

## STUDENT ASSIGNMENTS (SESSION 2022-23)

### Post Graduate Diploma in Geo-informatics (Distance Mode)

#### Guidelines to submit Assignments

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

1. Submission of one complete Assignment in each paper of the programme is compulsory.
2. Completed Handwritten Assignments on A4 size papers in a PDF format need to be submitted on Google Classroom on or before the due date
3. Write your Name, Father's Name and Roll Number as required on the cover page of each Assignment.
4. For Assignments Submitted after due date mentioned, a late fee of Rs. 100/- per assignment will be payable through Demand Draft in favor of Jamia Millia Islamia, Payable at New Delhi
5. For ex-students who failed to submit assignments during the course of the programme are required to submit Rs. 200/- per assignment payable through Demand Draft in favor of Jamia Millia Islamia, Payable at New Delhi.
6. Please go through your Programme Guide carefully for further details.
7. Last Date for Assignment Submission is **15-Jul.-2023**
8. **Link for Google Class Room:**  
<https://classroom.google.com/c/NTlyNjA3NTUwMzQ0?cjc=2jra3fl>

**NOTE:** Attempt any **THREE** questions from each Assignment and Each Question carry **10** marks. Total Marks for each Assignment is 30.

| <b>DGI-101 FUNDAMENTALS OF REMOTE SENSING AND GPS</b> |   |
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| 1   | Describe the advantages and limitations of aerial photography.  |
| 2   | Explain the history of remote sensing. Discuss the scope and applications of remote sensing.                        |
| 3   | a. Discuss the various triangulation methods. b. Write short notes on photogrammetric mapping and mapping accuracy. |
| 4   | Describe the various types, workings, / operating principles of sensors.  |
| 5   | Explain GPS constellations and their arrangement.   |

| <b>DGI-102 IMAGE INTERPRETATIONS &amp; PROCESSING</b> |   |
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| 1   | Explain Normal Distribution and Density of Normal Distribution with example.  |
| 2   | Analyse the significance of BIP, BIL and BSQ.   |
| 3   | Discuss the major methods available for correcting missing scan lines. Also discuss the cause of missing scan lines in images.  |
| 4   | Discuss the following<br>a) Histogram Equalization and Computation of the Transformation function.<br>b) Importance of Low Pass and High Pass Filters in image enhancement. |

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| 5 | Explain following clustering with a suitable example.<br>a) k-Mean Clustering<br>b) RGB Clustering |
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**DGI-103 GEOGRAPHICAL INFORMATION SYSTEMS**

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| 1 | Explain what is basic operating system and required system configuration for GIS software. |
| 2 | Explain types of data structure in details.  |
| 3 | Describe hierarchical, network and relational data models in detail.                       |
| 4 | Write an essay on topological overlays describing each type.                               |
| 5 | Write short notes on 3D modelling<br>a)DEM b)DIM c)DSM                                     |

**DGI-104 CARTOGRAPHY**

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| 1 | Define Cartography and explain its types and functions.                                  |
| 2 | Explain the basic concepts of Geoid, datum and Ellipsoid.                                |
| 3 | what are the different concepts of map projection and its functions.                     |
| 4 | Write a short note on:<br>a) International Sign System<br>b) Symbolization               |
| 5 | Discuss the various elements of Topography with special reference of Colour and Pattern. |

**DGI-105 THEMATIC APPLICATIONS IN GEOSCIENCES**

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| 1 | Issues in land use Planning and Policy in India. Elaborate.              |
| 2 | Critically examine the different elements of Geomorphic Interpretation.  |
| 3 | Explain the importance of remote Sensing in Agriculture.                 |
| 4 | Define Hydrological Cycle. What are the Types of Precipitation?          |
| 5 | How Remote Sensing and GIS helpful in Urban facilities Mapping? Explain. |