the appendix at

the end of the thesis. Table should be numbered with Arabic numerals (1, 2, 3...) the table title must be typed after the table number on the same line.

Example: Table-1: The..... in the liver.

No word in capital letters or with initial capital letters should be typed except the first word of the title or otherwise if it is special abbreviation e.g. DNA. If a table title is more than one line long, it should be doubled spaced. The unit of measurement should be written in column heading instead of repeating for every entry in the column (s). If a table is too long for one page type continued, at the bottom of the first page and 'Table, Page 2' at the top of a new page, then repeat the column headings on the new page before typing the rest of the table. If the table is typed on 'landscape' it must be inserted in thesis with untitled side in the binding. Any explanatory note, if any, should be typed immediately under that table. Identify each footnote with a reference character, making sure that it is linked to the correct matching character in the body of the table. The numbers in the body of a table should be aligned on the decimal point. If \pm or = signs or 'to' (6 to 8) are used, they should be first aligned on these characters and then on decimal.

Example: 68.1 \pm 1.5
 234.0 \pm 21.0
 0.29 \pm 0.03

Each table should be self-explanatory, with appropriate/ heading, so that it could be read independent of the text.

Figures/ Schemes:

It includes graphs, charts, drawings, maps and some kinds of computer printouts. Size and shape of the figures should be well within the limits of the page size on which the text will be typed (A-4 page). The figures/ graphs should be given capital Arabic numerals (e.g., 1, 2... etc.). All figures of graphs should be of the same size on the paper. Each figure or graph should bear a self –sufficient legend, appearing in the bottom of the figure/graph. The legend should be typed double space after the Figure number, as:

Figure-1: A line sketch of the distribution of plants.

Scheme-1: Synthesis of Compound **1**/ Pentanoic Acid (**1**).

If the figure/graph is in landscape the side without title should go towards binding. Each figure/diagram should be self- explanatory so that it could be read independent of the text. Unnecessary figures should be avoided. Sometimes allied figure give a better analysis if these are presented in same figure or appear on the same page where these can be compared. It is generally believed that if information appears in table it should not be repeated in the figure,

until very essentially required. Illustration should be drawn in Indian ink, preferable on bristle board. Good quality computer simulations can also be used. Cellulose tape (including transparent scotch tapes) rubber cement, mucilage or ordinary glue are not to be used in submitting the final hard bound copies of the thesis. Dry mounting of illustrations is preferred but any high quality sealant of guaranteed permanency is acceptable. Staples pins, pins or clips are not allowed. For tables, full-page diagrams, pages with illustrations or mounted photographs, the same margins are required as for type written pages. Oversize fold out pages or illustrations are allowed, but the folded edges must be at or within the marginal limits. If full-page photographs are used they must allow toe trimming and binding without sacrifice of any significant contents. Full page illustration may have accompanying caption pages facing them; such illustrations and their caption page will be numbered in the sequence of text numbers. Tables, figures, plates, etc. should be in proximity to the text, where these are referred, rather than appearing in the end.

References:

As specified in the 1st category of the impact factor research journal of respective field of study published in any of the technologically advanced countries.

Structures/ Equations:

Structure number in bold font may be given in brackets after name of the compound as Pentanoic Acid (**1**) or compound **1** in the text while the structure number may be given in round brackets or without any brackets under the structure. The equations may be presented as appropriate.

Guide Lines for Writing References of Research Papers:

Mahmood, S., Zahid, M. and Butt, S. J., Growing Roses on the Roof Tops. *J. Hort. Sci.*, **3**(8), 15-18 (1998).

Nulsen, R. A. and Thurtell, G. W. Socio-Economic Patterns in Rural Community of Brazil. *J. Social Sci.*, **5**(2), 1025-1029 (1977).

Pandey, D. K. Free Proline Accumulation in Response to Water Stress in Wheat Seedlings. *J. Plant Physiol.*, **27**(4), 322-325 (1982).

Rawson, H. M., Bagga, A. K. and Bremner, P. M. Variation in the Composition of *Zea mays* L. with the Increase in Temperature. *Aust. J. Plant Physiol.*, **2**(3), 305-322 (1998).

Books:

Nobel, P. S. Introduction to Biophysical Plant Physiology. W. H. Freeman and Co., San Francisco., p. 385 (1974).

Bewley, J. D. and Black, M., Seeds: Physiology of Development and Germination, Plenum Press, NY. P. 453 (1994).

Edited Books: (parts written by different authors)

Cramp, S. and Simmons, K. E. L. The Birds of Western Palearctic, Vol. II. Oxford Univ. Press, London, pp. 636-655 (1980).

Papers in Book: (edited by some editors)

Barlow, P. W. The Cellular Organization of Roots and its Response to the Physical Environment, In: Gregory, P. J. , Lake, J. V. and Rose, D. A. (Eds.), Root Development and Function. Soc. Exptl. Biol., Seminar Series 30, pp. 1-26 (1990).

Symposium Papers with no paging

Goriup, P. D. and Collar, N. J., The ICBP Fuerteventura Houbara Expedition. Symposium Papera on the Great Bustard Otis Tarda (Sofia, Bulgaria, May 26th, 1978) and the Houbara Bustard Chlamydotis Undulate (Athens, Greece, May 24th, 1979) FISG/CIC/Game Conservancy: 4pp. (on paging) (1979).

Unpublished Report or Thesis:

Collins, D. R. A study of the Canarian Houbara with Reference to its Behaviour and Ecology. (Unpublished) M. Phil. Thesis, Univ London: p.175 (1984).

Ferguson, D. A. A Preliminary Review of the Literature and Life History of Arabian and Houbara Bustard. Rep. U. S. Fish Wildlife Service, Washington, Sept. 1977. (type script) (1977).

Fox, N. Notes on the Analysis of Houbara Bustard Stomach Contents from Baluchistan and Punjab, p.13 (unpublished type script), (1988).

To Cite Webpage:

Majid, S. A., Rainfed Agriculture in AJK: Issues and Solutions. www.samajid.com, (2008).

Binding and Submission:

The original and two good quality photocopies are to be submitted to the University. Soft bindings are preferable for an initial submission and evaluation by the Supervisory Committee and External Examiner. Hard bound copies should be submitted after the thesis defense examination incorporating the suggested changes/ correction (if any). The total number of hard bound copies shall be submitted according to the following table:

	B. S. / M. Sc. / B. Ed.	M. S. / M. Phil.	Ph. D.
Student Copy	1	1	1
Examination	-	1	1
Dept. Library	1	1	1
Central Library	-	1	1
Supervisor	1	1	1
HEC	-	-	1+soft copy
Total	3	5	6

The title of the binding must contain the full title of the thesis, the full name and the registration number of the candidate, insignia of the University, the name of the department/ faculty/ University and the year (facsimile Annexure-VI) printer in golden words. The color of the cover of the thesis shall be according to the following table:

Bachelor Degree	Gray
Master Degree	Black
M.S./ M. Phil. Degree	Dark Green
Ph.D. Degree	Dark Blue

The degree for which the thesis is submitted, brief name (or surname) of the candidate and year should appear on the spine of the thesis, in the same sequence.

Plagiarism:

The failure to give recognition to other's work so that it gives the impression that their work is your own is plagiarism. The University takes a serious view of plagiarism, and will require significant re- writing and re- submission of these in which it is found. You must acknowledge all work that is not your own whether ideas, experimental procedures or data. This requirement extends to maps, tables, diagrams and photographs.

For further information, visit the website of HEC on plagiarism.

Mirpur University of Science and Technology MUST, Mirpur.

Synopsis for M. Phil. Degree in Biotechnology

Title: TRANSFORMATION OF Lic-B GENE IN WHEAT (TRITICUM
DESTIVUM, L.) THROUGH AGROBACTERIUM TUMEFACIION.

Name of Student:

Registration No:

Date of Admission:

Date of Initiation:

Probable Duration:

SUPERVISORY COMMITTEE

- | | | | |
|------|-----------------|--------|-----------|
| i. | Supervisor | | |
| | | (Name) | Signature |
| ii. | Co. supervisor: | | |
| | (if any) | (Name) | Signature |
| iii. | Member | | |
| | | (Name) | Signature |
| iv. | Member | | |
| | | (Name) | Signature |

Chairperson

Department of Biotechnology

Dean
Faculty of Science

Director
Advanced Studies & Research Board

TITLE.

By

**NAME
(Reg. No.)**

A Thesis submitted in partial fulfillment of
the requirements for the degree of

MASTER OF PHILOSOPHY

IN

DEPARTMENT

Session 2010-2012

**Department of Biotechnology
Faculty of Sciences
Mirpur University of Science and Technology
Mirpur, (AJK),
Pakistan.**

CERTIFICATION

I hereby undertake that this research is an original one and no part of this thesis falls under plagiarism. If found otherwise, at any stage, I will be responsible for the consequences.

Student's Name: _____

Signature: _____

Registration No.: _____

Date: _____

Certified that the contents and form of thesis entitled "Transformation of Lic-B gene in wheat (*Triticum destivum*, L.) through *Agrobacterium tumefaction*." submitted by "**Ms. Nafeesa Shahid**" have been found satisfactory for the requirement of the degree.

Supervisor: _____

Co-supervisor: _____

(if-any)

External Examiner: _____

Chairperson: _____

Dean: _____

Director Advance Studies
& Research Board: _____

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TITLE



**NAME
(Reg. No.)**

Session -----

**Department of Biotechnology
Faculty of Sciences
Mirpur University of Science and Technology
Mirpur, (AJK),
Pakistan.**