

THESIS MANUAL

Information about composition, style and format for M.Sc., M.S., M.Sc. (Hons.), M.Phil. and Ph.D. students/scholars.



Published by

**Directorate of Advanced Studies and Semester Affairs
UNIVERSITY OF POONCH RAWALAKOT
AZAD JAMMU AND KASHMIR**

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 University of Poonch Rawalakot. 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).

FORMATE FOR SYNOPSIS

Synopsis shall be submitted to the Director Advanced Studies and Research (DAS&R) for approval of Advanced Studies & 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 pages:** The first page of the synopsis should contain the exact title of the research (in block letters), insignia of University of Poonch Rawalakot, the full name (along with registration number) of the student, the degree for which the synopsis is submitted, session, the name of the department, the name of the faculty and the name of the University. The second page of the synopsis should contain the name of the University, the name of Faculty, the name of Department, the degree for which the synopsis is submitted, the title of research, information about the session, the Supervisory Committee, Chairman, Dean and Director ASR (as per general regulations). The facsimile of the title pages appears in Annexure VII and Annexure-I.
2. **Text:** The text of synopsis should be organized into following sections with a page break:
 - i. **Abstract:** An abstract of the synopsis should very briefly narrate the general features of the proposed study.
 - ii. **Introduction:** It should spell out the background of the problem and the objectives/proposed hypothesis of the study. There will not be any sub heading in the introduction.
 - iii. **Review of Literature:** 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.

- iv. **Material and Methods:** The methodology to be followed in the proposed research should be clearly spelled out, giving the study area, probable population, sampling/census technique 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 reference(s) to the techniques followed may be given, as and where needed.
- v. **Literature Cited:** Full citations (as given in typing section) of all the references appearing in the different part of the text should be listed in alphabetical order.

FORMATE 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:** 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, session, the name of the Department, the name of the Faculty and the name of the university (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 desires may dedicate his/her work to some particular person(s) (Optional).
- 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 appears in the text. These must be arranged in their numeral order indicating the text page (Annexure IV). Lists of Tables, Figures (maps, diagrams, graphs, charts, etc.), plates/illustrations/pictures (photographs, etc.) which appear in the text may (if required) follow the “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:** An abstract, not more than 600 words (for Ph.D.) should follow the table of contents. The abstract should be brief and written in complete sentences. It should state succinctly the objectives / problem, the experimental design, the principal observations and conclusion. Headings and reference should not appear in the abstract.

Text:

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

- i. **Introduction:** Introducing the problem and spelling out the main objectives/hypothesis of the research.
- ii. **Review of Literature:** 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 headings that from the part of the study. Introduction and review of Literature may be combined where it is necessary but it should be written in “book-manner”.
- iii. **Material and Methods:** A detail objective narration of the study area, material used sampling/census technique, methods/instruments exploited and the technique(s) used in analyses is composed, which may help the reader in analysis of the results.
- iv. **Results and Discussion:** The results (without giving explanations comparisons 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. The discussion forms the most important part of the thesis, where the results are interpreted with scientific logic duly supported by the previous studies/references. The cause and effect phenomenon should prevail in discussion section. The discussion should be based upon the results of the study. Usually the generalizations of the result are carried for discussion.

- v. **Summary:** It encompasses a brief statement of the methodology of the research study/studies followed by the results obtained, conclusions drawn and recommendations at the end.
- vi. **Literature Cited:** All the references cited in the text and notes should invariable 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.
- vii. **Appendices:** The candidate, if so desires may include 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 summary and appendices that should not be numbered as a chapter. In case, a research topic dealing with different fields and demands a separate handling of different parts of the research, considering each part as a chapter may contain separate introduction, review of literature, material and methods, results and discussion, appearing as continuous text. However, 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.

Footnotes:

Footnotes should generally be avoided unless decided by the Supervisor. Notes may appear as footnotes 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 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 and 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, sentence formation, capitalization and proper use of Italic. Students are advised to consult a good handbook on language usage and dictionary.

TYPING NUMBERING AND BINDING

Typing of Text:

- i. Typing of the text should be double spaced, Font 12, Times New Roman (TNR) with the exception of captions footnotes, long quotations, reference entries of more than one line, tables and appendices etc. No inter-lineation, crossing out of letter or words are permissible. Correction fluid or type out may be used, but sparingly and with great care and no such corrections should involve more than three words.
- ii. The thesis must be submitted on an 80 gm, 100 % cotton paper of 210 mm x 297 mm (8.27" x 11.69" i.e., A-4) size, with 3.8 cm left (binding side) 3.0 cm right, top and lower margins 2.50 cm.
- iii. The text should be fully justified and use a double space after all punctuation marks, including full stop.
- iv. The first line of the paragraph should be indented, and line space be given between paragraphs.
- v. Nothing in the text should be italicized, except the scientific names of the species and the words from languages other than English.
- vi. For abbreviations, in general, the full term should be spelled out when it appears the first time in the text (with abbreviation in parenthesis), while these can be used in rest of the text. Abbreviations should be in capital letter(s) without full stop(s), or otherwise necessary.
Example:

Government of Pakistan	GOP
United States Department of Agriculture	USDA
- vii. Always write 'percent' in the text and not the % symbol. Similarly chemical symbol or formula should not be used.
- viii. No fractions should be used in the text. They should be spelled out.
Example: "Half" rather than "1/2" and five-eighth" for "5/8".
- ix. Points of the compass and seasons of the year should not be written with capital letters unless these are a part of the name,
Example: the wind is in the North West or South East Regional Development Board.
- x. "The" should not be written with capital "T" before the name unless it is a part of that name.
Example: The king's Fund or The Royal College.
- xi. Insert a space between a numeral and the unit of measurement,
Example: 3 mm or 15 °C.
- xii. No space should be given between educes and associated numerals,
Example: 5.0-6.0 mm or between extreme measurement and ranges, (10-30) or 25-35.

- xiii. All pages, except the title page, are to bear a page number. The title page is understood as preliminary page i. Other preliminary pages will be numbered in lower case Roman Numerals (ii, iii, etc.) at the bottom in the center of each page. The subsequent text, plates, notes, references appendices are to be numbered in a single sequence of Arabic Numerals (1, 2, etc.) beginning with at the bottom in the center of each page. Page numbers must fall on or within the specified margins which are as follows: left margin (or binding edge) = 3.8 cm, right margins 3.00 cm, top and bottom 2.50 cm.
- xiv. Do not start a sentence with mathematical abbreviations.
Example: Seventy percent of the total area of wheat was cultivated with Inqalab-91. (Correct)
 70 percent of the total area of wheat was cultivated with Inqalab-91. (Incorrect)

Headings:

- i. All the headings, except those beyond fifth level, should appear in bold letters and in Font, 12 TNR, except for the Chapter heading appearing in Font 14 TNR. The heading for the chapter numbers should be italics and justified to the right hand side of the page appearing with first 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 or 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

<i>Chapter 3</i>
MATERIAL AND METHODS
3.1 SELECTION OF EXPERIMENTAL MATERIAL
3.2 COLLECTION OF DATA 3.2.1 Morphological Parameters

- 3.2.1.1 Plant height
- 3.2.1.2 Grain yield per plant

3.3 STATISTICAL ANALYSIS

.....

- 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 findings inherent in the original data. Tables without text should be brief and clear. Long tables 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: Mean values for growth parameters in apple

No word in capital letter 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 double spaced. The title must be written as bold letters. 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 bindings. 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. If ± or = signs or ‘to’ (6 to 8) are used, they should be first aligned on these characters and then on decimal.

Example:

64.1	+	1.5
234.0	+	21.0
0.29	+	0.03

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

Figures:

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 pages). 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: Tree diagram based on 176 genotypes of wheat

The title must be written as bold letters. 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. Sometime allied figures give 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 essential required. Illustration should be drawn in Indian ink, preferably on bristle board. Good quality computer simulations (preferable with laser printers) 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. Staple pins, pins or paper 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.

LITERATURE CITED

References should be cited in the text by giving the author's name (last name, as spelled in the paper), followed by the year, e.g., Ahmad (1990) or (Ahmad, 1990). Same principle will be followed for two authors, e.g., Saleem and Ali (1988) or (Saleem and Ali, 1988). In case of three or more authors the reference should be cited as Sheikh *et al.* (1989) or Sheikh *et al.*, 1989, Government of Pakistan, Govt. of Pakistan, GOP, FAO etc. Anonymous references may be avoided, until essentially required.

Examples:

- i) Chen (2005) stated that it is better to control the disease through the exploitation of crop plants innate resistance mechanisms against pathogens.
- ii) A continuous effort to exploit resistance genes from various sources is essential (Knott, 1987).

- iii) Korir *et al.* (2013) stated that the land-races represent locally adapted crop varieties which tend to retain a considerable degree of genetic variation compared to elite lines.

If no author or editor is named then, choose an appropriate word from the title of the organization that produced the document instead of Anonymous or Anon.

Example: FAO. 2012. Fifty years of FAO in Pakistan, FAO Islamabad Pakistan. This style should also be followed in text, e.g., (FAO., 2012).

If the publication does not bear any date, it may be indicated by n.d. (no date). Where more than one reference start with the same name and year, these may be written as Mahmood (2012 a), Mahmood (2012 b), etc. or Khan *et al.* (2014 a), Khan *et al.* (2014 b) etc. The same rule can be followed in the text as well as in reference sections. In the reference section (Literature Cited), the references should be arranged in alphabetical order. Full citations should appear in the references (Literature Cited), section as author name (s), year, title, journal or place of publication, volume, number, pages. Names of the journals should not be abbreviated. The first line of each citation should start unindented while the other lines should be indented. The following examples can be used for a standardized pattern:

Research Papers:

Kolmer, J.A., M. Lin and G. Bai. 2012. Genetics of leaf rust resistance in the winter wheat line CI13227. *Crop Science*, 52(4): 2166-2172.

Ma, H. and R.P. Singh. 1996. Contribution of adult plant resistance gene *Yr18* in protecting wheat from yellow rust. *Plant Disease*, 80(1): 66-69.

Pandey, D.K. 1982. Free proline accumulation in response to water stress in wheat seedlings. *Plant Physiology*, 27(4): 322-325.

Rawson, H.M., A.K. Bagga and P.M. Bremner. 1998. Variation in the composition of *Zea mays* L. with the increase in temperature. *Australian Journal of Plant Physiology*, 2(3): 305-322.

Books:

Nobel, P.S. 1974. *Introduction to Biophysical Plant Physiology*. W.H. Freeman and Co., San Francisco. 385 pp.

Bewley, J.D. and M. Black. 1994. *Seeds: Physiology of Development and Germination*. 2nd ed., Plenum Press. NY. 453 pp.

Edited Books: (parts written by different authors)

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

Papers in Book: edited by some editor (s).

Barlow, P.W. 1990. The cellular organization of roots and its response to the physical environment. In: P.J. Gregory, J.V. Lake & D.A. Rose, (eds), Root Development and Function. Society of Experimental Biology, Seminar Series, 30: 1-26.

Symposium Papers with no paging

Goriup, P.D. and N.J. Collar. 1979. The ICBP Fuerteventura Houbara expedition Symposium papers 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: 4 pp. (no paging).

Unpublished Report or Thesis:

Collins, D.R. 1984. A study of the Canarian Houbara with reference to its behavior and ecology. (Unpublished) M. Phil. thesis, University of London: 175 pp.

Ferguson, D.A. 1977. A preliminary review of the literature and life history of Arabian and Houbara Bustard. Rep. U.S. Fish Wildlife Service. Washington. Sept. 1977 (typescript).

Fox, N. 1988. Notes on the analysis of Houbara Bustard stomach content from Baluchistan and Punjab. 13 pp (unpublished typescript).

To Cite Webpage:

McIntosh, R.A., Y. Yamazaki, J. Dubcovsky, W.J. Rogers, C. Morris, R. Appels and K.M. Devos. 2010. Catalogue of gene symbols for wheat. In: KOMUGI Integrated Wheat Science Database. Available online: www.shigen.nig.ac.jp/wheat/komugi/genes (Accessed 23 October 2013).

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/M.Sc. (Hons.)	Ph.D
Student	1	1	1
Examination	-	1	1
Dept. Library	1	1	1
Central Library	-	1+ soft copy	1+ soft copy
Supervisor	1	1	1
DAS&R	-	1	1
HEC	-	1+ soft copy	1+ soft copy
Total	3	7	7

The title of the binding must contain the full title of the thesis (in block letters), University of Poonch Rawalakot insignia, the full name and the registration number of the candidate, session, the name of the department, the name of the Faculty and the name of the University (facsimile Annexure-VI) printed in golden words. The colour of the cover of the thesis shall be according to the following table:

B.Sc. (Hons.) B.S. & B.Ed	Navy Blue
M.Sc., M.S., M.Phil./M.Sc. (Hons.)	Maroon
Ph.D.	Green

Spine of hard bound thesis

The hard bound thesis must include the name of the degree, the name of the department, the name of student and session on the spine. If the name of the department is too long, it can be abbreviated, for example the department of Plant Breeding and Molecular Genetics can be abbreviated as PBMG and Soil and Environmental Sciences as SES etc.

Example:

Ph.D., PBMG	Muhammad Shakil	2014-2017
Or		
M.Sc. (Hons.), SES	Muhammad Shakil	2014-2016
Or		
M.Phil., Chemistry	Muhammad Shakil	2014-2016

Plagiarism:

The failure to give recognition to others work so that it gives the impression that their work is your own is plagiarism. The University takes a serious view of plagiarism, and require significant re-writing and re-submission of theses 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.

**UNIVERSITY OF POONCH RAWALAKOT
FACULTY OF AGRICULTURE**

Synopsis for M.Sc. (Hons.) Degree in Plant Breeding and Molecular Genetics

Title: Incorporation of Genomic Regions Associated with Slow Rusting Genes in Wheat by SSR Markers

Name of student: _____

Registration number: _____

Date of admission: _____

Date of initiation: _____

Probable duration: _____

SUPERVISORY COMMITTEE

i. Supervisor	----- (Name and Designation)	----- Signature
ii. Co- Supervisor (If any)	----- (Name)	----- Signature
iii. Member	----- (Name)	----- Signature
iv. Member	----- (Name)	----- Signature

Chairman
Department of Plant Breeding and Molecular Genetics

Dean
Faculty of Agriculture

Director
Advanced Studies and Semester Affairs

**INCORPORATION OF GENOMIC REGIONS ASSOCIATED WITH SLOW
RUSTING GENES IN WHEAT BY SSR MARKERS**

By

MUHAMMAD SHAKEEL

(Regd. No. _____)

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

Master of Sciences Honors

In

Plant Breeding and Molecular Genetics

Session 2013-2014

**Department of Plant Breeding and Molecular Genetics
Faculty of Agriculture
University of Poonch Rawalakot
Azad Jammu and Kashmir**

CERTIFICATION

Certified that the contents and form of thesis entitled “Incorporation of genomic regions associated with slow rusting genes in wheat by SSR markers” submitted by Mr. Muhammad Shakeel (Regd. No. 2006-UPR-9186) on 15 October, 2014 have been satisfactory for the award of degree.

SUPERVISORY COMMITTEE

i. Supervisor	----- (Name & designation)	----- Signature
ii. Co- Supervisor (If any)	----- (Name)	----- Signature
iii. Member	----- (Name)	----- Signature
iv. Member	----- (Name)	----- Signature
iv. External Examiner	----- (Name)	----- Signature

Chairman
Department of Plant Breeding and Molecular Genetics

Dean
Faculty of Agriculture

Director
Advanced Studies and Semester Affairs

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**INCORPORATION OF GENOMIC REGIONS ASSOCIATED WITH SLOW
RUSTING GENES IN WHEAT BY SSR MARKERS**



By

MUHAMMAD SHAKEEL

(Regd. No. _____)

Session 2013-2014

**Department of Plant Breeding and Molecular Genetics
Faculty of Agriculture
University of Poonch Rawalakot
Azad Jammu and Kashmir**

**INCORPORATION OF GENOMIC REGIONS ASSOCIATED WITH SLOW
RUSTING GENES IN WHEAT BY SSR MARKERS**



By

MUHAMMAD SHAKEEL

(Regd. No. _____)

**Synopsis submitted for the degree of M.Sc. (Hons.)
In
Plant Breeding and Molecular Genetics**

Session 2013-2014

**Department of Plant Breeding and Molecular Genetics
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