M.Tech. Dissertation
An Overview

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Aligarh 202 001
What is Dissertation?

- At master’s level the students are exposed to research work. The assigned research topic is related to latest developments in the relevant branch of engineering.
- A detailed report, typically containing the following;
  1. Introduction
  2. Literature Survey
  3. Experimental or Computational Methodology
  4. Results and Discussions
  5. Conclusions
  6. References

is known as Dissertation thesis.
What I am supposed to do?

• Your dissertation supervisor(s) has already been appointed.
• She/ He will assign you a Research Topic/Area.
• You are supposed to search the literatures on the topic such as Research Papers, Books, Database etc.
• Make full use of research journal portals such as Science Direct, Wiley online library, Link Springer, J-gate etc.
• You can get the access of full paper (pdf) only through AMU server. You can find only abstracts if you use your own 2G/3G modem.
• You must read and understand at least 20 - 30 research papers.
After literature survey, you must be clear about;
  - Research Objective
  - Problem Statement
  - Experimental (or computational) methodology including;
    - Raw Materials (Chemicals, Sp. Reagents etc.)
    - Process and experimental setup
    - Testing Facilities needed and their availability.

Side by side start self learning of any soft skill suggested by your supervisor, such as
  - MS-Office (Word, Excel and Powerpoint)
  - Matlab
  - Sigma Plot etc.
What I am supposed to do?
(Cont.)

- Fabricate/ Prepare your experimental setup.
- Before start conducting the experiments, Plan your experiments. This is known as Design of Experiments.
- Now Perform your experiments in a logical and scientific manner.
- Analyze and discuss your data in light of theoretical background of topic and results reported in research papers by other researchers.
- Conclude your results and explain the trends.
- Write your dissertation thesis. Get it checked by your supervisor.
- Printing, Binding and Final Submission.
- Prepare PowerPoint presentation for the external viva exam.
- Finally make a nice and confident presentation in front of external examiner.
What is the role of my supervisor?

• The role of supervisor(s);
  • Assigning the research topic to student.
  • Guidance in the conduct of experiments.
  • Checking Literature review, Experimental Methodology, Results & Discussion, Conclusions, References, draft of report.
Where should I place my experimental setup?

• Your supervisor will allot you space for arranging your experimental setup.

• Usually research setups are arranged in appropriate laboratory related to topic, such as:
  • Research Lab
  • Petroleum Testing Lab
  • Polymer and Composite Material Lab
  • Reaction Engineering Lab
Do I need to come to Lab Daily?

• Yes.
• Your 75% attendance is mandatory.
• You have to sign personally on the attendance register (III and IV sem) placed in the Office of Chairman.
• You should work in lab 8 am to 4 pm. Anybody coming late after 9.0am will be marked as absent.
• You have to meet your supervisor daily.
• Attendance is an essential but not the sufficient criteria for the release of GATE and TEQIP-II scholarship.
Do’s and Dont’s for Safe Laboratory Working

• Get yourself well acquainted with Lab and its chemical and equipments.
• Mark the location of fire extinguishers in lab.
• Always consult the MSDS (Material safety datasheet) before using any chemical or materials.
• Take all the required precautions as explained in MSDS.
• Never let your setup/ equipments unattended while in action.
• Never touch the setup/ equipments of other students.
• Always dispose off hazardous chemicals/ materials as per the instructions given in MSDS.
• Always maintain clean and healthy working environment in laboratory.
• Always wear Lab Coat while working in Lab.
Do’s and Dont’s for Ethical Laboratory Practices

• Always use the glassware/chemicals and equipments issued to you by the laboratory in-charge.
• Each and every labware issued to you must be entered in Loan Register of concerned lab.
• It is your responsibility to clean/wash all the used labware, equipments etc. before pack up for the day.
• You can mark a code/name on your glassware with permanent marker, to avoid mixing it with others. But never put a mark on equipments, desk, cabinet etc.
• Never take the glassware of other people working in lab/department.
• Do not operate/use any equipment without permission from laboratory in-charge.
• In case, you want to use facility located in other labs of department, Fillup the Requisition Form and get it signed with your supervisor/Chairman and submit it to in-charge of that lab.
• Never relocate any equipment/facility of the lab.
• Never hide any incident in the Lab.
• Always be faithful.
• In case of any miss happening, Do inform your supervisor. Your teachers will suggest you the best solution.
What is Plagiarism?

• Plagiarism is academic theft.
• Your degree can be taken back if your thesis found to be plagiarised. Recently in Deptt. Of History, A.M.U., a Ph.D. Degree has been taken back.
• If you use the data, plots, micrographs and text etc. of any other author and pretend it as your own. It is plagiarism.
• 99% ‘cut n paste’ action leads to plagiarism.
• You can take a statement or result published in a research paper, book etc. But you have to write it in your own sentences. Also you need to cite\(^1\) it in text and include complete reference.
• In case you want to use plot, figure, diagram etc., you need to take the permission from the publisher.
• Before final submission you can check your thesis for any possible plagiarism using software like Wiper, turn it in, etc.
Do’s and Don’t’s for Publication of a Research Paper

• Any research publication out of your dissertation work must be with consent of your supervisor(s).

• Typically the order of authors is as under;
  • First author – Student
  • Second author – Supervisor/co-supervisor/ other#
  • Third author – Supervisor/co-supervisor/other #
  • Corresponding author - Supervisor
  • # Must have sufficient contribution in present research work.

• It is mandatory to get the draft of research paper checked with supervisor before its submission in a journal and conference.

• Submission will be done by the supervisor’s email account or login as he is corresponding author.

• The draft of research paper must be free from plagiarism.

• Students must not submit the same paper to any other journal/conference with or without the consent of supervisor. This is illegal and known as self-plagiarism.
# Dissertation Time Schedule

Students are supposed to present their progress as under:

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<thead>
<tr>
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<th>Mid Sem</th>
<th>End Sem</th>
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<tbody>
<tr>
<td>III sem</td>
<td>(i). Literature survey</td>
<td>(i). Literature survey</td>
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<tr>
<td></td>
<td>(ii). Tentative work plan</td>
<td>(ii). Research Methodology</td>
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<td></td>
<td>(Gantt Chart)</td>
<td>(Detailed experimental work plan)</td>
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<tr>
<td>IV sem</td>
<td>(i). Details of experimental/computational</td>
<td>(i). Overview of work carried out in previous semesters.</td>
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<tr>
<td></td>
<td>work carried.</td>
<td>(ii). Results and Discussion</td>
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<tr>
<td></td>
<td>(ii). Reasons for deviation in work plan</td>
<td>(iii). Conclusions</td>
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<td></td>
<td></td>
<td>Presentations (External)</td>
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<td></td>
<td></td>
<td>Complete Presentation (25-35 min)</td>
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Monitoring & Evaluation

1. There will be **two presentations** along with progress report submission in each semester (III and IV sem).
   
   1. Mid Semester Evaluation
   2. End Semester Evaluation

2. Every student has to submit a progress report duly forwarded by her/ his supervisor(s) to DRC.

3. Student must be present in person for her/ his presentation for aforesaid evaluations.
Monitoring & Evaluation

4. The award of marks related to dissertation will be as under:

<table>
<thead>
<tr>
<th>SEM</th>
<th>Course Components</th>
<th>Sessional Components</th>
<th>Mid Sem (Presentation and Report)</th>
<th>End Sem (Presentation and Report)</th>
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<tbody>
<tr>
<td>III SEM</td>
<td>Pre-Dissertation Seminar</td>
<td>30</td>
<td>30</td>
<td>40</td>
</tr>
<tr>
<td>IV SEM</td>
<td>Final -Dissertation Seminar</td>
<td>30</td>
<td>30</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>Dissertation</td>
<td>60</td>
<td>--</td>
<td>40</td>
</tr>
</tbody>
</table>
Monitoring & Evaluation

5. The dissertation viva will be arranged before the end of academic session. The candidate is supposed to complete all the formalities of submission at two/three weeks before the end of academic session. The exact date of submission and viva will be notified by the Chairman.

6. You have to submit your departmental “No Dues” form signed from all the labs, seminar library and workshop, to Chairman before final submission of thesis.
You can find this presentation on departmental web page at [www.amu.ac.in](http://www.amu.ac.in/departmentpage.jsp?did=33);
THANK YOU