MA Final(Geography)

Geographic Information system and Remote Sensing Techniques.

Paper-III

Unit I Spatial Science Geography of spatial science, maps and spatial information, Dynamics of spatial information, elements of information technology, geographic objects and their relations- definition and deployment of GIS, computer environment for GIS.

Unit 2 Spatial Data. Elements ofspatialData; Data sources: primary and secondary, Census and sample-data; quality and error variation-raster and vector data Structures data conversion-comparison of raster and vector databasemethods of spatial interpolation is a data format for the computer environments?

Unit 3 Elements of GIS Data capture --verification and preprocessing-data storage and maintenance of data-based-Database management systems: types and merits and demerit-data manipulation, analysis (integrated analysis of spatial and attribute overlay analysis, neighborhood operations and connectivity function) and spatial modeling-output format and generation. IS technology? coordinate system-basic principles of cartography and computer assisted cartography for GIS remote sensing data as a data sources for GIS and integration of GIS and remote sensing _GPS and GIS Technology data generation and limitations visualizations in GIS digital elevation models (DEM and TINS))

Unit IV Historical development of remote sensing as a technology- Relevance of remote sensing in Geography –concepts and basics: energy source energy and radiation principles energy interaction in the atmosphere and earth surface features remote sensing systems: platform, sensors and radiation records.

Unit V Air Photos and Photogrammetry: Elements of photographic system: types, Scales and ground coverage, resolution, radiometric characteristics, films, filters, Aerial Cameras, Film exposure, geometric fundamentals of photogrammetry: Elements of vertical photographs, Relief displacement,Image parallax, Stereoscopic, orthophotos, Airphoto interpretation: Shadows, Site. Stellite Remote sensing ; Plateforms-LAND SPOT NOAAAVHRR. RADARSAT, IRS, INSAT: Principles geometry of scanners and CCD arrys, Orbital characteristics and data products- MSS, TM, LISS I and II. spotpla and MLA. SLAR.

Books Recommended:

Burrough,P.A. 1986 : Principles ofGeographic information systems for Land Resource Assessment. Oxford University press. New York.

Star,J and J Estes. 1992 Geographic information systems: An introduction. Prentice- hall. Englewood cliff. New jersey

American society of photogrammetry, 1983: Manual of Remote sensing, A S P, falls Church,V.A.

Compbell J 1989 : Introduction to Remote sensing, Guiford, New York.

Curran, Paul J. 1985: Principles of Remote sensing, Longman, London.

Hord,R.M. 1989 · Ditigal Image pricessing of Remotely sensed Data,Academic, New york.

Rao,D.P.(ed) 1998: Remote sensing for earth resources, Association of exploration Geophysicist.,Hyderabad.Tmomas ?.Lillesand and Ralph W. Kefer,1994: Remote sensing and Image Interetation, John Wiley and sons, New York.