

# **Assignments**

**2018-19**

**Post Graduate Diploma in Geo- Informatics  
(PGDGI)**

**Centre for Distance & Open Learning  
Jamia Millia Islamia  
New Delhi-110025**

## **STUDENT ASSIGNMENTS (SESSION 2018-19) INSTRUCTIONS**

The students are required to read carefully and follow the instructions given below:

- Submission of one complete assignment in each course of the programme is compulsory.
- Completed assignments on prescribed assignment booklet are to be submitted by hand or through post to the study centre/Programme Coordinator, CDOL as per dates mentioned in the Academic Calendar 2018-19.  
(<https://www.jmi.ac.in/bulletinboard/academiccalendar/cdol>)
- For assignments submitted after dates mentioned in the Academic Calendar, a late fee of Rs. 100/- per assignment will be payable to CDOL through demand draft in favour of Jamia Millia Islamia, payable at New Delhi.
- For ex-students who failed to submit assignments during the course of the programme are required to submit Rs. 200/- per assignment to CDOL in the form of demand draft in favour of Jamia Millia Islamia, payable at New Delhi.
- Write your name, roll number and other details as required on the cover page of Assignment Booklet.
- For your own record you may keep a photocopy of your assignment.
- Contact your study centre/ Programme Coordinator to collect evaluated assignments.
- Please go through your Programme Guide carefully.

**ASSIGNMENT: Post Graduate Diploma in GEO- INFORMATICS (PGDGI)  
(DISTANCE MODE)**

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**Fundamentals of Remote Sensing and GPS - (DGI-101)**

**Session: 2018-19**

**Marks: 30**

**NOTE:** Attempt any **three** questions. All questions carry equal marks.

1. Describe the advantages and limitations of aerial photography.
2. a) Discuss the various triangulation methods.  
b) Write short notes photogrammetric mapping and mapping accuracy.
3. Explain the history of remote sensing, Discuss the scope and applications of remote sensing.
4. Describe various types, working / operating principles of sensors.
5. Explain GPS constellations and its arrangement.

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**Image Interoperation and Processing - (DGI-102)**

**Session: 2018-19**

**Marks: 30**

**NOTE:** Attempt any **three** questions. All questions carry equal marks.

1. Explain: (a) Matrices and vectors.  
(b) Inverse of a matrix and rank of a matrix.
2. Differentiate between analogue and digital images.
3. List the factors responsible for geometric distortions. What are the steps involved in the process of geometric correction.
4. Write short notes on:-
  - a) Fourier Transform.
  - b) Image binarization.
  - c) Histogram Equalization.
  - d) Histogram Normalization.
5. 'The histogram based methods provide greater effectiveness and efficiency when compared with other image segmentation techniques' Give reasons for your answer.

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**Geographical Information Systems (DGI-103)**

**Session: 2018-19**

**Marks: 30**

**NOTE:** Attempt any **three** questions. All questions carry equal marks

1. Explain the organizational aspects of GIS. Discuss system configuration for GIS software's.
2. Differentiate between vector data structure and raster data structure.
3. What are spatial data models? Explain the process of data retrieval with the help of GIS system.
4. Write short notes on:
  - a) Buffering and spatial interpolation.
  - b) Network and suitability analysis.
  - c) Errors and accuracies in GIS.
5. Explain the geostatistical tools used in spatial modelling.

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## **Cartography (DGI-104)**

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**Session: 2018-19**

**Marks: 30**

**Note: Attempt any three questions.** All questions carry equal marks

1. Explain “Cartography” and its characteristics?
2. How will you explain the concept of “Geodesy”?
3. Write short notes on:
  - a) Polyconic
  - b) Datum
  - c) UTM Projection
  - d) Geographic coordinate systems
4. How are generic and specific symbols drawn with relation to maps? List the precautions that must be taken when it comes to scales and its measurements.
5. Write down the typographic guidelines that should be kept in mind while creating a map.

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## **Thematic Applications in Geosciences (DGI- 105)**

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**Session: 2018-19**

**Marks: 30**

**NOTE:** Attempt any **three** questions. All questions carry equal marks.

1. Explain the various methods used for land use change detection and monitoring?
2. Describe the various categories of rocks.
3. What are the methods involved in soil mapping. Describe the objectives of watershed characterization.
4. Explain watershed management in India and the role of remote sensing and GIS in watershed management.
5. Discuss the term solid waste management and the role played by GIS and remote sensing in solid waste management.

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