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# *Thesis Writing Guidelines for DNB Trainee*

## **Thesis Objectives**

Thesis / Dissertation writing is mandatory in postgraduate medical education. The thesis may take the form of a study, an experiment, a survey, or a project. The aim of writing thesis is to assess student's ability to analyze large volume data, organize it and write it up to a manner that sustains a persuasive argument. The requirement is not to produce any original work but it is to write a piece of research that demonstrates a strong capacity for independent thought.

This manual will provide use full information and guidance while undertaking research project.

### **What is an objective behind thesis writing?**

#### **Objective is**

- To learn research methodology.
- To develop broad understanding of current knowledge in the relevant field.
- It should inculcate scientific approach to research.

### **What is scientific approach to research?**

- It means-**
- Identification of research problem by survey of literature.
  - Addressing the problem by performing relevant experiment.
  - Presenting the data in an understandable format.
  - Drawing meaningful conclusions in the light of existing knowledge.

## **Planning a Research Project-**

Research should produce valid results. To obtain valid results one needs to design good research project. Proper work plan is first step towards good research.

Try to understand following-

- Project must be feasible and simple.
- One must preferably study two groups at once.
- Frame a good research question. It is first step towards good study design.
- Research topic should answer preferably one question at a time
- Research question should be sharply focused.
- A control group is important to prove validity of the study.
- For the research project to yield a proper result all relevant data must be collected
- Purpose of the research must be reflected on beforehand.
- Treatment protocol must be clearly identified.
- You must be aware of possible consequences of your work.

## ***Methodology of Research***

Before undertaking research students have to acquire knowledge about methods of doing inquiry, that is ***research methodology***. Why should one follow research methodology?

To assist the reader to visualize the manner in which the research was conducted.

To assist the reader to evaluate the results and conclusions of the study on their own.

*Consider the following while writing thesis protocol-*

1. Study Area
2. Study Period
3. Study Population
4. Sample Size
5. Sample Procedure
6. Tool
7. Operational Definition
8. Data Collection, Storage and Management
9. Ethical Consideration
10. Consent of the Participants
11. Discussion
12. Limitations

### **1. Study Area/study settings-**

Write detailed description of prevailing conditions where study was conducted. For e .g. Place- tertiary health care center such as *DEENANATH MANGESHKAR HOSPITAL* or at a rural primary health center; as result of the study are likely to be different because of differences in patient characteristics.

Write on general socio-economic status of the population, literacy status, main occupation of the dweller, the existing health facilities. It might have bearing on study question.

### **2. Study Period-**

The period of data collection should be clearly mentioned,. It helps reader to pin point the time that the result of the study refers to.

### **3. Study Population-**

Describe in detail the eligibility criteria of study. *Explicit Inclusion* and *Exclusion criteria* help to focus on the group to which result of the study apply.

### **4. Sample Size-**

Balance has to be arrived at wherein the numbers of subjects included are sufficient enough to provide the answers that we are looking for and yet are no more than what is absolutely necessary. Sample size can be calculated using

Standard formula. Information required *calculating sample size* is as follows:-

- a. Expected prevalence of disease conditions in the population.
- b. Confidence level desired by the researcher. (e. g. IC.I. Of 95%).
- c. Relative (or absolute) precision of the estimate required by the researcher.
- d. Magnitude of the effect considered as clinically relevant.

The details of sample size calculation too; should be incorporated in the thesis protocol. Mention should be made of research assumptions and the formula employed for calculation of sample size. Some times the required sample size is so large that it is not practically feasible to study it in the time frame available to the resident for a thesis. In such a situation, the sample size to be studied would also depend upon the logistics and availability of study subjects and other time constraints.

It will be wise idea to take *help of statistician* while writing thesis protocol.

## **5. Sampling Procedure-**

The method by which the subset is selected from a larger pool is known as *sampling procedure*. The adequacy and appropriateness of sampling has impact on the validity of results of the study. If the samples are chosen inappropriately, they might provide results that are internally valid but cannot be generalized to any other population, i. e. are not externally valid. You must convince examiner /reader that the selection process was not influenced by the personal preferences of the researcher.

You must document that adequate measures were adopted to eliminate the selection bias.

The calculation of sample size also takes into account the sampling procedure.

## **6. Tools-**

The tools or instruments used for data collection should be described in detail .for e. g. if *Salters scale* was used for weighing then one should describe maximum weight that can be measured by it as well as the least count.

The questionnaire and interview schedule are also study instruments

It is a good idea to provide the *sensitivity and specificity of the instrument* being used. If details of tool are too long, it can be added as appendix.

Explicit mention should be made of *variables* under study to help the reader understand the study component. A clear definition of signs symptoms and disease under consideration should be made.

## 7. **Operational Definition-**

For purpose of a study, it is best to employ definitions that are used widely and have international acceptance .This allows you to make comparisons with the work carried out by other researcher. If a standard or widely accepted definition is not available then you may think of using an operational; definition. *Operational definition* should only be adopted as last resort.

### **Study Design-**

1) *Observational study*

2) *Experimental study*

### 1) **Observational Study-**

In observational study you may choose to observe and document an event and let nature take its own course.

It is of two types

a) Descriptive study

b) Analytic study.

a) Descriptive study-

i) A case study

ii) Case series

b) Analytic study -

i) Ecological study

ii) Cross sectional /prevalence study

iii) Case control study

iv) Cohort study

#### **a) Descriptive study**

The condition disease or health status of interest is described without any attempt to find association or a putative cause. A case study or case series is example of descriptive studies.

#### **b) Analytic study-**

when attempt is made to find out an association between the disease status and exposure to particular stimulus, then such design is called an *analytic study*. It could be *ecological, cross sectional or case control study*.

***i) Ecological Study-***

The unit of study in this is entire population or a large subgroup of population. Co relation is made between disease status and another factor that is consider as cause of the disease. e .g. trend in tobacco production and lung cancer mortality.

***ii) Cross sectional study -***

It is also known as a *prevalence study* as it measures the prevalence of disease or health event in population. It may be *point prevalence or period prevalence study*. In point prevalence time period is kept minimum if it extends then the design is called as period prevalence.

***iii) Case control study -***

This design is suited for most uncommon or rare diseases. In this a group of patients with the disease called cases are identified and studied. A comparable group without the disease status is called controls. The rate of occurrence of putative cause in both the groups is compared to ascertain its role as a causative agent.

***iv) Cohort study design-***

We start with healthy group of people and follow them up for certain period of time to assess the occurrence of disease or health event of interest. The exposure status of population is known as opposed to case control study design where disease or outcome of interest is already taken place and we subsequently measure the exposure status. If the time lag between the exposure to stimulus and occurrence of the disease is long then one can derive information from historical cohort. e. g. as exposure to asbestos and development of lung cancer is long, one can revert to available records and assemble group of person who were working in coal mines, about twenty years back and treat them as cohort. This is also known as *retrospective cohort study design*. If the cohort is constructed afresh and followed up in future, it is described as *prospective cohort study design*.

## 2) **Experimental study-**

Study where you may have to intervene in any manner in on going process and then record and report your findings, it would be called *experimental study*.

They consist of –

- 1) Randomized controlled trials
- 2) Field trials
- 3) Community trials.

### 1) **Randomized control trials-**

Randomized control trials are used to compare new preventive or therapeutic regimes. In this the basic design is to enroll eligible participants and randomly allocate them either *control group or treatment group*. There could be one treatment group and simultaneous comparison with control group can be performed. To make the study group similar, a placebo is sometimes used in control arm of the study design. Blinding is carried out in the allocation groups to minimize the bias. When only the participant is blinded it is called *single blind trial*, when the researcher is also blinded it is called *double blind trial*. And when in addition the data analyst is also blinded it is called as *triple blind trial*.

### 2) **Field Trials -**

These are conducted among apparently healthy individuals residing in the community. The data is collected in the field. Purpose of field trial is to test if a given medical intervention among healthy yet at risk population is able to reduce the risk of disease. e. g. Children in community may be healthy but at risk for developing disease. Hence, a new vaccine when introduced is first field tested to see if it reduces the risk of disease among children.

### 3) **Community trial-**

It is study design where the whole community is treated as a single group. Since many diseases have their origin in social conditions, intervention at community level is required to overcome these diseases. In such situations community trials may be undertaken. e. g. Research studies on cardiovascular diseases that are multi factorial in origin and having a strong social component could be one example of community trials.

## 8. Data Collection, Storage and Management-

- Mention the software that was employed for data collection.
- State the procedure adopted for securing the data, how was the confidentiality observed.
- Mention the statistical test employed in compiling the results and analysis.
- Mention the details of software if it is used.

## 9. Ethical Consideration-

Institutional Ethics committee should clear the undertaken study. The final thesis should mention that institutional review board/institutional ethics committee has cleared the undertaken study.

## 10. Consent of the participants -

- *Informed written consent* from the study participant is must.
- It should be in a language which is understandable to the study participants.
- It should be read out for illiterate and should be attested by witness.
- Consent for inclusion of children, mentally challenged persons should be obtained from parents or legal guardian
- A copy of consent form should be attached to the thesis as an appendix.

## 11. Discussion-

In this section, results of your study should be compared and contrasted with other similar studies .If the findings are similar then one could comment that your findings are in agreement of those with other authors. If your values are disagreeable with other studies, you may have stumble upon something which is truly important. Then you must try to provide possible reasons for the observed differences.

## 12. Limitations

The finding of the study should be evaluated for alternative explanations before concluding that the disease condition observed is the result of exposure to a particular agent. Alternative explanation to available results may lie in the *chance, bias and confounding*.

### **Chance-**

Since we carry out research on sample rather than entire source population, the obtained result could be purely due to luck of the draw. The adequacy of sample size will determine the extent of role of chance. In addition we should use statistical methods to calculate *Confidence Interval* Confidence *interval (CI)* is a range of the estimate within which the true value of the finding would lie with a given certainty. This certainty is usually taken to 95%.It means that even then, in one in twenty times the true value(s) would lie outside the calculated range.

### **Bias-**

Bias is a systemic error .It leads to an incorrect estimate of association between exposure to a stimulus and disease. It is classified in to two groups;

*a) selection bias      b) measurement bias.*

*a) Selection bias* - It refers to systemic error in the way study participants were recruited

*b) Measurement bias* - It refers to error in ascertaining the information from those recruited.

Unlike chance bias can not be quantified by statistical method. Best way to deal with bias is to anticipate it and remove it during the design stage of the study. This requires the good familiarity with subject of the proposed study. Hence it is important to have good review of literature during writing of the thesis protocol itself. While providing alternative explanation to your results you should document likelihood of bias in your study and the manner in which your result would be affected if the bias had taken place.

### **Confounder-**

While one is trying to measure the association between exposure and the disease, it is observe that their exist another variable that has neither been controlled nor measured but which has a role to play in the observed association Such a variable is called *confounder*. The hallmark of a confounder is that it is associated with the exposure but independent of the exposure it is risk factor for the disease. Age and sex are the commonest confounder.

### **Three way to deal with confounder -**

- 1) Randomization
- 2) Restriction
- 3) Matching

**1. Randomization –**

This allocates known as well as unknown confounder into different groups purely on the chance basis. Hence confounder is distributed in the equal amounts to different study sub-groups and, so cancel- out each other. Randomization can be by consulting a randomization table or generating one as on at inter net site [www. randomization. com.](http://www.randomization.com) (preferred scientific methods) in general randomization should be performed by someone not directly concern with the study.

It should be ensured that randomization should not be unethical. Subjects in the study can not be randomized to a group that would undergo a harmful or be knowingly given harmful or less than optimum treatment.

**2. Restriction-**

Another method to deal with confounder is to have a strict *criterion of eligibility*. For example if race and sex are going to be confounder then one could restrict the study to white males.

**3. Matching-**

It is yet another strategy to deal with confounding. In this potential confounder is purposely distributed equally among the different sub groups. One must have to be careful in using appropriate statistical tool Again the role of confounder is nullified due to equal distribution among the groups for analysis for matched study design data.

## *How to begin with Thesis Writing?*

- 1) With the help of *postgraduate teacher* select a thesis topic.
  - Choose a topic which is very simple.
  - Ensure the feasibility of the study by doing experiments.
  - Research material should be easily available.
  - It should be possible to finish it in stipulated time.
  - Financial aspect should be taken care off.
- 2) After *selection of topic* prepare the thesis protocol.

The *thesis protocol* is an outline of the plan of study that details the research question, background and rationale for the study. It should include-

  - Introduction.
  - Brief review of literature.
  - Aims and objectives.
  - Materials and methods.
  - Study proforma.
- 3) Thesis protocol should be discussed in the department meetings and make necessary corrections
- 4) Present the thesis protocol in front of *scientific committee* for the approval.
- 5) Then the protocol will be forwarded to *institutional ethics committee* for approval.

Approval of scientific committee and institutional ethics committee is mandatory.
- 6) Protocol will be forwarded to *N.B.E.*

**Submitting of protocol: - 3-4 months from the date of joining the course as per NBE guidelines.**

## ***Writing the thesis protocol***

It is defined as document that describes the background rationale, objectives design, methodology statistical consideration and organization of a study/trial. It explicitly status the reasoning behind research project.

Title of the thesis protocol	:	}	first page
Name of the candidate	:		
Name of the Subject	:		
Date of Joining	:		
Hospital / Institute	:		
Guide Name & Institute	:		
Co-guide Name & Institute	:		

(Please give details of the protocol under the following sub heads)

1.1 - Introduction -	1-2	(minimum no. of pages)
1.2 - Review of literature-	1-5	”
1.3 - Aims and objectives -	1	”
1.4 - Materials and methods -	1-3	”
1.5 - References-	1	”
1.6 - Proforma of the study -	1-5	”
1.7 - Approval of ethical committee and its composition.		
1.8 - Approval of scientific committee and its composition.		

### **Title of Thesis**

- Should indicate contents as precisely & briefly as possible.
- Do not use abstract terms in a title.
- Do not use abbreviations in the title.
- Write the title in capita letters or first letter of every word in capital form.
- Scientific names of micro organisms are written in italics or underlined. In these the first letter of generic name is written in upper case while first letter of specific name is written in lower case e. g. *Echerichia coli*.
- Scientific names of micro organisms are written in italics or underlined.
- Write the title in capital letters.
- Or first letter of every word except conjunctions are written in capital letters.

### **Introduction-**

- Should state the purpose of the study
- Mention lacunae in current knowledge
- Enunciate the hypothesis if any.

### **Review of literature-**

- Should be relevant
- It should be complete
- It has to be current to date.

### **Aims and Objectives: -**

Aims and objectives are not the same things. An aim is consistent of statement of general intent. By contrast an objective states the requirements in precise terms. e. g.

### **Materials and Methods: -**

**Materials** - In this section, the candidate should give a list of all chemical, reagents and other materials used in the study along with their source (name of the company, city, country) Reagents received as gratis should also be mentioned in this section.

**Methods** - Methodology section in the thesis should follow logical sequence and be comprehensive in nature. The description of your study should be such that by following your description; reader may be able to perform the experiment. The name, the make (model no. and source of instruments) should be mentioned wherever they first appear in methodology.

A brief account of statistical methods used for the analysis of results may also be mentioned in this section. Statement of limitations and ethical issues if any should be mentioned.

### **Carrying out research: -**

Two years time available from submission of protocol till the last date of submission. Finish the work in 18 to 20 months time .Write thesis in remaining 4 months time.

### **Tabulation of data: -**

Prepare a master chart for speedy analysis of data. Computer can be used, but maintain hard copy in case all data gets corrupt.

Meeting with Guide - *Apprise your guide of the cases you have performed once a month.*

**Advice to candidates: -**

- 1) Do not bring thesis at the last moment!
- 2) Give adequate time to guides for checking the thesis!
- 3) Get the progress of your research reviewed on regular basis.
- 4) Start writing review of literature during progress of thesis
- 5) Do not cut and paste from original articles, Internet sites and textbooks!

## ***LAY OUT OF THE THESIS***

- Title page
- Certificate page
- Abstract page
- Dedication
- Acknowledgment
- Abbreviation page
- Table of contents
- List of tables
- List of figures
- Introduction
- Aims and objective
- Review of literature
- Materials and methods
- Results and observations
- Discussion
- Summary
- Conclusions
- List of references
- Appendix
- Copy right page
- Master chart

**A Sample template of Thesis Protocol & Final Thesis has been provided to you for reference. It will be for reference only.**

## ***Preliminary Pages***

**Certificate-** It states about originality of the work.

### **Abstract page-**

The abstract should present an account of thesis. Its maximum length -300 words. The page of the abstract should be headed by the word ABSTRACT typed in all capital letters, centered between margins. The text begins a double space below, is single spaced, and is typed in normal paragraph form. The first word of each paragraph should be indented consistent with the rest of the paper. Although the abstract may have several paragraphs, it should contain no subtitles headings or citations. The abstract precedes the thesis. It is not included in the table of contents.

### **Dedication (optional):-**

It appears immediately after the abstract page and is numbered using lower case roman numerals. A heading on this page is optional. When used, it is centered in all capitals; the text begins a double space below the heading.

### **Acknowledgments (optional): -**

It is correct to acknowledge guides, colleagues and other persons who have helped you in the thesis. You must also remember the head of the department, head of the institution/dean. The page is numbered using lower case Roman numerals .Heading is typed in upper case. The text begins double space below the heading and the page is double spaced. It should contain the candidate's name

### **Abbreviations (optional): -**

All abbreviation are listed under a List of Abbreviations on a separate page. This page is numbered using lower case Roman numerals.

### **Table of contents: -**

It should not list any item that precedes it. Headings and subheadings in the text must correspond exactly in word and form to the table of contents. A dotted line extends from last word of each entry to the page number.

### **List of Tables and List of Figures: -**

The table of contents is followed by the List of tables, which is followed by the list of figures. Each of this begins on separate page. The heading is centered between the

margins, typed in upper case following the 1 inch top margin. The first entry begins a double space below the heading. Each title must be presented exactly as it is mentioned in the text. Tables and figures should be numbered in the order in which they appear in the thesis.

**Tables, figures and other illustrations:-**

A table comprises of any material presented in columnar arrangements either vertical or horizontal anywhere in the thesis. The reader should be able to understand the results given in a table or frame without frequently consulting the text.

*Any chart, drawing, graph, diagram, map, photograph or any other type of illustration is designated in the thesis as a figure.* The format of table must be consistent throughout the thesis. Every table and figure must bear a caption that consist of its number preceded by the word: Table :(e. g. Table2.3) or Figure (e. g. Fig. 3.2) and followed by a descriptive title. When table or figure is referred to in the text, the reference should be to the table/figure number, Table 2.3 for example, and not to the table below.

The location of the title must be the same for all tables/figures-a uniform distance from the top or uniform distance from the bottom. All tables are captioned at the top and figures at the bottom. Arabic numerals should be used for tables and figures because most readers have difficulty with a designation such as table LVII.

## ***Pages after Materials and Methods***

**Results and Analysis-** Describe the rationale of performing an experiment in the beginning of each part before you describe your results. While describing the results it may help the readers to understand them if you pinpoint the piece of information in figures by making a mention of the line number arrow etc. in citation. See to it that result

- Should be biologically organized in readily identifiable sections.
- Should have correct analysis of data.
- Should be presented in appropriate charts tables, graphs and figures etc.
- Should be statistically interpreted.

**Discussion:** - In this section you are expected to discuss your results in the light of all existing literature. This may include the justification of methodology used, corroborating your findings with previous results etc. It should mention unanswered questions and list new questions raised .In case your results are in disagreement with the studies of others you must try to provide possible reasons for the differences. You should highlight in what way your study has contributed to existing knowledge in the field.

**Summary -** The purpose of this section is to briefly describe your thesis. It should be in such a way that reader should get reasonably good idea of the work just by reading this section .therefore you should give a brief introduction of your work in 3-4 lines followed by the salient points of the study. Summary should not exceed two pages.

**Conclusions-** Conclusions of your finding should be drawn in the light of existing literature case your conclusions are at variance with the known facts, they should wither be supported by your experimental data or you should offer a possible explanation

## **References / Bibliographies**

You also need to give complete details of item to which you are referring so that readers can easily trace the item whether it is a book chapter, article or web page. You are also allowing the reader to trace your line of research.

## **Styles of giving references -**

The Vancouver style is commonly employed in medical scientific journals. The referencing of all the material is carried out in two stages. These are:

### **1. Citing reference in the text-**

When citing in the text, you should always use Arabic numerals in superscript or within brackets (e. g. <sup>5</sup> or (5) ) the number in brackets links directly to the reference list at the end of the piece of work (in bibliography or references.

### **2. Reference List at End of Thesis-**

There is distinction between references and Bibliography. References are those sources actually referred to in the text. If there is bibliography it should contain those sources which were consulted and found relevant, but are not actually referred to by name in the text.

### **3. Printed publications**

**Books** - You need to give details of author (s), year of publication, title, edition (if not the first), place of publication and publisher.

### **4. Conference Proceedings**

1. Anonymous, Proceedings of a consensus development conference on Benign Breast Disease. Breast Disease 1; 18-31, 2005.

### **5. Conference Paper**

CHUMBER S. Adrenal function test in MOHANTY BK MISHRA SK, NAYAR (eds) ENDOCON 2005. Proceedings of the 5th international endocrinology conference; 6-10-2005; PURI ORISA 2005:39-45.

### **6. Government publications**

1. RAJENDRA R. Oral submucous fibrosis: Etiology Pathogenesis and future research. Bull World Health Organization 1994, 72 (6); 985-996.

### **7. Dissertation-**

1. GIRIDHAR V. Effectiveness of different regimes in the treatment of lymph node tuberculosis; a prospective randomized and follow up study (dissertation) New Delhi; All India Institute of Medical sciences 2003; 108

### **8. Dictionary and Similar References**

1. BUTTERWORTH Medical Dictionary.2nd ed Great Britain; BUTTERWORTH 1978. GIAT; p 703.

## **9. News Paper Article**

1. SHARMA. AIIMS gets money wise, hikes charges. Hindustan Times 2005 nov29; 1.

## **10. Journal**

The journal should be abbreviated according to the style used by Merline.9Web link) (consult the list of journals indexed in index medics (Merline)),

## **11. Journal Article in Electronic Format**

1. HUDIS C. The Latest Thinking in Hormonal Therapy for Breast Cancer in the adjuvant setting MEDSCAPE Today (on line) 2005 November. Available from URL <http://www.medscape.com/viewprogramme/4771> (accessed 2005 2 December).

**Appendix-** Important information not incorporated in the main body of the text to avoid discontinuity is included in this section .The information in this section need not be descriptive.

## **Word Count in Thesis: -**

The thesis **may be normally restricted to the size of 100 pages.** To achieve this following item may be kept in view.

- Review only relevant and contemporary literature.
- Techniques unless innovative, need not be described in details.
- Illustrative material may be restricted.
- Number of clinical cases to be included in the study may be restricted.
- The objective of study should be limited and well defined.

## **Special Materials: -**

Photographs in the thesis should be in color or in black and white and should be prepared with a background that produces sharp contrast and clear detail. The X rays must be in black and white. Any photograph map or chart smaller than 8.25 \*11.5 inches should be mounted on ivory paper. If the illustration is of double the size of thesis, it must be bound in the thesis at the left and folded without the danger of the fold protruding out at the right, top, or bottom being trimmed in the binding process. We have already discussed up to contents of materials and methods. Once our data collection is complete and we need to put forth results of the study and our observations.

## *Format of thesis*

### **Paper and printing**

- Use A-4 sized photocopier paper of 8.25 inches by 11.5 inches.
- Same brand should be used throughout the thesis.
- The original manuscript must be typed or printed on one side of paper only.
- The print must have consistent sharpness, clarity, darkness throughout.

### **Fonts-**

- All headings-same font, all subheadings-same fonts, main text - third font style.
- Font size -12 or 14 depending on the font chosen.

### **Formatting: -**

The format of the pages of the text should contribute to the continuity for the reader.

- Do not leave partially filled pages, except at the end of the chapter
- Or room is insufficient to place four or five lines of text either before or after a table.
- Avoid windows and orphans.
- Leave 2 spaces after punctuation at the end of the sentence.
- Addition to the text of foreign alphabets (as it is not available on key board) it should be marked with fine pointed art pen in permanent black ink.

<b><u>Margins: -</u></b>	Left margin	1.5 inches
	Right margin	1.0 inch
	Top margin	1.0 inch
	Bottom margin	1.25 inches

Margin requirement must be followed for photographs, figures and graphs and appendices. Only page number should appear in the bottom margin. Do justify lines.

### **Spacing: -**

- Only double spacing is to be used throughout the manuscripts.
- Single spacing is to be used when writing the legends to figures and in the reference.
- References-single spaced with each reference, double spaced between references.
- The first line of each reference flushed with the left margin.
- Single spacing is also used in the following cases-

When lines of chapter titles or subheadings are more than half a line in length.

Two line headings and figure captions may also be single spaced. If there are two tables and figures on the same page, separate them by triple space.

Table numbers should be either chapter based i. e. Table1.1, table 2.3, table 2.4 etc. or should be in continuation throughout the thesis, I. e. Table1, table 2, table3, etc.

### **Corrections: -**

All text on the computer must be spell checked before the printing. It is unpardonable to have white correction fluid on the final thesis or finished correction copy. No corrections are permitted with pencil or pen on the final thesis.

### **Page Numbering: -** Numbering is done in following manner:-

- a) Preliminary Pages - The pages in the preliminary material must be numbered consecutively with lower case roman numerals. Page numbers are placed in the lower margin, one inch from the bottom edge of the paper.
- b) Title Page-Only the title page does not bear number even though it is consider as page one.
- c) Thesis certificate- Thesis certificate page is second and so numbered
- d) Abstract page-An abstract of the entire work should be summed up in 300 words and placed here. It is page three.
- e) Text pages- All text pages must be numbered in the bottom margin one inch from the bottom edge of the paper using Arabic numbers. The Arabic numbers begin with the first page of introduction and continue throughout the study, references and appendices.

### **Chemical Notations and other Symbols**

Symbols as they are not available on keyboard, must be drawn carefully and legibly with a fine pointed pen with black waterproof ink.

### **Headings and Subheadings**

A consistent system of headings must be adopted for the use throughout the thesis

1. Chapter heading all the capital letters with font size 18-20 and bold. The chapter heading should be left aligned. Each new chapter begins on new page.
2. Major heading-(section heading) -Should be in font size 16 or 18 and bold and may be underlined. First letter of all major words capitalized It should be left margin aligned.
3. Minor heading (sub-heading-level 1 or A)) -Should be left margin aligned with font size same as that of text and bold with first letter of all major words capitalized.
4. Minor division (sub-heading level-2)

Heading should not appear at bottom of a page with no textual matter following. At least two lines of text must follow a heading at the bottom of the page.

Appendices may contain study proforma as, master charts, tables of data, composition reagents etc that would otherwise interfere with easy reading of the text. Each appendix should be titled and listed with its title in the table of Contents. The appendices follow the reference/ bibliography entries and are paginated continuously.

### **Binding of Thesis**

Entire thesis should be hard bound with leather spine and corners. The title page must be embossed on the hard cover in golden ink. The color of the hard cover must be maroon or black. The color of the thesis submitted by masters' candidate is maroon in color and that of doctoral candidate is black in color. The number of bound copies depends on number of guides. Three copies are to be deposited with academic section and each guide should receive one copy. One copy is retain by the candidate.

### **Certificate**

The certificate page must be typed by the student using the same type case as the text of the paper and printed on approved thesis paper. Photocopies of signed approval pages are not acceptable.

### **Copyright**

For some of the information you want to include, you are required to obtain permission from authors or such sources that hold a copy right to above material. You will need this permission irrespective of how you have obtained this information.

### **Storage of thesis and Dissertations**

Storage of thesis is common as well as compulsory in some countries in the west. It would be easier to store thesis on hard disc, CD OR DVD and other forms in digital format.

## ***Ethics and Research***

1. It is mandatory that all proposals on the biomedical research involving human subjects should be cleared by appropriately constituted institutional ethics committee or institutional review board.
2. Informed consent -For all biomedical research involving the human subjects, the investigator must obtain the informed consent from the prospective subject or in the case of individual who is not capable of giving informed consent, the consent of a legal guardian.
3. Approval of ethical committee should be sought for research proposals.

The protocols are discussed in the meeting and a report is submitted to a guide of the research protocol with clear directions of approval, disapproval or those for modification.

### ***Rejection of a Thesis Protocol or Thesis***

Proposals for research are generally not rejected. Sometimes the Faculty of the department will suggest modification to be incorporated in the research protocol. Resubmit the protocol after modifications.

A thesis may be rejected and sent back to the guide and candidate if it does not meet the specified guidelines or carries too many mistakes like. Spelling mistakes sever grammatical errors, wrong referencing incorrect analysis of data and incorrect interpretation of results are the reasons for the rejection of the thesis.

Once such modifications or corrections have been incorporated in the text, the thesis is resubmitted to the same examiner for reevaluation and final approval.

If any unethical practice is detected in the work of the thesis, the same is liable to be rejected. Such candidate is also liable to face disciplinary action as may be decided by the board.

## ***Submission guidelines***

Thesis protocol should be submitted to NBE office through the head of the institution within three months of registration of the candidate in NBE accredited institutions.

Candidate appearing in the super-specialty subject need not write thesis if they have written one for M.D. M.S. OR D.N.B. Examinations However they have to submit proof of having written one for their M.D. /M.S./ DNB examinations.

The thesis is forwarded from the department through the head of the department.

Only those candidates who are declared successful in the final theory examination will submit their thesis/dissertation to NBE office within two weeks of intimation of the result.

If the thesis is rejected, the examiner will return the thesis to the office with his suggestions in writing for improvement. The result to such candidate will be kept pending. Time of resubmission should not exceed six months.

### **Check list** –

- Check pagination; all pages in each copy must be in correct order and numbered
- Check all diagrams, photos tables and illustrations.
- Check bibliographies and references
- Check all preliminary pages are present.
- Check the abstract page is present.
- Submit the copies according to guidelines of NBE.

# NATIONAL BOARD OF EXAMINATIONS, NEW DELHI

## Thesis Submission

### General Instructions

- Incomplete submission forms will not be considered.
- Complete the form enclosed in **BLOCK LETTERS** only.
- Use **Black/Blue Ball pen** only to fill up the form.
- Fees for thesis Evaluation is Rs. 2500/-.  
(Demand Draft made in favor of National Board of Examinations, payable at New Delhi)
- A fee of Rs. 1000/- will be paid by candidates along with re-submission of their thesis for re-evaluation.  
(Demand Draft made in favor of National Board of Examinations, payable at New Delhi)
- Along with your thesis, send the summary of your thesis on the enclosed format in hard copy and also on CD s.
- Tick the Enclosures -
  - Bank Draft
  - Form for Thesis Submission
  - Hard Bound Thesis
  - Thesis summary - Hard Copy
  - Thesis summary – CD
- You are required to submit your thesis six months prior to the date of the examination you are applying for
- The thesis has to be signed by the candidate and the guide & has to be forwarded by the head of the institution.
- Any change in your correspondence address after submission of thesis should be intimated to the Board at email **thesis@natboard.edu.in** so as to affect timely dispatch of your thesis acceptance letter.
- For inquiry pertaining to thesis, you may write to **thesis@natboard.edu.in**. No inquiries regarding thesis acceptance status prior to 4 months after thesis submission will be entertained.
- Mention your Name, Subject, Registration No. and Date of submission of thesis in any correspondence pertaining to thesis with the Board.

## FORM FOR THESIS SUBMISSION

**1. NAME (IN FULL):**

.....

**2. FATHER'S/HUSBAND'S NAME:**

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**3. CORRESPONDENCE ADDRESS:**

.....

.....

Telephone No.....Mobile No.....

E-mail .....

**4. REGISTRATION DETAILS**

a) Reg. No ..... b) Date of Joining.....

c) Date of Completion of DNB training .....

**5. Details of DNB:**

Subject	Institute	State	Period of Training
<b>Correspondence Address of the Institute</b>			

**6. Fees Details:**

Bank Draft No.....Date.....Amount Rs.....

Name of the Bank.....

**7. Details of Dissertation /Thesis:**

Subject	Period	Name of Guide
<b>Title of the Thesis :-</b>		

I here by declare and certify that particulars given in this application form are true and accurate to the best of my knowledge and belief.

**Date:**

**Signature of the Candidate**

## **Format for summary of DNB Thesis**

1. Name of Specialty (please mention the specialty like Medicine, surgery, OBG etc.)
2. Name of System of Body (Please mention the system of the body to which your thesis belongs such as CVS, respiratory, CNS etc.)
3. Title of Thesis and year of submission of thesis :
4. Name of the candidate :
5. Name of the Supervisor :
6. Name of the Hospital :
7. Objectives of the study (please mention the objectives of your study.)
8. Material & Method :
  - 8.1 Study area (please mention in brief the profile of hospital/unit where the study was done and reasons for doing so, in five lines.)
  - 8.2 Study population (please mention the group from which data was collected for example Indoor/OPD cases, Male/Females, urban/rural, Children/Adult etc.)
  - 8.3 Sample size & sample technique (please mention the sample size of the study populations and the sample technique of taking this sample size.)
  - 8.4 Data collection technique and tools (please mention how the data was collected, such as interview, observation/measurement of some parameter, record study etc. and which tools were used, such as observation check list, interview schedule etc.)
  - 8.5 Data analysis (please mention how data was analysis and name of the statistical test if used.)
9. Salient findings (please mention the important findings of your study as per your objectives in two pages.)
10. Conclusions (please write in one paragraph, the conclusion of your study.)
11. Recommendations (please write five important recommendations of your study.)

# **DNB Thesis Protocol**

## **< Instructions:**

*Text in red color and format is to guide you through submission process through instructions on what is expected in the document and is to be removed in final document.*

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***Kindly note that this is a sample – template only. Please add in and delete as many pages as are necessary when writing the Protocol, for e.g. in Introduction section, Review of Literature, Aims & Objectives, Materials & methods, References & Study Proforma etc>***

***“Completed thesis protocol will be submitted in the Department Committee & take Signature of the Head of the Department & your PG Guide & than submitted to PG office.”***

***(Submit within 3 months of joining date)***

# National Board of Examinations, New Delhi

## Thesis protocol submission form

Name of the Candidate : (DNB Students name)

Subject : (Name of the Department)

Date of Joining : (Date of Join the DNB course)

Hospital/Institute : Deenanath Mangeshkar Hospital and  
Research Centre, Erandawane,  
Pune - 411 004

Guide (Name & Institute) : (write Guide Name & Institute name)  
Deenanath Mangeshkar Hospital and  
Research Centre, Erandawane,  
Pune -411 004.

Co-Guide (Name & Institute): (write Guide Name & Institute name)  
Deenanath Mangeshkar Hospital and  
Research Centre, Erandawane,  
Pune -411 004.

(Please give details of the thesis protocol under the following sub heads)

## 1.1 Introduction

## 1.2 Review of Literature

## 1.3 Aims & Objectives

## 1.4 Material & Methods

## 1.5 References

## 1.6 Study Proforma

## **1.7 Approval of Ethical Committee & its Composition**

## **1.8 Approval of Scientific Committee & its composition**

**(Signature of the Candidate) (Signature of the Guide) (Head of the Department)**

**(Signature of the Head of Institution)**

# **DNB final Thesis**

## **< Instructions:**

*Text in red color and format is to guide you through submission process through instructions on what is expected in the document and is to be removed in final document.*

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*Kindly note that this is a sample – template only. **Please add in and delete as many pages as are necessary when writing the thesis, for e.g. in Introduction section, methodology section, results section, discussion section etc>***

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**“STUDY TITLE”**

A DISSERTATION SUBMITTED TO THE  
**NATIONAL BOARD OF EXAMINATIONS**  
IN FULFILLMENT OF THE REGULATION FOR THE AWARD OF  
**DIPLOMATE OF NATIONAL BOARD**  
**(SUBJECT NAME)**  
EXAMINATION TO BE HELD IN **(MONTH & YEAR)**

**BY**

**NAME OF THE STUDENT RESEARCHER**

**GUIDE**

**NAME OF THE POSTGRADUATE TEACHER**

**DEPARTMENT OF (DEPARTMENT NAME)**  
**DEENANATH MANGESHKAR HOSPITAL AND**  
**RESEARCH CENTRE, ERANDAWANE, PUNE - 411 004,**  
**(MAHARASHTRA) INDIA**

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DISSERTATION SUBMITTED TO THE  
**NATIONAL BOARD OF EXAMINATIONS**

(Ministry of Health & Family Welfare, Govt. of India)  
ANSARI NAGAR, MAHATMA GANDHI MARG,  
(RING ROAD), NEW DELHI – 110 029

IN FULFILLMENT OF THE REGULATION FOR THE  
AWARD OF DIPLOMATE OF NATIONAL BOARD,

**(SUBJECT NAME)**

EXAMINATION TO BE HELD IN **(MONTH & YEAR)**

**BY**

**NAME OF THE STUDENT RESEARCHER**

**GUIDE**

**NAME OF THE POSTGRADUATE TEACHER**

**DEPARTMENT OF (DEPARTMENT NAME)**

DEENANATH MANGESHKAR HOSPITAL AND  
RESEARCH CENTRE, PUNE – 411004,  
MAHARASHTRA, INDIA

# CERTIFICATE

This is to certify that **(DNB student name)** (Registration No. \_\_\_\_\_) has prepared the dissertation titled, “*Study Title*” for the degree of Diplomate of National Board (**Department name**) examination to be held in **(month & year)**.

The dissertation was done under my guidance and to my entire satisfaction.

**Name of HOD**  
Head of the Department  
of **(department name)**

**Name of postgraduate teacher**  
Guide & P.G Teacher

**Name of the Medical Director**

Medical Director  
Head of the Institution

DEENANATH MANGESHKAR HOSPITAL  
AND RESEARCH CENTRE,  
ERANDAWANE, PUNE – 411004  
(MAHARASHTRA), INDIA

*DEDICATION*

# *ACKNOWLEDGEMENT*

## ABBREVIATION

<b>Code</b>	<b>Description</b>

*< Instructions: This text in red color is to be removed in final document. List the abbreviations and their corresponding descriptions here. >*

# ABSTRACT

**“Study Title”**

Name of the DNB student

Department of (department name), Deenanath Mangeshkar Hospital and  
Research Centre, Erandawane, Pune, Maharashtra, India

**Purpose:**

**Study design:**

**Methodology:**

**Results:**

**Conclusion:**

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# INTRODUCTION

## **AIMS AND OBJECTIVES**

# **REVIEW OF LITERATURE**

## **MATERIALS AND METHODS**

## **OBSERVATIONS AND RESULTS**

## **TABLES**

*< Instructions: This text in red color is to be removed in final document. Attach the table here, including table number and title, one table on each page. >*

## **FIGURES**

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## **DISCUSSION**

## **SUMMARY**

## CONCLUSION

## **BIBLIOGRAPHY**

# APPENDIX

# MASTER CHART