

# Research-Proposal Writing

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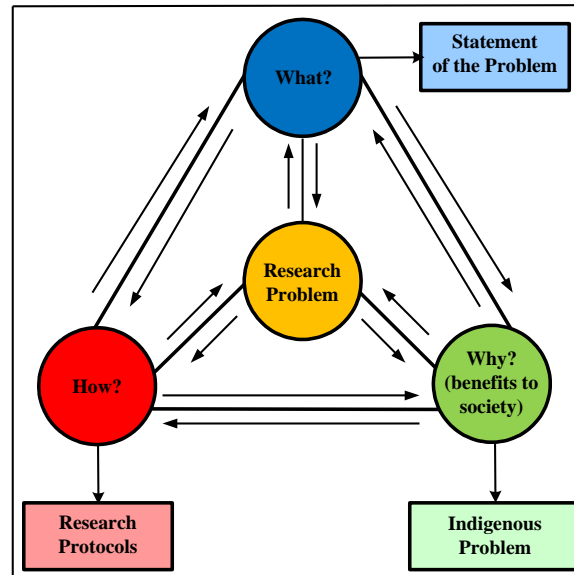
Number of Pages: Short Proposal 2-3; Complete Proposal 10-15. The PAGE LIMIT must be followed, to letter, for Short Proposal. For Complete Proposals, however, there may be room for flexibility, to some extent.

The pre-requisite for a successful proposal is a GOOD PLAN OF ACTION. The Hierarchy should be, somewhat, like the following (it is NOT necessary that all the following should be part of the Short Proposal; they are, however, ESSENTIAL for the Complete Proposal):

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| <p>a) Classification</p> <ul style="list-style-type: none"><li>■ Top secret</li><li>■ Secret</li><li>■ Classified</li><li>■ Unrestricted distribution</li></ul> <p>b) Title</p> <p>c) Submitted to (give name of the recipient)</p> <p>d) Date of submission</p> <p>e) Reference (give diary number)</p> <p>f) Principal Investigator/Consultant (contact person)</p> <p>g) Paper mail (give address for correspondence)</p> <p>h) e-mail</p> <p>i) Telephone numbers (give home and office phone numbers)</p> <p>j) Fax number</p> <p>k) Co-Investigator(s)</p> <p>l) Introduction</p> <ul style="list-style-type: none"><li>■ Background of the problem</li><li>■ Significance of the problem</li><li>■ Need for solution</li></ul> <p>m) Statement of the problem</p> <p>n) Feasibility</p> <p>o) Proposed solution</p> <ul style="list-style-type: none"><li>■ Product</li><li>■ Service</li></ul> <p>p) Methodology</p> <ul style="list-style-type: none"><li>■ Collection of data</li><li>■ Modeling of data</li><li>■ Simulation of data</li><li>■ Analysis of simulated data</li></ul> | <p>q) Resources</p> <ul style="list-style-type: none"><li>■ Necessary facilities (indicate, clearly, which facilities are available and which are requested)</li><li>● Laboratories/Equipment</li><li>● Scientists/Technicians</li><li>● Literature</li><li>● Network</li><li>■ Management structure (for larger projects)</li></ul> <p>r) Costs</p> <ul style="list-style-type: none"><li>■ Breakdown of expenses into various heads and the total cost</li><li>● Chart form</li></ul> <p>s) Schedules</p> <ul style="list-style-type: none"><li>■ Breakdown of work accomplishment (various phases of the work-in-progress)</li><li>● Chart form</li><li>● Graphical form</li><li>■ Reports</li><li>● Progress report (at the end of each phase)</li><li>● Completion report (at the end of project)</li></ul> <p>t) Benefits/Usefulness</p> <p>u) References</p> <p>v) Qualifications</p> <ul style="list-style-type: none"><li>■ Short vitae* of team members:<ul style="list-style-type: none"><li>● Principal Investigator/Consultant</li><li>● Co-Investigators</li></ul></li><li>■ The vitae should:<ul style="list-style-type: none"><li>● Justify team's willingness and ability to do the job</li><li>● Highlight previous projects of a similar nature completed successfully</li></ul></li></ul> |
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In addition to above, one may wish to include Comprehensive List of Publications and Research Synopsis.  
*Examples:* <http://www.ngds-ku.org/pub/Univpub.pdf> and <http://www.ngds-ku.org/goals/Univres.pdf>

## RESEARCH-PROPOSAL WRITING



**The anatomy of a research problem**

If the proposal pertains to a study, one must mention *Target Population* and *Sampling Element*. There should be well-defined inclusion criteria. Names of all persons, who have contributed one way or the other in generating ideas and plans may be mentioned under the heading *Conceptual Development*. Persons, who provided copies of papers, reports, theses; directed to relevant literature; introduced to experts in the field should, definitely, be acknowledged. Students may wish to include names of *Study Supervisor* and *Study Advisor*.

Some points, mentioned above, are taken from Virtual University's Program telecast by STN. The speaker was SAIMA ASGHAR. A proposal template (PDF) is available on my homepage:  
[http://www.ngds-ku.org/Industrial/Proposal\\_Format.pdf](http://www.ngds-ku.org/Industrial/Proposal_Format.pdf)

Proposals, which won Dean's Research Grants<sup>#</sup> in 2005 and 2007 may be downloaded from my page:  
<http://www.ngds-ku.org/DFS/DFS2005.pdf>  
<http://www.ngds-ku.org/DFS/DFS2007.pdf>

Proforma to obtain Dean's Research Grant for FY 2015-16, alongwith proposal template is placed at:  
<http://www.ngds-ku.org/DFS/Template2016.doc>  
<http://www.ngds-ku.org/DFS/Template2016.pdf>

Research organizations, like Higher Education Commission, NASA, National Science Foundation, the Third World Academy of Sciences may have their own proposal formats. Please, check with the sponsoring agency for the proper format, before preparing a proposal. NASA, also, accepts student proposals.

One may, also, wish to review my article, *Handling Industrial Projects*:  
<http://www.ngds-ku.org/Articles/A20.pdf>

In addition to a strong proposal, you may, also, prepare (the author is indebted to Farook Khan for the first 2 of the following):

a) *Concept Paper*: 1-2 page description of the main concept and its implications on the society. A sample concept paper is available at: <http://www.ngds-ku.org/Industrial/ConPaper.pdf>

b) *NDA*: If your idea is too novel, you may wish to have the other party sign a **Non-Disclosure Agreement**.

<sup>#</sup>A *Workshop on Preparing Research Proposals* was conducted by Office of Dean Science. Details are available at: <http://www.ngds-ku.org/DFS/DFS01.htm>

## RESEARCH-PROPOSAL WRITING

c) *Presentations (Power Point/Flash + Posters)*: Power-point/flash presentation (3-4 slides for Short Proposal; 15-20 slides for Complete Proposal) describing the most important features of the proposal must be prepared and brought in at the time of interview, along with plain-paper printouts mounted as posters. Bring your own laptop (make sure the battery is fully charged), if you intend to show power-point/flash presentation. 2 backups (one on USB and the other on CD) should, also, be in your possession. Learn, beforehand, how to connect your laptop to multimedia projector and project the output on screen (fn + F4), open (double click **Presentation Icon**) and run (single click **Ice-Cream Cup**, which appears in the lower-left-hand corner of screen; to go to the “next slide”, press **Page Down** on the upper-right-hand corner of keyboard, to the “previous”, press **Page Up**) the presentation.

Keep the material arrangement on the posters and the power-point/flash presentation slightly different. In case, you have a chance to present both of them, the interviewer shall not be bored by duplication.

A typical presentation may consist of:

<b>WHAT</b> the proposal is about?	<i>A clear statement and definition of the problem.</i>
<b>WHY</b> the proposal is needed?	<i>Benefits, usefulness, impact, policy change</i>
<b>HOW</b> the proposal is to be conducted?	<i>Techniques, methods, logistics</i>
<b>WHEN</b> the end product is to be delivered?	<i>Schedules</i>

*Web address of this document:* [http://www.ngds-ku.org/Industrial/Res\\_Prop.pdf](http://www.ngds-ku.org/Industrial/Res_Prop.pdf)

*HTML version:* <http://www.ngds-ku.org/Industrial/proposals.htm>