

MMTP-001

M.Sc. (Mathematics with Applications in Computer Science)

**MMTP-001
PROJECT GUIDELINES**



**School of Sciences
Indira Gandhi National Open University
Maidan Garhi, New Delhi-110068**

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I. STEPS IN DOING A PROJECT

Sl. No.	Activity	Schedule for doing the activity
1.	Selection of a project supervisor either by a student individually or with the help of Programme Facilitator	Any time of the year
2.	Submission of supervisor's Bio-data to the Programme Facilitator for the approval of School of Sciences	Any time of the year
3.	Identifying the topic and preparing a project proposal in consultation with the project supervisor	Any time of the year
4.	Submission of the project proposal to the supervisor for approval	Any time of the year
5.	Submission of the project proposal approved by the supervisor to the Programme Facilitator	Any time of the year
6.	Doing the project	As per convenience
7.	Submission of Project Report (both hard and soft copy) to The Registrar Student Evaluation Division IGNOU, Maidan Garhi New Delhi – 110 068	1 st July to 30 th September or 1 st January to 31 st March
8.	Viva-Voce	In January (for projects submitted during July – September slot) In July (for projects submitted during January – March slot)

II. PROJECT FORMULATION

Type of Project

The project work constitutes a compulsory component of the programme and you should carry it out with due care and sincerity. It gives you an opportunity to apply your core mathematical knowledge/tools/techniques to solve real life problems related to some industry/academic institutions/research and development organizations/software companies. You are advised to choose a project which has a direct relevance to your day-to-day activities. A sample list of some of the projects is given on page 12 of the guide. However, it is not mandatory for you to choose a project from the given list. You can formulate a project problem on your own or with the help of your project supervisor. After finalizing the problem, submit the project proposal of the same to the programme facilitator at your centre for approval. Once approved, you can start working on it.

Project Supervisor Eligibility

A person with a Ph.D./Master's degree in Mathematics or allied areas (like statistics, operations research) **or**, an M.Tech. degree in computer science or allied areas (like industrial engineering, electrical engineering) with minimum 2 years of experience in teaching in a College/University **or** working with an industry/R&D organization/Software companies, and having an application orientation.

Steps Involved in the Project Work

The following steps involved in the project will help you to do the scheduling of the project work:

- Select a topic and a suitable project supervisor.
- Prepare the project proposal in consultation with the project supervisor.
- Submit the project proposal along with the necessary documents to the Programme Facilitator of your Programme Study Centre.
- Receipt of the project approval from the Programme Facilitator.
- Carry out the project work.
- Prepare the project report.
- Submit the bound copy as well as the CD containing the soft copy of the project report to the **Registrar, Student Evaluation Division, IGNOU, Maidan Garhi, New Delhi-110 068.**
- Appear for the viva-voce at your Programme Study Centre as per the intimation by the Programme Facilitator.

III. ABOUT PROJECT PROPOSAL

Project Proposal Formulation

After finalizing the topic you should prepare the project proposal in consultation with your project supervisor. Your project proposal should be approximately of 1500 words and it should include the following:

- Title of the project.
- Introduction and objectives of the project.
- Methodology and tools to be used while doing the project.
- Utility/scope of the work done.
- Future directions for investigation for the problem studied.

Submission of Project Proposal

After preparing the proposal you should submit the proposal along with the Project Proposal Proforma, duly filled and signed by you as well as your project supervisor, to the **Programme Facilitator of your Programme Study Centre**. You must retain a photocopy of the complete Project Proposal (along with the Project Proforma) for future reference.

Remember that all entries of the proforma of approval should be filled up with appropriate and complete information. Incomplete approval proforma in any respect will not be accepted.

Communication of Approval

Programme Facilitator will communicate to you the approval/non-approval of your project proposal within a month of receiving the proposal. If your project proposal is approved, you can submit your project report in any of the project report submission slots. In case of **non-approval**, the suggestions for improvements/reformulation will be communicated to you by the Programme Facilitator. You can re-submit your **revised proposal along with a new proforma as well as with a copy of earlier project proposal proforma** which was not approved, to the Programme Facilitator.

A project proposal, once approved, is **valid for one year** (two slots). In case, you are unable to submit your project report in the two scheduled slots, you will have to submit a fresh proposal for the approval.

IV. PROFORMA FOR APPROVAL OF M.Sc (MACS) PROJECT PROPOSAL (MMTP-001)
 (To be attached with the proposal submitted to the Programme Facilitator) **(Form-A)**

Enrolment No.:
Programme Study Centre Name:
Regional Centre Name:
E-mail:
Telephone No.:

- 1. Name and Address of the student

- 2. Name, designation and office address of
 the Project Supervisor with telephone No.

- 3. Title of the Project
- 4. Subject area(s) of the Project
- 5. Mathematical Tools/Software used
- 6. Place(s) of doing the project*

(* Mention where you will be doing the project – industry/academic institution/research organization/ software company/elsewhere).

Signature of the Student

Signature of the Supervisor

Date:

Date:

For use by the Programme Facilitator

Approved

Not approved

.....
**Signature and stamp of the
 Programme Facilitator**
Date.....

Suggestions for reformulating the Project:

V. ABOUT PROJECT REPORT

Project Report Formulation

A project report should be approximately of 7000-8000 words and it must contain the following details:

- Table of contents/Index.
- Introduction to the project.
- Objectives.
- Methodology (survey, data, tools & techniques used).
- Results.
- Analysis/Interpretation of the results.
- Conclusions.
- Recommendations (future scope and further enhancement of project).
- Summary.
- Bibliography.
- Appendices (if any).

You should attach the original copy of the approved project proposal proforma and the certificate of originality (format given on page no. 13) to the project report.

Points to Remember while Preparing the Project Report

1. The printed project report should be submitted in A-4 size (29 × 20 cms) paper with double line spacing **along with the CD** containing the soft copy of the report in PDF format. Documentation of the project report should be appropriately done in respect of your project, like the analysis, survey (if any) has been done, tools, techniques/strategies used, etc.
2. All the pages, tables and figures in the project report must be numbered sequentially. Tables and figures should contain titles.
3. Do not forget to attach with the project report the following documents:
 - Original of approved Form-A.
 - Form-B signed by you as well as project supervisor.Project report received without these documents will be rejected.
4. The title of your project should be the same as per the approved proposal. The signature of the project supervisor in the certificate of originality should tally with the signature in the project proposal proforma.

5. You should submit one bound copy as well as the CD containing the soft copy of the original project report to the **Registrar, Student Evaluation Division by hand/registered post** and must retain a zerox copy of the same with you. You may be required to produce this copy before the examiner at the time of viva-voce.
6. Do not forget to mention “**M.Sc. (MACS) Project Report (MMTP-001)**” on the top of the envelope.
7. Photocopy of the project report is not acceptable for submission.
8. Each of you must do the project work **individually** and **independently**. Completely identical project proposals and/or project reports will be rejected.
9. You must attach with your project report any relevant data/device/object to support your conclusions/recommendations.
10. You should not pay any fees/remuneration to the project supervisor. The University shall pay the remuneration to the supervisor.

Submission of the Project Report

You should submit **one bound copy** of the original project report **along with the CD** containing the **soft copy** of the report in PDF format to the following address:

The Registrar, Student Evaluation Division, IGNOU, Maidan Garhi, New Delhi-110 068.

You must clearly write “**M.Sc. (MACS)-Project Report (MMTP-001)**” on the top of the envelope. You should retain a copy of the project report since you will have to produce it at the time of viva-voce.

VI. PROJECT EVALUATION

Each and every component of the project work carries its own weightage. The mark-wise weightage for each component of the project is given in the following table.

Component	Marks	Examiner
Project Proposal & Continuous Assessment	30	Project Supervisor
Project report	50	Project Evaluator
Viva-voce	20	Project Evaluator (in the presence of the Facilitator)
Total	100	

For successful completion of the project work, you should earn **at least 40% marks** in each of the components **separately**. The **overall** pass percentage is 40 as well.

General parameters for the assessment of any project:

1. **Selection of Topic:** Relevance of the problem to the real world.
2. **Introduction and Objectives:** Reasons for studying the problem selected. Work already done in that area. Aims and feasibility of your study. Project planning. Objectives to be achieved by the study.
3. **Methodology:** Explanation of the theory related to the mathematical tools and techniques used and understanding of the concept involved. Relevance and source of the data used (if any). Innovations related to coding and testing strategies used (if any coding is done).
4. **Presentation of the Report:** Organisation, correctness and clarity of the content. Simple and correct use of the language. Relevance and organization of any data/device/document used. Referencing of tables, equations, diagrams used. Proper binding of the project work (spiral bound).
5. **Analysis:** Precise and correct analysis of observations/results obtained. Appropriateness of tools/technique/software used for the analysis.
6. **Conclusions and Recommendations:** Matching of the conclusions with the objectives framed and fulfillment of the objectives. Further scope and further enhancement of the work done.

Viva-voce

You will be duly intimated about the viva-voce well in time by the Programme Facilitator of your centre. The project evaluator will conduct your viva-voce **face-to-face** at your **Programme Study Centre** on a date fixed by the Programme Facilitator to judge the subject knowledge related to your project and your presentation/communication skills. Viva-voce through phone, e-mail or teleconferencing is not allowed.

While appearing for the viva-voce, you must carry a copy of the project report along with you.

Resubmission of the project in case of failed students

If you are declared unsuccessful in the project then you must re-do the whole cycle, right from the submission of project proposal. We advise you to select a **new topic** for the project and prepare and submit a **fresh proposal**. There are no separate slots for the submission of the project report for the failed students. Submission of the project report should be done as per the scheduled slots. In case of failed students, a pro-rata fee of Rs.1200/- by way of Demand Draft in favour of IGNOU and payable at Delhi should be remitted along with the resubmission of the Project Report.

Unfair means

Cases of plagiarism of the project proposal and project reports will be placed before the IGNOU unfair means committee and decision will be taken based upon the comments of the evaluators/examiners.

Please note: Violation of the project guidelines can lead to rejection of the project at any stage.

VII. LIST OF SOME SUGGESTIONS FOR PROJECT WORK

Some of the problems that could be studied in the project:

1. Stability/performance of a machine over a period of time.
2. Traffic intensity at various (identified) locations on a selected 'route' in a city.
3. Emission levels at selected points in a city.
4. Analysis of crime rates in a city.
5. Water-pollution levels in potable water.
6. Marketing related issues.
 - i) Demand for specific brand(s) of selected "product" in a super-shop
 - ii) Percentage of loyal customers in retail market
 - iii) Customer satisfaction related issues of cosmetic products
7. Exam related issues
 - i) How to reduce dimension of the data related to students admission/registration/examination?
 - ii) What is measured by the exam scores?

Ability to think

 - a) logically
 - b) in an abstract way
 - c) numerically.

This list is only **indicative**. You can select any other real world problem of your own choice in consultation with your project supervisor.

VII. CERTIFICATE OF ORIGINALITY

(Form-B)

This is to certify that the project report entitled _____,
submitted to **Indira Gandhi National Open University** in partial fulfillment of the requirement for the
award of the degree of **M.Sc. in MATHEMATICS WITH APPLICATIONS IN COMPUTER
SCIENCE (MACS)** is an original work carried out by Mr./Ms. _____
with enrolment No. _____ under my guidance.

The content of this project is a genuine work done by the student and has not been submitted either to this
University or to any other University/Institute for the fulfillment of the requirement of any course of study.

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Signature of the Student

Date:

Name and Address of the Student

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Enrolment No.....

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Signature of the Supervisor

Date:

Name and Address of the Supervisor

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