SEMESTER-V

Category I

(B.A. Honours in Geography in three years)

DISCIPLINE SPECIFIC CORE COURSE – ENVIRONMENT AND ECOLOGY (DSC 13)

Course title & Code	Credits	Duration (Hrs per week)			Eligibility Criteria	Prerequisite
		Lecture	Tutorial	Practical/ Practice		
ENVIRONMENT AND ECOLOGY	4	3	1	0	Class 12th	NIL

Learning Objectives:

1. Various dimensions of ecology and ecosystems, their spatial distribution.
2. To learn about the global environmental challenges and management
3. To know about regional environmental challenges.
4. Understanding of environmental governance.

Learning Outcomes:

1. Detailed exposure to the concept of ecology, ecosystem, processes, theories and concepts.
2. In-depth knowledge of anthropogenic interventions and impacts, conservation strategies and planning.
3. Understanding the environmental concerns at global and regional level.
4. Evaluation and achievement of different environmental programs, policies and legislations.

Course Outline:

Unit-1 Introduction: (7 hrs)

- Concept of Environment, Ecology and Ecosystem; Types of Ecology; Concepts of Ecosystem Services; Ecological and Material Footprint; Global Planetary Boundaries.

Unit-2 Ecology and Ecosystem: (9 hrs)

- Species Interactions; Ecological Limiting Factors; Ecosystem: Structure and Functions; Human Adaptation

Unit-3 Global Environmental Challenges and Management: (11 hrs)

- Climate Change,Biodiversity loss, Land degradation and Human health issues

Unit-4 Regional Ecological Issues and Management: (11 hrs)

- Coastal and Marine Ecology: Loss of mangroves and corals, Garbage Patches; Urban Ecology: Waste disposal and Pollution

Unit-5 Programmes and Policies: (7 hrs)

- Environmental Impact Assessment; Global andNational Environment Policy of India

Readings:

- Brewster, E. N. 2010. Climate Change Adaptation: Steps for a Vulnerable Planet, New York, Nova Science.
- Cain, M.L., Bowman, W.D. and Hacker S.D. (2011). Ecology, 2nd Edition, Sinauer Associates Inc.
- Chandna R. C., 2002: *Environmental Geography*, Kalyani, Ludhiana.
- Chapman, J.L.& M.J. Reiss. (1998). Ecology: Principles and Applications. Cambridge Univ. press.
- Cunninghum W. P. and Cunninghum M. A., 2004: *Principals of Environmental Science: Inquiry and Applications*, Tata Macgraw Hill, New Delhi.
- Das, R. C., 1998. The Environmental Divide: The Dilemma of Developing Countries, A.P.H. Pub., New Delhi.
- Freedman, Bill. 1995. Environmental Ecology: The Ecological Effects of Pollution, Disturbance, and Other Stresses, Academic Press. London.
- Global Environment Monitoring UNEP, https://wesr.unep.org/article/global-environment-monitoring
- Global Environmental Outlook Reports UNEP https://www.unep.org/geo/ Intergovernmental Panel on Climate Change IPCC Reports(2021-23) https://www.ipcc.ch/report/ar6/wg2/

DISCIPLINE SPECIFIC CORE COURSE – AGRICULTURAL GEOGRAPHY ANDFOOD SECURITY (DSC 14)

Course title& Code	Credits	Duration (per week)			Eligibility Criteria	Prerequisite
		Lecture	Tutorial	Practical/ Practice		
AGRICULTURAL GEOGRAPHY AND FOOD SECURITY	4	3	1	0	Class 12th	NIL

Learning Objectives:

- To understand the nature and scope of agricultural geography.
- To provide a detailed analysis of landuse- landcover classification by NRSA.
- To enable the learners to appreciate the geographical factors affecting agriculture
- To enable the learner to identify and understand modern agricultural practices.
- To enable the learner to identify and understand the concept and dimensions of food security.

Learning Outcomes:

- A detailed insight into the subfield of agricultural geography.
- An in-depth knowledge of geographical factors affecting agriculture.
- An understanding of models and regionalization of agriculture.
- Knowledge of concepts and dimensions of food security.
- An understanding of challenges, programme and policies related to sustainable agriculture.

Course Outline

UNIT 1: **Concept of Agricultural Geography**: **(7 hrs)**

- Nature and Scope, concept andclassification of landuse- landcover (twenty two fold NRSA).

Unit 2: Geographical Factors affecting Agriculture: (10 hrs)

- Physical, Economic, Technological,Institutional and socio-cultural.

Unit 3: Models, Theories and Regionalization: (10 hrs)

- Whittlesey's classification of Agricultural regions; Agro ecological regions of India

Unit 4: Agricultural Development: (11 hrs)

- Concept and relevance of Sustainable Agriculture, Modern Agricultural Practices (Green Revolution, Organic farming, Precision Agriculture: role of Remote Sensing and GIS modelling, role of Artificial Intelligence)

Unit 5: Food Security: (7 hrs)

- Concept and dimensions, Food security in India: Challenges, Programmes and Policy.

Readings:

- Gregor, H.P.: Geography of Agriculture. Prentice Hall, New York, 1970.
- Grigg, D. (1984): 'An Introduction to Agricultural Geography', Hutchinson Publication, London
- Hussain, M., 2000, Agricultural Geography, Rawat Publications
- Modgal, Suresh, 2017, Food Security of India, National Book Trust, 81-237-7131-2
- Ramaswamy, S. and Surulivel, L., 2017, Food Security in India, MJP Publishers, ISBN: 9788180943386, 8180943380
- Singh, J. and Dhillon, S.S. (1988), "Agricultural Geography", 2nd edition, Tata McGraw-Hill, NewDelhi
- Swaminathan, M.S., 2016, Combating Hunger and Achieving Food Security, Cambridge University Press, 9781107123113
- Symons, L. (1972): 'Agricultural Geography', Bell and Sons, London.
- Tarrant, J.R.(1974): Agricultural Geography, Problems in Modern Geography Series, John Wiley and Sons
- माजिद हुसैन, 2000, कृषि भूगोल, Rawat Publications, 9788170335658

DISCIPLINE SPECIFIC CORE COURSE – RESEARCH METHODOLOGY AND FIELDWORK (PRACTICAL) (DSC 15)

Course title & Code	Credits	Duration (Hrs per week)			Eligibility Criteria	Prerequisite
		Lecture	Tutorial	Practical/ Practice		
RESEARCH METHODOLOGY AND FIELDWORK (PRACTICAL)	**4**	**2**	**0**	**2**	**Class 12th**	**NIL**

Learning Objectives:

1. To form an understanding of various dimensions of fieldwork and its role in geographical studies.
2. To understand in detail various field techniques .
3. Understanding of nuances of research instruments, field tools and report writing.

Learning Outcomes:

1. Detailed exposure of field techniques to study new geographical landscapes.
2. In-depth knowledge of different research instruments and field techniques.
3. Understanding field ethics.

Course Outline

UNIT 1: Research methodology and fieldwork: **(5 hrs)**

- concept, relevance, ethics and steps.

UNIT 2: Framing a research proposal: (5 hrs)

- identifying the research problem and study area, literature review, research questions, hypothesis, objectives, delineating the database and methods, framing the study relevance.

UNIT 3: Methods of Data collection and fieldwork: **(5 hrs)**

- Observation, Questionnaires,Interviews, Transects and Quadrants, Triangulation, pilot surveys, Recent trends

UNIT 4: Data analysis and interpretation: (5 hrs)

- Qualitative and Quantitative techniques ofanalysis; interpreting research findings

UNIT 5: Field Report: (5 hrs)

- Organisation and preparation, referencing, endnote, footnotes,supplementary materials. **Practical Record: 60 Hours**

1. Each student will prepare a report based on primary and secondary data collected during the field.
2. Handwritten (not less than 30 pages)/ typed (8000-12000 words), including preface, certificate of originality, acknowledgement, table of contents, list of figures and tables, chapters, conclusions, bibliography and appendixes.
3. One copy of the report on A 4 size paper should be submitted in soft binding.

Readings

- Creswell, J., (1994). Research Design: Qualitative and Quantitative Approaches. UK: Sage Publications.
- Dikshit, R. D. (2003). The Art and Science of Geography: Integrated Readings. New Delhi, India: Prentice-Hall of India.
- Robinson, A. (1998). Thinking Straight and Writing That Way. In Pryczak, F. and

Bruce, R. P. eds.. Writing Empirical Research Reports: A Basic Guide for Students of the Social and Behavioural Sciences. Los Angeles, USA: Routlege.

- Special Issue on “Doing Fieldwork” The Geographical Review 91:1-2 (2001)
- Evans, M. (1988). Participant Observation: The Researcher as Research Tool. In Eylesand, J and D. Smith (eds). Qualitative Methods in Human Geography. Cambridge, UK: Polity.
- Mukherjee, N. (2002). Participatory Learning and Action: with 100 Field Methods. Delhi, India: Concept Publs. Co.
- Vero, E. Sara, (2021) Fieldwork Rady: An Introductory Guide to Field Research for Agriculture, Environment and Soil Scientists, Wiley, Hoboken, USA.
- Pole, S and Hillyard, S., (2015), Doing Fieldwork. Sage Publication, LA, New Delhi.
- Wolcott, H. (1995). The Art of Fieldwork. CA, USA: Alta Mira Press.
- Krishnanad and Raman VAV., (2018) A Geographer's Guide to Field Work and Research Methodology" Book Age Publications, New Delhi.

Hindi

- Jain, BM (2015) रिसर्च मेथोडोलॉजी! Research Publications in Social Science, Delhi-Jaipur.
- Ganeshan, SN. (2009) अनुसंधान प्रविधध ससद्धान्त औि प्रक्रिया ! Lokbharti Prakashan, Allahabad.
- Sharma, RA (2021) **शिक्षा अनुसन्धान के मूल तत्व एवं िोध प्रक्रिया**. R Lall Book Depot, Meerut.