Syllabus for Integrated Ph.D Programme in Geography
(2020 onwards)

Paper-II: Recent Advances in the Subject

Time: 3 Hours Max. Marks: 100

Unit I

1.1. Climate change and its consequences; A Geographical perspective

1.2. Natural hazards and Disasters, Framework & Policies - International / National /Regional

1.3. Land degradation and Land use planning; A Geographical perspective

1.4. Food security; National scenario

1.5. Geopolitical issues; Emerging boundary issues – National & Local, Energy Security

Unit II

2.1. Globalization; Problems & Prospects

2.2. Carrying Capacity of Physical and Social System; Wetlands and Tourist Nodes

2.3. Framework for Environmental Impact Assessment & Environmental Management Plan

2.4. Ecological Economics Concept

2.5. Smart Cities Concept

Unit III

3.1. Global Positioning System (GPS) & its applications

3.2. Current trends in GIS: Big data integration

3.3. Hyperspectral Remote Sensing

3.4. Microwave Remote Sensing

3.5. Remote Sensing, GIS & GPS interface & integration

Unit IV

4.1. Climatic Modeling - GCM

4.2. Land use Modeling - Markov

4.3. Watershed Modeling, Distributed Models - SWAT

4.5 Health Model - Epidemiological Transition Model

References:

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- Barthwal R.R. 2002. Environmental Impact Assessment. New Age International Publisher, 354 p.
- Betty Bowers Marriott, 1997, Environmental Impact Assessment: A Practical Guide, McGraw Hill.
- Lillesand, T.M & Kiefer, R.W, 1987. Remote Sensing and Image Interpretation, John Wiley and Sons Ltd.
- Open Geospatial Consortium (OGC): http://www.opengeospatial.org/.
- Michael f. Goodchild, 2005, Geographical Information Systems, principles, techniques, management and applications, John Wiley & Sons Inc., 404 p.
- Paul A. Longley, 2010, Geographic Information Systems and Sciences, John Wiley and Sons Ltd, 536 p.
- Schowengerdt, R.A., 2007, Remote Sensing: Models and Methods for Image Processing, Academic Press.
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- Canter, L.W., 1996. Environment Impact Assessment , Mc Graw Hill Inc. New York.
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- Montello, D.R., and Suttor, P.C. (2006): An Introduction to Scientific Research Methods in Geography; New Delhi : Sage Publications India Pvt. Ltd.,