MSCGI

Assignment Booklet

MSC GEOINFORMATICS (MSCGI)

ASSIGNMENTS

JANUARY & JULY 2025 CYCLES

Valid from January 1, 2025 to December 31, 2025

Tutor Marked Assignments (TMA) for **Semester-IV** Courses

MGYE-021
MGY-013 &
MGY-014

It is compulsory to submit the Assignments before filling in the Term-End Examination (TEE) Form

School of Sciences
Indira Gandhi National Open University
Maidan Garhi, New Delhi-110 068 (INDIA)

(2025)

Dear Learner,

Welcome to the MSc Geoinformatics (MSCGI) Programme.

As per the laid down guidelines of the University, you need to complete the assignment for each course. Each assignment has 6 to 9 questions. All the questions are compulsory. It is important that you should write the answers to all the questions in your own words. You should remember that writing answers to assignment questions will improve your writing skills and prepare you for the term-end examination.

This booklet includes assignments for the following three courses:

MGYE-021: Emerging Applications of Geoinformatics

MGY-013: Research Methodology and Professional Skills in Geoinformatics

MGY-014: Geoinformatics in Natural Resources and Environmental Studies

It is compulsory to submit the assignments within the stipulated time to be eligible for appearing the term-end examination. You will not be allowed to appear for the term-end examination for a course if you do not submit the assignment for that course within the due date. As per the University guidelines, if you appear in the term-end examination of a course without submitting its assignment, the result of the term-end examination is liable to be cancelled/ withheld.

The assignments constitute the continuous component of the evaluation process and have 30% weightage in the final grading.

Before you write the assignments, first go through the course material and then prepare the assignments carefully by following the instructions pertaining to assignments. Your responses should not be a verbatim reproduction of the textual materials provided for self-learning purposes but it should be in your own words.

If you have any doubt or problem pertaining to the course material and assignments, contact the concerned Programme in-charge or Academic Counsellor at your Study Centre. If you still have problems, do feel free to contact us at the School of Sciences, IGNOU, New Delhi.

Wishing you all the best to successfully complete the programme.

Programme Coordinator
MSCGI
School of Sciences
e-mail: pgcgi@ignou.ac.in

INSTRUCTIONS

1. On the first page of the assignment response sheet, write the course code, course title, assignment code, name of your study centre (SC) and date of submission.
2. Your enrollment number, name and full address should be mentioned on the top right corner of the first page.
3. Write the Course title, assignment number and the name of the study centre you are attached to, in the centre of the first page of your response sheet.
4. The top of the first page of your response sheet should be like the following:

NAME: ….....…….....…….....

ENROLLMENT NO.: .....…….....

CYCLE OF ADMISSION: …..…….....…….....

PROGRAMME CODE: .....…….....

ASSIGNMENT CODE: …….…….....

COURSE CODE: …….....…….....

COURSE TITLE: …….…….....…….....

REGIONAL CENTRE CODE: ..... …….....

STUDY CENTRE: .....…….....

ADDRESS: …….....……..……..…….....

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CONTACT NUMBER: .....…….....

DATE OF SUBMISSION: …….…….....…….....

Strictly follow the above format. If you do not follow this format, your script will be returned to you and you will be asked for re-submission.

5. Read the instructions related to assignments given in the Programme Guide.
6. Please note that unless you submit the assignments contained in this booklet within the stipulated time, you would not be permitted to appear for the term-end examination.

Note the following points before you start writing the assignments:

- Use only A-4 size paper for writing your responses. Only hand written assignments will be accepted. **Typed or printed copies of assignments will not be accepted.**
- Tie the pages after numbering them carefully.
- Write the question number for each answer.
- All the questions are compulsory.
- Keep a copy of the assignment answer sheets with you before submission for future reference.
- Answer each assignment on separate sheet.
- It is mandatory to write all assignments neatly in **your own handwriting. Write Your Name, Course Code, Enrollment No. and Cycle of admission** on all the assignments in bold letters**.**
- **Express your response in your own words. You are advised to restrict your response based on the marks assigned to it. This will also help you to distribute your time in writing or completing your assignments on time.**
- **The assignment has to be submitted at your Study Centre.**

You have to submit their completed assignments at the **Study Centre** allotted to you before the due date as set by the University.

It is desirable to keep with you a photocopy of the assignment(s) submitted by you.

*You have to submit the assignments to the Study Centre by **31st March, 2025** (for January 2025 Cycle) if you wish to appear in the June 2025 TEE and by **30th September, 2025** (for July 2025 Cycle) if you wish to appear in the December 2025 TEE.

Due Date of Submission*: For January 2025 Cycle: March 31, 2025
For July 2025 Cycle: September 30, 2025

*Please note that last date of submission may be changed by the University. Please check IGNOU website for updated information regarding due date of assignment submission.

Tutor Marked Assignment

MGYE-021: Emerging Applications of Geoinformatics

Course Code: MGYE-021
Assignment Code: MGYE-021/MSCGI/TMA/2025
Max. Marks: 100

Note: Attempt all questions. The marks for each question are indicated against it. Write all answers in your own words; do not copy from the Self Learning Materials (SLMs). Write your answers in about 200 and 400 words for short notes and long answers, respectively.

Part A

1. Discuss emerging applications in the fields of water resources. (10)
2. What is a geological hazard? Discuss emerging applications in various geological hazards. (10)
3. Write short notes on the following:
   a) Digital Terrain Analysis (5)
   b) Emerging applications of drones based studies in agriculture (5)
   c) Soil erosion modelling (5)
   d) Emerging applications in mineral exploration (5)
   e) Emerging applications in planetary geological studies (5)
   f) Crop yield estimation and IoT (5)

Part B

4. Give an overview of emerging applications in climate change related studies. (10)
5. Describe the emerging applications of geoinformatics in ecological studies. (10)
6. Write short notes on the following:
   a) Emerging applications in vegetation studies (5)
   b) Poultry barn mapping (5)
   c) Data considerations for forensic and crime related applications (5)
   d) Emerging applications of AI & ML in epidemiology and health related studies (5)
   e) Geospatial blockchain (5)
   f) Advantages and limitations of geoinformatics in global and regional scale studies (5)

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Tutor Marked Assignment

MGY-013: Research Methodology and Professional Skills in Geoinformatics

Course Code: MGY-013
Assignment Code: MGY-013/MSCGI/TMA/2025
Max. Marks: 100

Note: Attempt all questions. The marks for each question are indicated against it. Write all answers in your own words; do not copy from the Self Learning Materials (SLMs). Write your answers in about 200 and 400 words for short notes and long answers, respectively.

Part A

1. Give an account of research framework and research design in the context of remote sensing and GIS based research. (10)

2. Discuss the important aspects of managing geoinformatics based research project and dissertation. (10)

3. Write short notes on the following:
   a) Types and elements of a research proposal (5)
   b) Selecting suitable journal/platform for publishing your research (5)
   c) Selection of appropriate data for your research (5)
   d) Types of authorship (5)
   e) Formulation of a research problem (5)
   f) Selection of appropriate method for data processing and interpretation (5)

Part B

4. Give an overview of communication and communication skills. (10)

5. Examine the role and importance of team work and interpersonal skills to be successful in a professional environment. (10)

6. Write short notes on the following:
   a) Criteria for successful meetings (5)
   b) Importance of body language in presentations (5)
   c) Teaching skills (5)
   d) Preparation for an interview (5)
   e) Management functions and behaviour (5)
   f) Ethics at the workplace (5)

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Tutor Marked Assignment

MGY-014: Geoinformatics in Natural Resources and Environmental Studies

Course Code: MGY-014
Assignment Code: MGY-014/MSCGI/TMA/2025
Max. Marks: 100

Note: Attempt all questions. The marks for each question are indicated against it. Write all answers in your own words; do not copy from the Self Learning Materials (SLMs). Write your answers in about 200 and 400 words for short and long answers, respectively.

Part A

1. What are natural resources? Discuss the types of natural resources. How can we ensure the sustainability of natural resources? (10)
2. Discuss the 17 Sustainable Development Goals. (10)
3. Write short notes on the following:
   a) Key components of landscape ecology (5)
   b) Methods of biodiversity assessment (5)
   c) Role of mineral resources in India's economy (5)
   d) Environment management and its functions (5)
   e) Sustainable water body management practices (5)
   f) The 1992 Earth Summit and Agenda 21 (5)

Part B

4. Discuss the applications of geoinformatics in land use studies with an emphasis on natural resources. (10)
5. Deliberate on the applications of geoinformatics in landscape changes occurring at various spatial and temporal scales. (10)
6. Write short notes on the following:
   a) Application of geoinformatics in mineral resources exploration (5)
   b) Steps in Environmental Impact Assessment process (5)
   c) Key components of water resources management (5)
   d) Application of geoinformatics in natural resources inventory (5)
   e) Recent trends in habitat dynamics (5)
   f) Fire progression mapping workflow (5)

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