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MGY-003

**POST GRADUATE CERTIFICATE IN
GEOINFORMATICS**

(PGCGI)

Term-End Examination

December, 2025

**MGY-003 : GLOBAL NAVIGATION SATELLITE
SYSTEM AND GEOGRAPHIC INFORMATION
SYSTEM**

Time : 2 Hours

Maximum Marks : 50

***Note :** All questions are compulsory. Internal choices are given in question numbers 2 to 4. The marks of each question are indicated against it.*

1. Answer all parts :

(a) Fill in the blank spaces with appropriate word(s) : 4×1=4

(i) USA developed and deployed first satellite based navigation system known as

- (ii) The tool to extract data from database and present in a useful manner is known as
..... .
- (iii) is the European Union radio navigation programme launched by European Commission.
- (iv) is a non-uniform adjustment of a dataset based on the movements of known control points to few locations.
- (b) State if the following statements are True (T) or False (F) : $3 \times 1 = 3$
- (i) The Digital Elevation Model (DEM) consists of an array of uniformly spaced elevation data.
- (ii) Dithering refers to providing full accuracy of GPS to civilian and hostile powers.
- (iii) Shape file comprises points (a pair of X, Y, Z-coordinates), lines (series of points) and polygons.

[3]

- (c) Match the items in Column A with those in Column B : 3×1=3

Column A **Column B**

- | | |
|-----------------------|-------------------------------|
| (i) Raster Data | (1) Russian federation |
| (ii) GLONASS | (2) Adding new fields of data |
| (iii) Interactive GIS | (3) Grid |

2. Write short notes on any *four* of the following : 4×5=20

- (a) Cartographic outputs
- (b) Geoinformatics products
- (c) Elements of GPS Survey
- (d) Differential GPS
- (e) Components of GIS
- (f) Area definition and contiguity

3. (a) What is Data Linkage ? Discuss in brief the types of data linkages. 5

- (b) Explain the concept of topology. Discuss in brief the important components of topology. 5

Or

- (a) Differentiate briefly between the relational and hierarchical database models. 5
- (b) Explain the advantages and disadvantages of raster and vector GIS models. 5
4. Discuss in detail the applications of GPS. Give examples, wherever required. 10

Or

Describe in detail the various operations in raster and vector analysis. 10

× × × × ×