Program Overview

Fundamentals of GIS

About the course: - Geographic information systems (GIS), remote sensing (RS), and Global Positioning Systems (GPS) play a vital role in solving problems of our society. With these spatial technologies increasingly becoming an integral part of the governance at central and state levels, demand for resources skilled in spatial technologies has been increasing exponentially. GIS technologies are being currently used in various government programmes and GIS skills can increase the employability of local youth for such programs.

This course will give the fundamental knowledge and practical abilities in GIS and remote sensing. After the course candidates will be able to – Gain basic understanding to spatial thinking, GIS and its concepts, Brush their geographic knowledge, identify maps and be able to use them, Gain basic understanding of geospatial data and context of digital systems and Understand uses of GIS and its applications.

Learning outcomes:

- Gain basic understanding of what is GIS and its concepts
- Brush their geographic knowledge, identify maps and its uses
- Relate maps in the space. Understand - Longitude, Latitude, Types of projections.
- Compare the maps with real-world objects.
- Gain basic understanding of geospatial data and context of digital systems.
- Able to identify different types of geospatial data.
- Able to read maps, interpret and use it for basic navigation.
- Gain understanding of survey and its relationship to GIS
- Able to differentiate between types of survey, how geospatial data is acquired and how it can be viewed on maps.
- Gain a basic understanding of GPS and how it is related to maps and other map related applications.
- Able to relate GIS and geospatial data in their day-today life.

Course Breakup:

| Module | Title | Topics | Type | Duration | | Expected Outcomes/ Goals |
				Theory	Practical	
001A	Introduction	1. Power of Maps 2. Basics of GIS 3. Thinking Spatially	Interactive	3H 45M	1H15M	Introduction to basic concepts ofGIS ; Students will gain basic understanding of what is GIS andits concepts
001B	Learn about Maps	1. Understanding Maps 2. Using Maps 3. Creating Maps	Interactive	8H35M	2H25M	Students will be able to brush their geographic knowledge, identify maps and its uses
001C	Data	1. Understanding Data 2. Data Collection 3. Field Exercise	Interactive	4H	8H	Students will gain basic understanding of geospatial dataand context of digital systems
001D	Using GIS	1. Spatial Analysis 2. Integration	Interactive	1H	1H	Students will be able to relate GIS, understand its uses and geospatial data in their day-today life
Total				**17H20M**	**12H40M**	

Medium of Instruction or recording: English and Hindi

Qualifying Marks: To get the certificate of completion, a student needs to obtain minimum 40 % aggregate marks in the final quiz.

Employment Opportunities: Trained women will be able to use their e-learning skills in getting job assignments from various local or state departments / agencies for collecting data from neighborhood area (villages).