UNIVERSITY OF KALYANI

Syllabus for Undergraduate Programmes in Geography

Semester – I,II,III and IV
(Revised)

Under Curriculum and Credit Framework for Undergraduate Programmes (CCFUP) as per NEP, 2020

With Effect from the Academic Session 2023-2024

Course Structure: Undergraduate Programmes in Geography

SEMESTER I							
Course Code	**Course Title**	**Nature of Course**	**Credit of Course**	**Class hour/week**	**Evaluation**		**Total Marks**
					Internal	**Semester End**	
GEOG-M-T-1	GEOTECTONICS AND GEOMORPHOLOGY	Major	6	6	15	60	75
GEOG-MI-T-1	PHYSICAL GEOGRAPHY	Minor	4	4	10	40	50
GEOG-MU-T-1	DISASTER MANAGEMENT	Multidisciplinary Course	3	3	10	35	45
GEOG-SEC-P-1	BASICS OF COMPUTER AND COMPUTER APPLICATIONS	Skill Enhancement Course	3	3	10	35	45
GEOG-VA-T-1	-	Value Added Course	4	4	10	40	50
05			**20**	**20**	**55**	**210**	**265**

SEMESTER II							
Course Code	**Course Title**	**Nature of Course**	**Credit of Course**	**Class hour/week**	**Evaluation**		**Total Marks**
					Internal	**Semester End**	
GEOG-M-T-2	POPULATION AND SETTLEMENT GEOGRAPHY	Major	6	6	15	60	75
GEOG-MI-T-1	PHYSICAL GEOGRAPHY	Minor	4	4	10	40	50
GEOG-MU-T-1	DISASTER MANAGEMENT	Multidisciplinary Course	3	3	10	35	45
AECC-1	-	Ability Enhancement Course	4	4	10	40	50
GEOG-SEC-P-2	FIELD WORK	Skill Enhancement Course	3	3	10	35	45
GEOG-SI-T-1	-	Summer Internship	*4*	*4*	-	-	-
05			**20**	**20**	**55**	**210**	**265**

Course Structure: Undergraduate Programmes in Geography

SEMESTER III							
Course Code	**Course Title**	**Nature of Course**	**Credit of Course**	**Class hour/week**	**Evaluation**		**Total Marks**
					Internal	**Semester End**	
GEOG-M-T-3	FUNDAMENTALS OF REMOTE SENSING, GIS AND GNSS	Major	6	6	15	60	75
GEOG-MI-T-2	HUMAN GEOGRAPHY	Minor	4	4	10	40	50
GEOG-MU-T-1	DISASTER MANAGEMENT	Multidisciplinary Course	3	3	10	35	45
GEOG-SEC-P-3	APPLICATIONS OF REMOTE SENSING AND GIS	Skill Enhancement Course	3	3	10	35	45
GEOG-VA-T-2	-	Value Added Course	4	4	10	40	50
05			**20**	**20**	**55**	**210**	**265**

SEMESTER IV							
Course Code	**Course Title**	**Nature of Course**	**Credit of Course**	**Class hour/week**	**Evaluation**		**Total Marks**
					Internal	**Semester End**	
GEOG-M-T-4	CLIMATOLOGY, SOIL AND BIOGEOGRAPHY	Major	6	6	15	60	75
GEOG-M-P-5	CARTOGRAPHIC TECHNIQUES AND SURVEYING	Major	6	6	15	60	75
GEOG-MI-T-2	HUMAN GEOGRAPHY	Minor	4	4	10	40	50
AECC-2	-	Ability Enhancement Course	4	4	10	40	50
GEOG-SI-T-2	-	Summer Internship	*4*	*4*	-	-	-
04			**20**	**20**	**50**	**200**	**250**

SEMESTER I

Type: Major
PAPER: I (Theory)
COURSE CODE: GEOG-M-T-1
COURSE TITLE: GEOTECTONICS AND GEOMORPHOLOGY
Total Marks: 75 **Credits: 6**
Course Evaluation: Semester End Examination (60 Marks) and Internal Assessment (15 Marks)

Course Objectives:

- To understand the fundamental concepts in Geotectonics and Geomorphology
- To study the earth's interior, tectonic and structural evolution and earth's movements
- To explain the theories of continental drift, sea floor spreading and plate tectonics
- To study the diverse earth surface processes, landforms and their evolution

Course Learning Outcomes:
After the completion of course, the learners will have ability to:

- understand fundamental knowledge in Geotectonics and Geomorphology
- obtain adequate knowledge on the internal structure, tectonic and structural evolution of earth, concept of Isostasy and earth's movements
- acquire comprehensive knowledge of continental drift, sea floor spreading and plate tectonics theories
- understand the dynamic nature of the earth surface processes, landforms and their evolution

Professional Skill Development Opportunities of the Course:
The obtained fundamental knowledge and concept of this course will increase the interest of the learners for further study and research in Physical Geography and Earth Sciences. This course is also effective in developing observational skills and critical thinking abilities of the learners.

Course Content:
UNIT I: GEOTECTONICS

1. Earth's tectonic and structural evolution with reference to geological time scale
2. Earth's crust and interior: Internal structure with reference to seismological evidences
3. Theories of Isostasy: Airy and Pratt
4. Continental drift theory: Evidences and criticism; Concept of Sea Floor Spreading and Palaeomagnetism
5. Plate Tectonics: Mechanism and resultant landforms; Earthquakes and Vulcanicity
6. Folds and Faults: Origin and classification

UNIT II: GEOMORPHOLOGY

1. Fundamental principles of Geomorphology
2. Degradation processes: Weathering, Mass wasting and resultant landforms
3. Theories of landscape evolution: Davis, Penck and Hack
4. Slope development: Theories of King and Wood
5. Development of river network and landforms on uniclinal and folded structures
6. Processes and landforms: Fluvial, Glacial, Aeolian and Coastal

Suggested Readings:

- Bloom, A.L., (1998). Geomorphology: A Systematic Analysis of Late Cenozoic Landforms, 3rd edition, Prentice Hall of India, New Delhi.
- Bridges, E. M., (1990). World Geomorphology, Cambridge University Press, Cambridge.
- Chorley, R.J. and Kennedy, B.A., (1971). Physical Geography: A Systems Approach, Prentice Hall, Upper Saddle River, New Jersey
- Condie, K.C. (2003). Plate Tectonics and Crustal Evolution, Butterworth-Heinemann, Oxford, Burlington
- Duff, D., (1993). Holmes' Principles of Physical Geology, Stanley Thornes, Cheltenham
- Erickson, J., (2001). Plate Tectonics: Unravelling the Mysteries of the Earth, Checkmark Books, New York
- Goudie, A.S. and Viles, H., (2010). Landscapes and Geomorphology: A Very Short Introduction, Oxford University Press, Oxford
- Holmes, A., (1978). Principles of Physical Geology, Van NostrandRheinhold, New York
- Huggett, R.J., (2011). Fundamentals of Geomorphology, Routledge, New York
- Kale, V.S. and Gupta, A., (2001). Introduction to Geomorphology, Orient Longman, Kolkata
- Keary, P. and Vine, M., (1997). Global Tectonics, Blackwell Scientific Publications, Oxford
- Ollier, C.D., (1981). Tectonics and Landforms, Longman Group Ltd., London
- Selby, M.J., (1985). Earth's Changing Surface: An Introduction to Geomorphology, Clarendon Press, Oxford
- Siddhartha, K., (2001). The Earth's Dynamic Surface, Kisalaya Publications, New Delhi
- Singh, S., (2000). Geomorphology, Prayag Pustak Bhavan, Allahabad
- Strahler, A.H. and Strahler A.N., (1992). Modern Physical Geography, John Wiley & Sons, New York
- Summerfield, M.A., (1991). Global Geomorphology: An Introduction to the Study of Landforms, Longman, London
- Summerfield, M.A., (ed.) (2000). Geomorphology and Global Tectonics, Wiley, Chichester
- Thorn, C., (1988). Introduction to Theoretical Geomorphology, Unwin Hyman, Boston
- Thornbury, W. D., (I960). Principles of Geomorphology, John Wiley & Sons, New York
- Wooldridge, S.W. and Morgan, R.S., (1937). An Outline of Geomorphology: The Physical Basis of Geography, Longman, London
- Young, A., (1972). Slopes, Oliver and Boyd, Edinburg

SEMESTER I

Type: Minor
PAPER: I (Theory)
COURSE CODE: GEOG-MI-T-1
COURSE TITLE: PHYSICAL GEOGRAPHY

Total Marks: 50 **Credits: 4**
Course Evaluation: Semester End Examination (40 Marks) and Internal Assessment (10 Marks)

Course Objectives:

- To obtain fundamental knowledge of Physical Geography
- To study continental drift and plate tectonics theories
- To study the earth surface processes, landforms and their evolution
- To understand the basic ideas of atmosphere
- To study the basic ideas of soil and biome.

Course Learning Outcomes*:*

After the completion of course, the learners will have ability to:

- understand fundamental knowledge in Physical Geography
- obtain knowledge on the earth's interior, theories of continental drift and plate tectonics
- understand fundamental knowledge of the earth surface processes, landforms and their evolution
- acquire basic knowledge of atmosphere
- obtain basic ideas of hydrological cycle, soil and biome

Professional Skill Development Opportunities of the Course*:*

The obtained knowledge of this course will increase the interest of the learners for further study in Physical Geography particularly in the fields of Geotectonics, Geomorphology, Soil Geography and Biogeography. This course will help the learners in developing analytical skills, observational skills and critical thinking abilities.

Course Content:

1. Internal structure of the earth
2. Continental drift theory: Mechanism, evidences and criticisms
3. Plate tectonics: Mechanism and resultant landforms
4. Geomorphic process: Weathering
5. Processes and landforms: Fluvial, Glacial, Aeolian and Coastal
6. Composition and structure of the atmosphere
7. Insolation, Heat budget, Horizontal and vertical distribution of temperature
8. Hydrological cycle
9. Definition of soil, concept of soil profile and soil forming factors; Types of soil: Zonal, Azonal and Intrazonal
10. Concept of ecology and ecosystem; Biome: Tropical rain forest and Taiga

Suggested Readings:

- Barry,R. G, Chorley R. J., (2009). Atmosphere Weather and Climate. 9th Ed, Routledge.
- Biswas, T.D., and Mukherjee, S.K., (1997). Textbook of Soil Science. Tata McGraw Hill, New Delhi.
- Brady, N.C. and Weil, R.R., (1996). The Nature and Properties of Soil, 11th edition, Longman, London
- Chapman, J.L. and Rens, M.J.,(1993). Ecology: Principle and Applications. Cambridge University Press,
- Conserva H. T., (2004). Illustrated Dictionary of Physical Geography, Author House, USA.
- Critchfield, H. J., (1987). General Climatology, Prentice-Hall of India, New Delhi.
- Daji, J. A., Kadam, J.R., Patil, N.D. 1996 A Textbook of Soil Science, Media Promoters and Publishers Pvt Ltd.
- GarrettN., (2000). Advanced Geography,Oxford University Press.
- Goudie,A., (1984). The Nature of the Environment:An Advanced Physical Geography, Basil Blackwell Publishers, Oxford.
- Huggett, R., (1998). Fundamentals of Biogeography, Routledge, London
- Kormondy, E.J., (1996). Concept of Ecology, 4th edition, Prentice-Hall, New Delhi.
- Husain M., (2002). Fundamentals of Physical Geography,Rawat Publications,and Jaipur.
- Lal, D. S., (2012). Climatology. Sharda Pustak Bhawan.
- Monkhouse,F.J.,(2009). Principles of Physical Geography,Platinum Publishers,Kolkata.
- Strahler A.N.and Strahler A.H., (2008). Modern Physical Geography,John Wiley & Sons, New York.
- Trewartha, G. T. and Horne L. H., (1980). An Introduction to Climate, 5th edition, McGraw Hill Higher Education, New York

SEMESTER I

Type: Multidisciplinary Course
PAPER: I (Theory)
COURSE CODE: GEOG-MU-T-1
COURSE TITLE: DISASTER MANAGEMENT
Total Marks: 45 **Credits: 3**
Course Evaluation: Semester End Examination (35 Marks) and Internal Assessment (10 Marks)

Course Objectives:

- To acquire knowledge about basic concepts of disaster management
- To study the major natural and manmade disasters in India
- To learn disaster management strategies

Course Learning Outcomes:

After the completion of course, the learners will have ability to:

- learn the basic concepts in disaster management.
- understand the nature of natural and manmade disasters in India
- develop strategies for disaster management to sustain social development

Professional Skill Development Opportunities of the Course:

This course will help the learners in developing problem solving skills and observational skills. The acquired knowledge from this course will help the learners to develop effective strategies for management of disasters.

Course Content:

1. Definition and Concepts: Hazards, Disasters; Risk and Vulnerability; Classification of hazards
2. Flood, drought, landslide: causes, impact and distribution in India
3. Earthquake: causes, effects and seismic zones of India; Tsunami: causes and effects
4. Tropical Cyclone: structure, formation and impact with reference to India
5. Manmade disasters in India: soil erosion and accidental release of toxic chemicals – causes and impact
6. Disasters - response and mitigation measures: Institutional set up - NDMA and NIDM; Indigenous knowledge and community-based Disaster Management; Do's and Don'ts during and post disasters

Suggested Readings:

- Alexander, D., (1993). Natural Disasters, ULC Press Ltd., London.
- Collins, L.R., and Schneid, T.D., (2000). Disaster Management and Preparedness, Taylor and Francis, Florida.
- Edwards, B., (2005). Natural Hazards, Cambridge University Press, Cambridge.
- Gupta, H.K., (2010). Disaster Management, Universities Press India, Hyderabad.
- Kapur, A., (2010). Vulnerable India: A Geographical Study of Disasters, Sage Publication, New Delhi.
- Modh, S., (2010). Managing Natural Disaster: Hydrological, Marine and Geological Disasters. Macmillan, New Delhi.
- Singh, J., (2007). Disaster Management, Future Challenges and Opportunities, I.K. International Pvt. Ltd., New Delhi.
- Singh, R.B., (2005). Risk Assessment and Vulnerability Analysis, IGNOU, New Delhi.
- Singh, R.B., (2006). Natural Hazards and Disaster Management: Vulnerability and Mitigation, Rawat Publications, Jaipur.
- Sinha, A., (2001). Disaster Management: Lessons Drawn and Strategies for Future, New United Press, New Delhi
- Smith, K., (2011). Natural Hazards, Routledge, London
- Stoltman, J.P. et al., (2004). International Perspectives on Natural Disasters, Kluwer Academic Publications, Dordrecht.

SEMESTER I

Type: Skill Enhancement Course (SEC)
PAPER: I (Practical)
CODE: GEOG-SEC-P-1
COURSE TITLE: BASICS OF COMPUTER AND COMPUTER APPLICATIONS

Total Marks: 45 **Credits: 3**

Course Evaluation: Semester End Examination (25+10* = 35 Marks) and Internal Assessment (10 Marks)

***Laboratory Note Book + Viva-voce: 5+5 = 10**

Course Objectives:

- To understand the basics of computer and computer applications
- To develop knowledge about the binary arithmetic numbering systems
- To develop ability and skills in data computation, storing, formatting, analysis and cartographic presentation
- To develop internet surfing skills

Course Learning Outcomes:

After the completion of course, the learners will have ability to:

- gain knowledge of computer basics
- develop their ability and skills in data management, data computation, data analysis and cartographic presentation
- acquire internet surfing skills and enhance their ability to gain knowledge from the digital world

Professional Skill Development Opportunities of the Course:

This course has the great potential to advance the learner's career. This course is highly effective to develop data analysis skills, observation skills, communications skills in particular and digital skills in general. This course has a wide scope of employment opportunity.

Course Content

1. Basics of computer and its operation
2. Numbering Systems - Binary arithmetic
3. Preparation of Annotated diagrams and its interpretation: Line graph, Bar and Pie diagrams, Histogram and Scatter diagrams
4. Data computation, Storing and Formatting in Spreadsheets: Computation of Rank, Mean, Median, Mode, Standard Deviation, Moving Averages, Derivation of Correlation, Coefficient of Variation, Regression
5. Internet surfing: Generation and extraction of information

***A Project File of exercises consisting of each theme is to be submitted**

Suggested Readings:

- Bartee, T. C., (1977). Digital Computer Fundamental; McGraw Hill
- Blissmer, (1996). Working with MS Word; Houghton Mifflin Co.
- Chauhan, S., Chauhan, A., and Gupta, K., (2006). Fundamental of Computer; Firewall Media
- Flake, L. J., McClintock, C. E., and Turner, S., (1989). Fundamental of Computer Education; Wordsworth Pub. Co.
- Johnson, S., (2007). Microsoft Power Point 2007; Pearson Paravia Bruno
- Malvino, A. P., Leach, D. P., (1981). Digital Principles and Applications; Tata McGraw Hill
- Mano, M. M., and Kime, C. R., (2004). Logic and Computer Design Fundamental; Prentice Hall
- Rajaraman, V., (2003). Fundamentals of Computer, Prentice Hall Publisher
- Rajaraman, V., (2008). Computer Primer; Prentice Hall of India Pvt. Ltd.
- Sarkar, A., and Gupta, S. K., (2002). Elements of computer Science, S Chand and Company, New Delhi
- Sarkar, A., and Gupta, S. K., (2002). Elements of Computer Science, S Chand and Company, New Delhi
- Shepard, A., (2007). Perfect Pages; Shepard Publications
- Tyson, H. L., (2007). Microsoft Word 2007 Bible; John Wiley
- Walkenbach, J., (2007). Excel 2007 Bible; John Wiley

SEMESTER II

Type: Major
PAPER: II (Theory)
CODE: GEOG-M-T-2
COURSE TITLE: POPULATION AND SETTLEMENT GEOGRAPHY
Total Marks: 75 **Credits: 6**
Course Evaluation: Semester End Examination (60 Marks) and Internal Assessment (15 Marks)

Course Objectives:

- To understand the fundamental concepts of Population and Settlement Geography
- To study population dynamics and theories of population growth
- To evaluate population policies of India and Sweden
- To study the nature and morphology of rural and urban settlements
- To study the spatial arrangement of settlements with their economic activities

Course Learning Outcomes:

After the completion of course, the learners will have ability to:

- acquire clear knowledge on fundamental concepts of Population and Settlement Geography.
- familiarise with the development of Population and Settlement Geography.
- understand population dynamics, nature of population growth and migration
- acquire knowledge of population policies adopted in India and Sweden
- understand the nature and morphology of rural and urban settlements

Professional Skill Development Opportunities of the Course:

The acquire knowledge will help the learners to build better foundation for further studies and research in Population Geography and Settlement Geography. This course will be efficient to develop analytical skills and data analysis skills. Learners will improve their employability skills from this course.

Course Content:

UNIT I: POPULATION GEOGRAPHY

1. Development of Population Geography; Relation between Population Geography and Demography
2. Determinants of Population Dynamics: Fertility, Mortality and Migration
3. Population Composition (Age-Sex and Occupational Structure)
4. Theories of population growth: Malthus and Marx; Demographic Transition Theory (Thompson and Notestein)
5. Migration: types, causes and theories
6. Population Policies (India and Sweden)

UNIT II: SETTLEMENT GEOGRAPHY

1. Development of Settlement Geography
2. Rural settlement: Site, situation, types and pattern
3. Morphology of rural settlements: layout-internal and external
4. Urban settlements: Census definition, Urban agglomeration; Urban sprawl, Rural-urban continuum, Rurban and Periurban
5. Urban morphology: Classical Models of Burgess, Hoyt, Harris and Ullman
6. Central Place Theory and hierarchy of settlements

Suggested Readings:

- Barrett, H. R., (1995). Population Geography, Oliver and Boyd, Edinburgh.
- Chandana, R.C. and Sidhu, M.S., (1996). Geography of Population: Concepts Determinants and Pattern, Kalyani Publishers, New Delhi.
- Chisholm, M., (1967). Rural Settlement and Land use, John Wiley, New York.
- Clarke J. I., (1965). Population Geography, Pergamon Press, Oxford.
- Doniel, P. and Hopkinson, M., (1986). The Geography of Settlement, Oliver & Boyd, Edinburgh.
- Garnier J.B., (1978). Geography of Population, Longman, London.
- Hassan, M.I., (2005). Population Geography, Rawat Publications, Jaipur.
- Hudson, F.S., (1976). A Geography of Settlements, Macdonald and Evans, New York.
- Jones, H. R., (2000). Population Geography, 3rd edition, Paul Chapman, London.
- Pacione M.(ed), (1986). Population Geography: Progress & Prospect, Routledge, London.
- Singh, R.Y., (2002). Geography of Settlements, Rawat Publications, Jaipur.

SEMESTER II

Type: Minor
PAPER: I (Theory)
COURSE CODE: GEOG-MI-T-1
COURSE TITLE: PHYSICAL GEOGRAPHY

Total Marks: 50 **Credits: 4**
Course Evaluation: Semester End Examination (40 Marks) and Internal Assessment (10 Marks)

Course Objectives:

- To obtain fundamental knowledge of Physical Geography
- To study continental drift and plate tectonics theories
- To study the earth surface processes, landforms and their evolution
- To understand the basic ideas of atmosphere
- To study the basic ideas of soil and biome.

Course Learning Outcomes*:*

After the completion of course, the learners will have ability to:

- understand fundamental knowledge in Physical Geography
- obtain knowledge on the earth's interior, theories of continental drift and plate tectonics
- understand fundamental knowledge of the earth surface processes, landforms and their evolution
- acquire basic knowledge of atmosphere
- obtain basic ideas of hydrological cycle, soil and biome

Professional Skill Development Opportunities of the Course*:*

The obtained knowledge of this course will increase the interest of the learners for further study in Physical Geography particularly in the fields of Geotectonics, Geomorphology, Soil Geography and Biogeography. This course will help the learners in developing analytical skills, observational skills and critical thinking abilities.

Course Content:

1. Internal structure of the earth
2. Continental drift theory: Mechanism, evidences and criticisms
3. Plate tectonics: Mechanism and resultant landforms
4. Geomorphic process: Weathering
5. Processes and landforms: Fluvial, Glacial, Aeolian and Coastal
6. Composition and structure of the atmosphere
7. Insolation, Heat budget, Horizontal and vertical distribution of temperature
8. Hydrological cycle
9. Definition of soil, concept of soil profile and soil forming factors; Types of soil: Zonal, Azonal and Intrazonal
10. Concept of ecology and ecosystem; Biome: Tropical rain forest and Taiga

Suggested Readings:

- Barry,R. G, Chorley R. J., (2009). Atmosphere Weather and Climate. 9th Ed, Routledge.
- Biswas, T.D., and Mukherjee, S.K., (1997). Textbook of Soil Science. Tata McGraw Hill, New Delhi.
- Brady, N.C. and Weil, R.R., (1996). The Nature and Properties of Soil, 11th edition, Longman, London
- Chapman, J.L. and Rens, M.J.,(1993). Ecology: Principle and Applications. Cambridge University Press,
- Conserva H. T., (2004). Illustrated Dictionary of Physical Geography, Author House, USA.
- Critchfield, H. J., (1987). General Climatology, Prentice-Hall of India, New Delhi.
- Daji, J. A., Kadam, J.R., Patil, N.D. 1996 A Textbook of Soil Science, Media Promoters and Publishers Pvt Ltd.
- GarrettN., (2000). Advanced Geography,Oxford University Press.
- Goudie,A., (1984). The Nature of the Environment:An Advanced Physical Geography, Basil Blackwell Publishers, Oxford.
- Huggett, R., (1998). Fundamentals of Biogeography, Routledge, London
- Kormondy, E.J., (1996). Concept of Ecology, 4th edition, Prentice-Hall, New Delhi.
- Husain M., (2002). Fundamentals of Physical Geography,Rawat Publications,and Jaipur.
- Lal, D. S., (2012). Climatology. Sharda Pustak Bhawan.
- Monkhouse,F.J.,(2009). Principles of Physical Geography,Platinum Publishers,Kolkata.
- Strahler A.N.and Strahler A.H., (2008). Modern Physical Geography,John Wiley & Sons, New York.
- Trewartha, G. T. and Horne L. H., (1980). An Introduction to Climate, 5th edition, McGraw Hill Higher Education, New York

SEMESTER II

Type: Multidisciplinary Course
PAPER: II (Theory)
COURSE CODE: GEOG-MU-T-1
COURSE TITLE: DISASTER MANAGEMENT
Total Marks: 45 **Credits: 3**
Course Evaluation: Semester End Examination (35 Marks) and Internal Assessment (10 Marks)

Course Objectives:

- To acquire knowledge about basic concepts of disaster management
- To study the major natural and manmade disasters in India
- To learn disaster management strategies

Course Learning Outcomes:

After the completion of course, the learners will have ability to:

- learn the basic concepts in disaster management.
- understand the nature of natural and manmade disasters in India
- develop strategies for disaster management to sustain social development

Professional Skill Development Opportunities of the Course:

This course will help the learners in developing problem solving skills and observational skills. The acquired knowledge from this course will help the learners to develop effective strategies for management of disasters.

Course Content:

1. Definition and Concepts: Hazards, Disasters; Risk and Vulnerability; Classification of hazards
2. Flood, drought, landslide: causes, impact and distribution in India
3. Earthquake: causes, effects and seismic zones of India; Tsunami: causes and effects
4. Tropical Cyclone: structure, formation and impact with reference to India
5. Manmade disasters in India: soil erosion and accidental release of toxic chemicals – causes and impact
6. Disasters - response and mitigation measures: Institutional set up - NDMA and NIDM; Indigenous knowledge and community-based Disaster Management; Do's and Don'ts during and post disasters

Suggested Readings:

- Alexander, D., (1993). Natural Disasters, ULC Press Ltd., London.
- Collins, L.R., and Schneid, T.D., (2000). Disaster Management and Preparedness, Taylor and Francis, Florida.
- Edwards, B., (2005). Natural Hazards, Cambridge University Press, Cambridge.
- Gupta, H.K., (2010). Disaster Management, Universities Press India, Hyderabad.
- Kapur, A., (2010). Vulnerable India: A Geographical Study of Disasters, Sage Publication, New Delhi.
- Modh, S., (2010). Managing Natural Disaster: Hydrological, Marine and Geological Disasters. Macmillan, New Delhi.
- Singh, J., (2007). Disaster Management, Future Challenges and Opportunities, I.K. International Pvt. Ltd., New Delhi.
- Singh, R.B., (2005). Risk Assessment and Vulnerability Analysis, IGNOU, New Delhi.
- Singh, R.B., (2006). Natural Hazards and Disaster Management: Vulnerability and Mitigation, Rawat Publications, Jaipur.
- Sinha, A., (2001). Disaster Management: Lessons Drawn and Strategies for Future, New United Press, New Delhi
- Smith, K., (2011). Natural Hazards, Routledge, London
- Stoltman, J.P. et al., (2004). International Perspectives on Natural Disasters, Kluwer Academic Publications, Dordrecht.

SEMESTER II

Type: Skill Enhancement Course (SEC)
PAPER: II (Practical)
CODE: GEOG-SEC-P-2
COURSE TITLE: FIELD WORK
Total Marks: 45 Credits: 3

Course Evaluation: Semester End Examination* (35 Marks) and Internal Assessment (10 Marks)
***Field Report + Viva-voce: 20+15 = 35 Marks**

***Course Objectives*:**

- To develop ability to identify region specific physical and socio-economic problems
- To increase the ability to learn field survey techniques and expertise in field survey instruments
- To develop expertise in quantitative and qualitative analysis of field-based data and information
- To learn data analysis techniques, data representation, mapping and field report writing

Course Learning Outcomes:

After the completion of course, the learners will have ability to:

- acquire knowledge, skills and expertise to identify geographical issues
- achieve skills and expertise to use various survey techniques and instruments
- expertise in field-based data collection, analysis and presentation
- prepare field report
- build capacity to interact with people of diverse culture

Professional Skill Development Opportunities of the Course:

This course is highly effective for professional skill development, particularly observation skills, data analysis skills, problem solving skills and cartographic skills.

Course Content:

Students are required to carry out a comprehensive field work in a village/mouza/town/C.D. Block/ drainage basin selecting a particular research problem. There should be a clear-cut title, problem statement, objectives, methodology and major findings. The text of the report should not exceed 5000 words and 15-20 pages of illustrations (A4 Pages). The diagrams and illustrations should be prepared in computer using the standard format

Guidelines for preparation of Field Report:

The following methods are to be followed for framework:

1. Framing of relevant questionnaire/survey schedule for assessing the physical /cultural /environment /socio-economic components. A filled-in questionnaire used in the survey should be attached with the report signed by the concerned teacher and the student.
2. Drawing of maps (hand-drawn) with suitable scale and latitude and longitude.
3. Preparation of charts/graphs in MS-Excel and duly labelled.
4. The report should be typed in MS-Word. The font size is fixed at 12 in Times New Roman and the line spacing 1.5.
5. Each field work should have a certificate of authenticity duly signed by the Field supervisor.

Suggested Readings:

- Creswell J., (1994). Research Design: Qualitative and Quantitative Approaches Sage Publications.
- Evans M., (1988). “Participant Observation: The Researcher as Research Tool” in Qualitative Methods in Human Geography, eds. J. Eyles and D. Smith, Polity.
- Kothari, C. R., (2019). Research Methodology: Methods and Techniques, 4th edition, New Age International Publishers, New Delhi.
- Lavrakas, P. L.(ed),(2008). Encyclopedia of Survey Research Methods, Sage Publication, Inc., California.
- McCarroll, D.,(2017). Simple Statistical Tests for Geography, CRC Press, Taylor & Francis Group, Florida.
- Mukherjee, N.,(2002). Participatory Learning and Action: with 100 Field Methods. Concept Publs. Co., New Delhi
- Robinson A., (1998). "Thinking Straight and Writing That Way", in Writing Empirical Research Reports: A Basic Guide for Students of the Social and Behavioural Sciences, eds. by F. Pryczak and R. Bruce Pryczak, Publishing: Los Angeles. Page 27
- Stoddard, R.H., (1982). Field Techniques and Research Methods in Geography, Kendall/Hunt Publishing Company, Dubuque, Iowa.
- Tuan, Y.F., (1990). Topophilia: A Study of Environmental Perception, Attitudes, and Values, Cambridge University Press, Cambridge.
- UNESCO, (1978). Guidelines for Field Studies in Environmental Perception, The United Nations Educational, Scientific and Cultural Organization, Paris.

SEMESTER III

Type: Major
PAPER: III (Theory)
COURSE CODE: GEOG-M-T-3
COURSE TITLE: FUNDAMENTALS OF REMOTE SENSING, GIS AND GNSS

Total Marks: 75 **Credits: 6**
Course Evaluation: Semester End Examination (60 Marks) and Internal Assessment (15 Marks)

Course Objectives:

- To obtain knowledge about the fundamental concepts of remote sensing and GIS
- To study the applications of remote sensing and GIS
- To understand the principles of image interpretation
- To acquire basic knowledge about GPS and GNSS

Course Learning Outcomes:
After the completion of course, the learners will have ability to:

- understand fundamental concepts of remote sensing and GIS
- acquire basic knowledge about GPS and GNSS
- understand the principles of image interpretation
- familiar about the applications of remote sensing and GIS

Professional Skill Development Opportunities of the Course:
The obtained fundamental knowledge of this course will increase interest of the learners in Geospatial Technology. This course is highly effective in developing technical skills, digital skills, observational skills and data analysis skills of the learners. This course has a wide scope of employment opportunity.

Course Content:

UNIT I: FUNDAMENTALS OF REMOTE SENSING

1. Definition and stages of remote sensing; EMR and its spectral ranges
2. Remote sensing platforms, satellites and sensors
3. Sensor resolutions and their applications with reference to IRS and LANDSAT missions
4. Concept of FCC; Principles of image interpretation (visual and digital)
5. Aerial Photographs: types, geometry and photo interpretation keys
6. Applications of remote sensing in managing agriculture, water and forest resources; Monitoring urban growth and environmental degradation

UNIT II: FUNDAMENTALS OF GIS AND GNSS

1. Definition, components and applications of GIS
2. GIS data structures types: spatial and non-spatial, raster and vector
3. Principles of preparing attribute tables, data manipulation and overlay analysis
4. Principles and significance of buffer preparation
5. Basic concept of GPS
6. Principles of GNSS positioning and waypoint collection; GIS- GNSS integration

Suggested Readings:

- Bhatta, B., (2021). Remote Sensing and GIS. 3rd ed, OUP India.
- Bolstad, P., (2016). GIS Fundamentals: A First Text on Geographic Information Systems. 5th ed, XanEdu Publishing Inc.
- Campbell, J. B. and Wynne, R. H., (2011). Introduction to Remote Sensing. 5th ed, Guildford Press.
- Chang, K-t., (2017). Introduction to Geographical Information System. 4th ed, McGraw-Hill Education.
- Jensen, J. R., (2005). Introductory Digital Image Processing: A Remote Sensing Perspective, Prentice Hall.
- Jensen, J.R., (2013). Remote Sensing of the Environment: An Earth Resource Perspective. Pearson Education India.
- Joseph, G. and Jegannathan, C., (2018). Fundamentals of Remote Sensing. 3rd ed, The Orient Blackswan
- Lillesand, T.M., Kiefer, R.W., Chipman, J.W., (2015). Remote Sensing and Image Interpretation. 7th ed, Wiley.
- Nag, P. and Kudrat, M., (1998). Digital Remote Sensing, Concept Publishing Company, New Delhi.
- Rees, W. G., (2012). Physical Principles of Remote Sensing, 3rd ed, Cambridge University Press.
- Wolf, P. R., Dewitt, B. A. and Wilkinson, B.E., (2014). Elements of Photogrammetry with Applications in GIS, McGraw-Hill Education

SEMESTER III

Type: Minor
PAPER: II (Theory)
COURSE CODE: GEOG-MI-T-2
COURSE TITLE: HUMAN GEOGRAPHY

Total Marks: 50 **Credits: 4**
Course Evaluation: Semester End Examination (40 Marks) and Internal Assessment (10 Marks)

Course Objectives:

- To acquire knowledge about the major themes of Human Geography
- To study the distribution and growth of population in India
- To study the changing nature of demographic regime
- To understand the nature of human migration and sectors of economy
- To study the types and pattern of rural settlements and functional classification of town
- To provide a comprehensive view of major ethnic groups in India
- To study the central themes in Cultural Geography and basic aspects of human development

Course Learning Outcomes:

After the completion of course, the learners will have ability to:

- understand the key themes of Human Geography
- acquire knowledge of population in India with spatio-temporal context
- understand the changing nature of population dynamics in relation to economic growth, social development and cultural change
- build concrete ideas about human migration and different economic sectors
- gain knowledge about the nature of rural and urban settlements
- acquire knowledge about ethnic identity of major ethnic groups in India
- learn to measure the progress of a country in terms of economic and social development

Professional Skill Development Opportunities of the Course:

This course will help the learners for further studies in different sub-branches of Human Geography. This course focuses on the development of critical thinking skills, analytical and data analysis skills.

Course Content:

1. Distribution and growth of population in India
2. Demographic Transition Theory
3. Migration: Concept, types and causes
4. Economic activities: Primary, Secondary and Tertiary
5. Types and patterns of rural settlements
6. Urban settlement: Census definition and characteristics
7. Functional classification of towns
8. Major ethnic groups in India: Santhal, Gond, Toda and Khasi
9. Concept of culture, Cultural hearths and Cultural diffusion
10. Human Development Index

Suggested Readings:

- Chandana, R.C. and Sidhu, M.S., (1996). Geography of Population: Concepts Determinants and Pattern, Kalyani Publishers, New Delhi
- Daniel,P.A. and Hopkinson, M.F., (1989). The Geography of Settlement, Oliver & Boyd, London.
- Haq, M., (2000). Reflections on Human Development, Oxford University Press, New Delhi
- Johnston R; Gregory D, Pratt G.etal.,(2008). The Dictionary of Human Geography,Blackwell Publication.
- Jordan et al., (2006).The Human Mosaic: A Thematic Introduction to Cultural Geography.W.H.Freemanand Company,NewYork.
- Ghosh,S., (2015). Introduction to Settlement Geography. Orient Black Swan Private Ltd., Kolkata
- Norton, W., (2006). Cultural Geography: Environments, Landscapes, Identities, Inequalities, Oxford University Press, Toronto
- Rubenstein, J.M., (2002). The Cultural Landscape, 7th edition, Prentice Hall, Englewood Cliffs
- Singh, R.Y., (2002). Geography of Settlements, Rawat Publications, Jaipur.

SEMESTER III

Type: Multidisciplinary Course
PAPER: III (Theory)
COURSE CODE: GEOG-MU-T-1
COURSE TITLE: DISASTER MANAGEMENT
Total Marks: 45 **Credits: 3**
Course Evaluation: Semester End Examination (35 Marks) and Internal Assessment (10 Marks)

Course Objectives:

- To acquire knowledge about basic concepts of disaster management
- To study the major natural and manmade disasters in India
- To learn disaster management strategies

Course Learning Outcomes:

After the completion of course, the learners will have ability to:

- learn the basic concepts in disaster management.
- understand the nature of natural and manmade disasters in India
- develop strategies for disaster management to sustain social development

Professional Skill Development Opportunities of the Course:

This course will help the learners in developing problem solving skills and observational skills. The acquired knowledge from this course will help the learners to develop effective strategies for management of disasters.

Course Content:

1. Definition and Concepts: Hazards, Disasters; Risk and Vulnerability; Classification of hazards
2. Flood, drought, landslide: causes, impact and distribution in India
3. Earthquake: causes, effects and seismic zones of India; Tsunami: causes and effects
4. Tropical Cyclone: structure, formation and impact with reference to India
5. Manmade disasters in India: soil erosion and accidental release of toxic chemicals – causes and impact
6. Disasters - response and mitigation measures: Institutional set up - NDMA and NIDM; Indigenous knowledge and community-based Disaster Management; Do's and Don'ts during and post disasters

Suggested Readings:

- Alexander, D., (1993). Natural Disasters, ULC Press Ltd., London.
- Collins, L.R., and Schneid, T.D., (2000). Disaster Management and Preparedness, Taylor and Francis, Florida.
- Edwards, B., (2005). Natural Hazards, Cambridge University Press, Cambridge.
- Gupta, H.K., (2010). Disaster Management, Universities Press India, Hyderabad.
- Kapur, A., (2010). Vulnerable India: A Geographical Study of Disasters, Sage Publication, New Delhi.
- Modh, S., (2010). Managing Natural Disaster: Hydrological, Marine and Geological Disasters. Macmillan, New Delhi.
- Singh, J., (2007). Disaster Management, Future Challenges and Opportunities, I.K. International Pvt. Ltd., New Delhi.
- Singh, R.B., (2005). Risk Assessment and Vulnerability Analysis, IGNOU, New Delhi.
- Singh, R.B., (2006). Natural Hazards and Disaster Management: Vulnerability and Mitigation, Rawat Publications, Jaipur.
- Sinha, A., (2001). Disaster Management: Lessons Drawn and Strategies for Future, New United Press, New Delhi
- Smith, K., (2011). Natural Hazards, Routledge, London
- Stoltman, J.P. et al., (2004). International Perspectives on Natural Disasters, Kluwer Academic Publications, Dordrecht.

SEMESTER III

Type: Skill Enhancement Course (SEC)
PAPER: III (Practical)
CODE: GEOG-SEC-P-3
COURSE TITLE: APPLICATIONS OF REMOTE SENSING AND GIS

Total Marks: 45 **Credits: 3**

Course Evaluation: Semester End Examination (25+10* = 35 Marks) and Internal Assessment (10 Marks)

***Laboratory Note Book + Viva-voce: 5+5 = 10**

Course Objectives:

- To develop skills in digital image processing and image interpretation
- To develop pruriency in digitization, georeferencing and preparation of annotated thematic maps
- To provide skills and expertise in remote sensing and GIS applications to solve geographical questions

Course Learning Outcomes:

After the completion of course, the learners will have ability to:

- develop expertise in digital image processing and image interpretation
- develop skills in digitization, georeferencing and preparation of annotated thematic maps
- acquire skills to solve geographical questions using remote sensing and GIS

Professional Skill Development Opportunities of the Course:

This course has the great potential to advance the learner's career. This course is highly effective to develop digital data analysis skills, observation skills, technical skills. This course has a wide variety of employment opportunities.

Course Content

1. Acquisition procedure of free geospatial data from NRSC /Bhoonidhi and USGS
2. Georeferencing of maps and images; Digitisation of features: Point, Line and Polygon
3. Data attachment and preparation of thematic map (bargraph, pie-chart and choropleth); Overlay analysis
4. Preparation of FCC using IRS LISS-III/IV and/or LANDSAT (ETM+) data; Image enhancement
5. Preparation of LULC map by Supervised Image Classification (Maximum Likelihood) using IRS LISS-III/IV or LANDSAT (ETM+) data

[Note: Using Q-GIS (open access) software]

***A Project File of exercises consisting of each theme is to be submitted**

Suggested Readings:

- Bhatta, B., (2021). Remote Sensing and GIS. 3rd ed, OUP India.
- Bolstad, P., (2016). GIS Fundamentals: A First Text on Geographic Information Systems. 5th ed, XanEdu Publishing Inc.
- Brewer, C.A., (2015). Designing Better Maps: A Guide for GIS Users. 2nd ed, Esri Press.
- Campbell, J. B. and Wynne, R. H., (2011). Introduction to Remote Sensing. 5th ed, Guildford Press.
- Chang, K-t., (2017). Introduction to Geographical Information System. 4th ed, McGraw-Hill Education.
- Harvey, F., (2015). A Primer of GIS: Fundamental Geographic and Cartographic Concepts. 2nd ed, The Guilford Press.
- Jensen, J.R., (2013). Remote Sensing of the Environment: An Earth Resource Perspective. Pearson
  Education India.
- Joseph, G. and Jegannathan, C., (2018). Fundamentals of Remote Sensing. 3rd ed, The Orient Blackswan.
- Lillesand, T.M., Kiefer, R.W., Chipman, J.W., (2015). Remote Sensing and Image Interpretation. 7th ed, Wiley.

SEMESTER IV

Type: Major
PAPER: IV (Theory)
CODE: GEOG-M-T-4
COURSE TITLE: CLIMATOLOGY, SOIL AND BIOGEOGRAPHY

Total Marks: 75 **Credits: 6**
Course Evaluation: Semester End Examination (60 Marks) and Internal Assessment (15 Marks)

Course Objectives:

- To understand the fundamental concepts in Climatology, Soil and Biogeography
- To study the atmospheric temperature distribution, circulation, climatic classification
- To study the profile, properties and classification of soil
- To explain the Bio-geochemical cycles, biodiversity loss

Course Learning Outcomes:
After the completion of course, the learners will have ability to:

- understand fundamental knowledge in Climatology, Soil and Biogeography
- obtain adequate knowledge on the temperature distribution, heat budget, air mass, monsoon, climatic classification
- acquire comprehensive knowledge of soil profile, properties, soil classification
- understand the ecosystem, biome and biodiversity

Professional Skill Development Opportunities of the Course:
The obtained fundamental knowledge and concept of this course will increase the interest of the learners for further study and research in Climatology, Soil and Biogeography. This course is also effective in developing observational skills and critical thinking abilities of the learners.

Course Content:

UNIT I: CLIMATOLOGY

1. Temperature: Horizontal and vertical distribution; Heat budget of the atmosphere; Inversion of temperature: types and causes
2. Circulation in the Atmosphere: Planetary winds; Jet stream
3. Air mass and front: Origin, characteristics and types
4. Monsoon Circulation and Mechanism with reference to India
5. Condensation: Processes and forms; Mechanism of precipitation: Bergeron-Findeisen Theory, Collision and coalescence; Forms of precipitation
6. Concept of climate change; Climatic Classification after Köppen and Thornthwaite (1931 and 1948)

UNIT II: SOIL AND BIOGEOGRAPHY

1. Factors of soil formation; Concept of soil profile; origin and profile characteristics of Laterite, Podzol and Chernozem soils
2. Physical and chemical properties of soil: Texture, structure and moisture, pH, organic matter and NPK
3. Principles of soil classification: Genetic and USDA. Concept of land capability and its classification
4. Concepts of ecology, biosphere, ecosystem, biome, ecotone, community; Energy flow in ecosystems
5. Geographical extent and characteristic features of Tropical rain forest, Taiga and Grassland biomes
6. Bio-geochemical cycles with special reference to carbon dioxide and nitrogen; Bio-diversity: Definition, types, threats and conservation measures

Suggested Readings:

- Barry, R. G., and Carleton, A. M.(2001). Synoptic and Dynamic Climatology, Routledge, UK
- Barry, R. G., and Chorley, R. J.(1998). Atmosphere, Weather and Climate, Routledge, New York
- Critchfield, H. J.(1987). General Climatology, Prentice-Hall of India, New Delhi
- Lal, D. S.(1993). Climatology, 3rd edition, Chaitanya Pub. House, New Delhi
- Lutgens, F. K., Tarbuck, E. J., and Tasa D. (2009). The Atmosphere: An Introduction to Meteorology, Prentice-Hall, Englewood Cliffs, New Jersey
- Oliver, J. E., and Hidore, J. J.(2002). Climatology: An Atmospheric Science, Pearson Education, New Delhi
- Singh, S. (2013). Climatology, Prayag Pustak Bhawan, Allahabad
- Trewartha, G. T., and Horne L. H.(1980). An Introduction to Climate, McGraw
- Biswas, T.D. and Mukherjee, S.K. (1997). Textbook of Soil Science, TataMcGraw Hill Bridges, E. M., (1990). World Geomorphology, Cambridge University Press, Cambridge
- Brady, N.C. and Weil, R.R. (1996). The Nature and Properties of Soil, 11th edition, Longman, London
- Floth, H.D. (1990) Fundamentals of Soil science, 8th edition, John Wiley and Sons, New York
- Chapman, J.L. and Rens, M.J. (1993).Ecology: Principle and Applications, Cambridge University Press, Cambridge
- Huggett, R. (1998). Fundamentals of Biogeography, Routledge, London
- Kormondy, E.J. (1996). Concept of Ecology, 4th edition, Prentice-Hall, India, New Delhi
- Myers, A.A. and Giller, P.S. (editors) (1998). Analytical Biogeography: an Integrated Approach to Study and Plant Distribution. Chapman and Hall, Lo

SEMESTER IV

Type: Major
PAPER: V (Practical)
CODE: GEOG-M-P-5
COURSE TITLE: CARTOGRAPHIC TECHNIQUES AND SURVEYING

Total Marks: 75 **Credits: 6**

Course Evaluation: Semester End Examination (50+10* = 60 Marks) and Internal Assessment (15 Marks)

***Laboratory Note Book + Viva-voce: 5+5 = 10**

Course Objectives:

- To develop knowledge and skills in Cartography and Surveying
- To develop ability and skills in drawing scales and representation of data on maps
- To enhance ability in drawing cartograms with interpretation
- To develop ability and skills in traverse surveying and determination of height of objects

Course Learning Outcomes:

After the completion of course, the learners will have ability to:

- acquire practical knowledge and skills in Cartography and Surveying
- improve skills in drawing scales and representation of data on maps
- prepare cartograms and to interpret appropriately
- develop expertise in traverse surveying and determination of height of objects

Professional Skill Development Opportunities of the Course:

The course will help the learners to build basic foundation for further studies and research in Cartography and Surveying. This course will be effective to develop analytical skills, data analysis skills, spatial analysis skills, observational skills and data visualisation skills. This course offers employment opportunities.

Course Content:

1. Construction of Scales: Linear, Comparative, Diagonal and Vernier
2. Representation of Data on Map by Proportional Circles, Dots and Spheres, Isolpleth and Choropleth methods
3. Diagrammatic Representation of Data: Bar and Age-sex Pyramid Diagram, Pie Diagram
4. Preparation and Interpretation of Climograph, Taylor Hythergraph and Ergograph
5. Measures of Concentration: Location Quotient
6. Proximity Analysis: Nearest Neighbour Analysis
7. Traversing by Prismatic Compass and Dumpy Level Surveying with One Change Point (profile drawing and contouring)
8. Determination of height of objects by Transit Theodolite (level ground base accessible case)

***A Project File of exercises consisting of each theme is to be submitted**

Suggested Readings:

- Agor, R. (1980). Textbook of Surveying and Levelling, Khanna Publishers, Delhi.
- Anson, R. and Ormelling, F. J., (1994). International Cartographic Association: Basic Cartographic Vol., Pregmen Press.
- Gupta, K. K. and Tyagi, V. C., (1992). Working with Map, Survey of India, DST, New Delhi.
- Mishra, R. P. and Ramesh, A., (1989). Fundamentals of Cartography, Concept, New Delhi.
- Monkhouse, F. J. and Wilkinson H. R., (1973). Maps and Diagrams, Methuen, London.
- Robinson, A.H., Morrison, J.L., Muehrcke, P.C., Kimerling, A.J. and Guptill, S.C. (2009). Elements of Cartography. Wiley.
- Sarkar, A., (2015). Practical Geography: A systematic approach. Orient Black Swan Private Ltd., New Delhi.
- Singh, R. L. and Singh, R. P. B., (1999). Elements of Practical Geography, Kalyani Publishers.

SEMESTER IV

Type: Minor
PAPER: II (Theory)
COURSE CODE: GEOG-MI-T-2
COURSE TITLE: HUMAN GEOGRAPHY

Total Marks: 50 **Credits: 4**
Course Evaluation: Semester End Examination (40 Marks) and Internal Assessment (10 Marks)

Course Objectives:

- To acquire knowledge about the major themes of Human Geography
- To study the distribution and growth of population in India
- To study the changing nature of demographic regime
- To understand the nature of human migration and sectors of economy
- To study the types and pattern of rural settlements and functional classification of town
- To provide a comprehensive view of major ethnic groups in India
- To study the central themes in Cultural Geography and basic aspects of human development

Course Learning Outcomes*:*
After the completion of course, the learners will have ability to:

- understand the key themes of Human Geography
- acquire knowledge of population in India with spatio-temporal context
- understand the changing nature of population dynamics in relation to economic growth, social development and cultural change
- build concrete ideas about human migration and different economic sectors
- gain knowledge about the nature of rural and urban settlements
- acquire knowledge about ethnic identity of major ethnic groups in India
- learn to measure the progress of a country in terms of economic and social development

Professional Skill Development Opportunities of the Course*:*
This course will help the learners for further studies in different sub-branches of Human Geography. This course focuses on the development of critical thinking skills, analytical and data analysis skills.

Course Content:

1. Distribution and growth of population in India
2. Demographic Transition Theory
3. Migration: Concept, types and causes
4. Economic activities: Primary, Secondary and Tertiary
5. Types and patterns of rural settlements
6. Urban settlement: Census definition and characteristics
7. Functional classification of towns
8. Major ethnic groups in India: Santhal, Gond, Toda and Khasi
9. Concept of culture, Cultural hearths and Cultural diffusion
10. Human Development Index

Suggested Readings:

- Chandana, R.C. and Sidhu, M.S., (1996). Geography of Population: Concepts Determinants and Pattern, Kalyani Publishers, New Delhi
- Daniel,P.A. and Hopkinson, M.F., (1989). The Geography of Settlement, Oliver & Boyd, London.
- Haq, M., (2000). Reflections on Human Development, Oxford University Press, New Delhi
- Johnston R; Gregory D, Pratt G.etal.,(2008). The Dictionary of Human Geography,Blackwell Publication.
- Jordan et al., (2006).The Human Mosaic: A Thematic Introduction to Cultural Geography.W.H.Freemanand Company,NewYork.
- Ghosh,S., (2015). Introduction to Settlement Geography. Orient Black Swan Private Ltd., Kolkata
- Norton, W., (2006). Cultural Geography: Environments, Landscapes, Identities, Inequalities, Oxford University Press, Toronto
- Rubenstein, J.M., (2002). The Cultural Landscape, 7th edition, Prentice Hall, Englewood Cliffs
- Singh, R.Y., (2002). Geography of Settlements, Rawat Publications, Jaipur.