

No. 6-38/2022 (FSS) CBCS (PG) -HPU (Acad.)
Himachal Pradesh University, Summer Hill, Shimla-5
(NAAC Accredited "A" Grade University)
"Academic Branch".

Dated: 10 AUG 2022

To

1. The Dean, Faculty of Social Sciences HPU, Shimla-5
2. The Controller of Examinations, HPU, Shimla-5.
3. The Director, ICDEOL, HPU, Shimla-5.
4. The D.R. Exam. (PG) HPU, Shimla-5.
5. The D.R. Eval./Re-Eval./Conduct, HPU, Shimla-5.
6. The D. R. Secrecy, HPU, Shimla-5. (with 2 spare copies.)
7. The S.O. Exam (PG, Geography) HPU, Shimla-5,
8. The Librarian, HPU Main Library, Shimla-5
9. The Incharge, Computer Centre, Examination Wing (PG), HPU, Shimla-5.

Subject: *Complimentary copies of New Syllabus of M.A Geography (under CBCS) and Course work of Ph.D Programme in Geography.*

Sir/Madam,

I am sending herewith a complimentary copy of New Syllabus of *M.A Geography (under CBCS) as per Annexure-I and Course work of Ph.D Programme in Geography as per Annexure-II* duly approved by the Standing Committee of Academic Council in its meeting held on 19.07.2022 vide item No.9, further approved by the Executive Council vide spot resolution No. 3 in its meeting held on 20-07-2022, on the recommendations of the concerned Board of Studies (PG) and Faculty of Social Sciences for its implementation from the Academic Session 2022-23 onwards.

Yours faithfully,


Deputy Registrar (Acad.)
HP University Shimla-5.

Dated: 10 AUG 2022

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Copy to:

1. The Chairman, Deptt. of Geography, HPU, Shimla-5 for information and **send the soft copy in PDF format to web Admin, HPU, Shimla-5 immediately.**
2. All the Principal, Govt./Non-Govt., Affiliated Colleges under the Jurisdiction of H.P. University/HPU Regional Centre Dharamshala, Distt. Kangra (HP)/ Principal, Deptt. of Evening Studies, HPU, Shimla-1, running above mentioned course and also requested to kindly download the above mentioned syllabus from the University website i.e. www.hpuniv.ac.in.
3. The Web Admin, HPU, Shimla-5, with the request to upload this letter with syllabus on the website.
4. The Dealing Assistant Meeting (Acad.), HPU, Shimla-5, for information.
5. Guard file.


Deputy Registrar (Acad.)

Approved in Post Graduate Board of Studies (BoS) meeting in
subject of Geography held on 17-06-2022

Faculty of Social Sciences

HIMACHAL PRADESH UNIVERSITY

(A State Government University Accredited with 'A' Grade by NAAC)



**Choice Based Credit System
Course Structure and Syllabus**

**For
M.A. in Geography
(w.e.f. July 2022)**

**Department of Geography
Himachal Pradesh University
Summerhill, Shimla-171005**

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**Course Structure and Syllabus
For
Masters of Arts (M.A.) in Geography**

About the Course:

The Course of study leading to Master of Arts (M.A.) in Geography Degree of Himachal Pradesh University, Shimla shall be of two academic years spread over four semesters. The course has been designed as per the instructions issued by the Himachal Pradesh University and considering some provisions laid down in the National Education Policy (NEP)-2020. It consists of an amalgam of different course papers i.e. Core (10), Skill based-cum-practical (4), Generic Elective (02), Discipline Electives (02). The curriculum design has focus on both the theoretical and practical training to enable students to work as professional geographers who can understand the basic and contemporary geographical issues. In the first, second and third semesters students will earn about different concepts, branches, nature, philosophy, dimensions and perspectives of the subject. The students have to qualify all the papers to complete the Masters programme in Geography. The eligibility requirement for M. A. in Geography shall be Bachelor's Degree in any stream (Arts & Science with Geography as one of the subjects at undergraduate level) from any recognized University. The number of seats, eligibility, basis of admission, age limit, reservation, fee structure, scheme of examination and qualifying marks will be as per the rules and regulations of Himachal Pradesh University as prescribed in the University Ordinance and Handbook of Information (HBI) changed from time to time. The candidates will have to produce the proof of their having passed the Bachelor's Degree with required percentage of marks before the last date of admission as fixed for the candidates by the admission committee of the Department, failing which their candidature will stand cancelled.

Programme Outcomes: The key programme outcomes (POs) are as under:

- PO1. Cognizance of nature, principles and concepts of geomorphology
- PO3. Understanding, describing and recognising fundamentals of climatology
- PO3. Understanding human geography and its relevance in current societal aspects
- PO3. Contextualisation of development of geographic knowledge from ancient to postmodern period
- PO4. Understanding traditional knowledge and values
- PO5. Awareness about social well-being, population dynamics, settlement geography, urban and disaster issues.
- PO6. Acquaintance with regional planning, quantitative techniques, research methods and geo-spatial technical skills
- PO7. Cognizance of geography of India, biogeography, cultural and political geography
- PO8. Understanding basics of research and addressing real issues and problems through research

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Course Structure for M.A. Geography (w.e.f. July 2022)								
Course Code	Course types	Title of Courses	Credit Hours/Week			Cr	Marks Scheme	
			L	P*	T**		Theory	Internal Assessment
Semester-I								
GEOG.101	Core	Geomorphology	5	-	1	6	70	30
GEOG.102	Core	Human Geography	5	-	1	6	70	30
GEOG.103	Core	Climatology	5	-	1	6	70	30
GEOG.104	Skill Based	Cartography (Practical)	-	12	-	6	70	30
Total Credits						24	Total Marks = 400	
Semester-II								
GEOG.201	Core	Economic Geography	5	-	1	6	70	30
GEOG.202	Core	Geographical Thought	5	-	1	6	70	30
GEOG.203	Skill Based	Fundamentals of Remote Sensing (Practical)	-	12	-	6	70	30
GEOG.204	D. El	GEOG.204 to GEOG.207	5	-	1	6	70	30
Inter-Disciplinary Course (GE)								
GEOG.208	GE	Geography of Himachal Pradesh	3	-	1	4	70	30
Total Credits						28	Total Marks = 500	
Discipline Elective I: Students can opt any one of the followings								
GEOG.204	D. El	Geography of Social well-being	5	-	1	6	70	30
GEOG.205	D. El	Urban Geography	5	-	1	6	70	30
GEOG.206	D. El	Population and Settlement Geography	5	-	1	6	70	30
GEOG.207	D. El	City and Metropolitan Planning (UGC MOOCs)***	5	-	1	6	70	30
Semester-III								
GEOG.301	Core	Regional Planning	5	-	1	6	70	30
GEOG.302	Core	Quantitative Techniques	5	-	1	6	70	30
GEOG.303	Core	Research Methodology in Geography	5	-	1	6	70	30
GEOG.304	Skill Based	Geographical Information System (Practical)	-	12	-	6	70	30
GEOG.305	D. El	GEOG.305 to GEOG.308	5	-	1	6	70	30
Total Credits						30	Total Marks = 500	
Discipline Elective II: Students can opt any one of the followings								
GEOG.305	D. El	Cultural Geography	5	-	1	6	70	30
GEOG.306	D. El	Agricultural Geography	5	-	1	6	70	30
GEOG.307	D. El	Political Geography	5	-	1	6	70	30
GEOG.308	D. El	Urban Disaster Risk Mitigation & Climate Resilient	5	-	1	6	70	30

		Development (UGC MOOCs)***						
Semester-IV								
							Theory	Internal Assessment
GEOG.401	Core	Geography of India	5	-	1	6	70	30
GEOG.402	Core	Biogeography	5	-	1	6	70	30
GEOG.403	Skill Based	Field work and Project Report	-	12	-	6	70 (Project Report)	30
GEOG.404	GE	Disaster Risk Reduction and Management	3	-	1	4	70	30
Total Credits						22	Total Marks = 400	
Grand Total			L	P	T	Cr	Total Marks = 1800	
			66	48	14	104		

Total Courses:	Core: 10	Skill Based: 04	GE: 02	D. El: 02	Total = 18
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P: Practical class of two hours will be treated as equal to 1 credit.*

*T**: Tutorials include invited talks, Seminars, Group discussions, Quiz etc.*

**** To be offered from the academic session implementing NEP based syllabus in the university*

CBCS: Choice Based Credit System, L: Lecture, P: Practical, Cr: Credit, SB: Skill Based, GE: Generic Elective, D. El: Discipline Elective.

Evaluation Criteria for Theory Papers
A. Continuous Assessment: [30 Marks]
B. End Semester Exam: [70 Marks] Short Answer type (Compulsory) (30 Marks), Long answer type (40 Marks)

Evaluation criteria for Practical Papers				
Final Examination	Practical Record Book	Viva-Voce	IA	Total
40 Marks	20 Marks	10 Marks	30 Marks	100 Marks

Note: Question paper for Practical papers may be designed based on practical exercises.

Course- GEOG.101
GEOMORPHOLOGY

Max. Marks: 100

Course description:

This course of geomorphology looks at the relationship between landforms and their processes at varied scales in space and time. It examines endogenic processes originating within the earth, exogenic processes occurring over the earth and the way they interact to create landforms. The course covers geomorphological theories, weathering, slope processes, soil erosion, fluvial and glacial processes and landforms, applied geomorphology, mountain building, rates of landscape change, vulcanicity etc. This course considers issues such as damming rivers, slope stability, and the ongoing interaction between human activity and geomorphic processes in the local region. Landforms and processes are analyzed at various temporal and spatial scales, and in terms of relevant theories and principles.

Course objectives:

- To explain the basic principles for development of landforms through time
- To understand various aspects of landform growth and evolution on the Earth
- To describe the basic conceptual and dynamic concepts of landform development
- To learn the techniques of geomorphological analysis
- To understand the relevance of applied aspects of Geomorphology

Course learning outcomes:

- Understanding of the linkages between landscape forms and processes
- Familiarity with fundamental concepts in physical systems
- Practice in using models, data and logical reasoning
- Critical evaluation of geomorphic processes

UNIT-I

Geomorphology: Meaning, nature and scopes, approaches of geomorphological analysis. Fundamental concepts in geomorphology: geological structure and landforms, uniformitarianism, characteristic assemblages of landforms, sequential changes in landforms.

UNIT-II

Structural geomorphology: Physical conditions of earth interior, characteristics and topographic expression of fault and fold structures.

Mountain and mountain building theories by Kober and Holmes.

Forces of crustal instability: Continental drift and Plate Tectonics, Isostasy, Vulcanicity.

UNIT-III

Weathering and mass wasting: meaning, significance, controlling factors and classification. Concept of Hill-slope development, Slope decline theory by Davis, Slope replacement by Penck and parallel retreat by King.

Drainage system and pattern, concept of river capture, man and river processes

UNIT-IV

Surface processes and landforms: Fluvial geomorphic system and its evolution, Aeolian processes and landforms, glacial processes and landforms, Karst process and landforms, work of ocean and coastal landforms.

Concept of Applied Geomorphology: Geomorphology and Hazard management, Geomorphology and Urbanization, Geomorphology and Hydrology

Instructions for paper setter and students:

- **Maximum Marks:** Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment test will also be 40% to be obtained separately.
- **Distribution of Marks:** 100 marks for the course would be divided as follows:
 - a. Written examination 70 marks (Pass Marks = 28)
 - b. Internal assessment 30 marks (Pass Marks = 12)
- **Duration of Examination:** Written examination would be of 3 hours duration and would be conducted in the university. The question paper for the written examination shall be set by the external examiner as per the university norms.
- **Distribution of IA Marks:** Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (25 marks). The marks in the classroom attendance would be given in the following manner: (upto 75% : Nil; 75 - 80% : 1; 81-85% : 2; 86-90% : 3; 91-95%: 4 and above 95%: 5). The classroom performance of the students would be assessed by the course teacher on the basis of performance in class room test(s)/ seminar(s)/ class room assignment(s), declamation etc. as per the choice of the course teacher.
- **Pattern of Question Paper:** The paper would be set from the syllabus covering the full content. The question paper in this course will be divided into two parts. **Part-I** will be compulsory and consist of **10** short answer type questions covering full syllabus and carrying **3** marks each. **Part-II** will consist of **8** descriptive (long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt **4** questions selecting one from each unit. Each question carries **10** marks.

Books Recommended:

- Bloom, A.L. (1979): Geomorphology, New Delhi: Prentice Hall of India Pvt. Ltd.
- Dayal, P. (1995): A Textbook of Geomorphology, Patna: Shukla Book Depot.
- Embleton, C. and King, C.A.M. (1975): Glacial Geomorphology, London: Edward Arnold.
- Fairbridge, R.W. (1968): Encyclopedia of Geomorphology, New York: Reinholds.
- Morisawa, M (1968): Streams, New York: McGraw Hill.
- Pitty, A.F. (1982): The Nature of Geomorphology, New York: Methuen.
- Rice, R.J. (1990): Fundamentals of Geomorphology, London: ELBSL.
- Schumm, S. (1977): The Fluvial System, New York: John Wiley and Sons.
- Sharma, Anurag (1993): Ecology of Landslide Damages, Jaipur: Pointer Publishers.
- Sharma, H.S.(ed.) (1980): Perspectives in Geomorphology, New Delhi: Concept.
- Sharma, V.K. (1986): Geomorphology, New Delhi: Tata McGraw Hill.
- Singh, Savindra (1998): Geomorphology, Allahabad: Prayag Pustak Bhawan.
- Siddhartha, K (2020): The Earth's Dynamic Surface, New Delhi: Kitab Mahal.
- Small, R.J. (1978): The Study of Landforms, Cambridge: Cambridge University.
- Sparks, B.W. (1960): Geomorphology, London: Longman.
- Strahler, A.N. (1992): Physical Geography, New York: John Wiley and Sons.
- Thornbury, W.D. (1969): Principles of Geomorphology, New York: John Wiley and Sons.

Course- GEOG.102
HUMAN GEOGRAPHY

Max. Marks: 100

Course description:

This course introduces students about human geography as an important branch of geography. Students will learn the history of human geography, urbanism, cultural globalization, population and geopolitical traditions. Through the course, students will also have the chance to sharpen their skills in analytical thinking, studying scholarly work and evaluating changing realities of sustainable development.

Course objectives:

- Describe, explain and demonstrate by analyzing and evaluating the changing scales of human experience
- Classify human societies and discuss different approaches to the study of man-environment relationships
- Understand and discuss about urbanism, globalization, population and food supply issue, changing geopolitical traditions and concept of sustainable development.

Course learning outcomes:

- Analysis and evaluation of the changing scales of human experience
- Classification of human societies and understanding the man-environmental relationships
- Cognizance of issues like urbanism, globalization, population and food supply.
- Understanding the changing geopolitical traditions and concept of sustainable development.

UNIT-I

Human Geography: Changing Scales of Experience

Meaning of Human Geography, Subject Matter of Human Geography, Human Geography through the corridors of time, Classification of Human Societies, Man- Environmental Relationship and Environmental Crisis

UNIT-II

Urbanism, Globalization and Changing Culture

Defining Urban area: Town and City, Origin and Growth of Urbanization in India. Concept of Globalization, Cultural globalization, Impact of globalization on Indian culture.

UNIT-III

Population and Food Supply and Ageing

Population Growth and Food Supply, Demographic transition model and Emergence of second demographic transition, Population Ageing and development

UNIT-IV

Geopolitical Traditions, Development and Sustainability

Organic Theory of State, German Geopolitics, Heartland and Rimland Theories, Concept of State, Nation and Nation-States, Concept of Boundaries, their classification and Frontiers, Sustainable Development and environmental sustainability with reference to India.

Instructions for paper setter and students:

- **Maximum Marks:** Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment test will also be 40% to be obtained separately.
- **Distribution of Marks:** 100 marks for the course would be divided as follows:
 - a. Written examination 70 marks (Pass Marks = 28)
 - b. Internal assessment 30 marks (Pass Marks = 12)
- **Duration of Examination:** Written examination would be of 3 hours duration and would be conducted in the university. The question paper for the written examination shall be set by the external examiner as per the university norms.
- **Distribution of IA Marks:** Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (25 marks). The marks in the classroom attendance would be given in the following manner: (upto 75% : Nil; 75 - 80% : 1; 81-85% : 2; 86-90% : 3; 91-95%: 4 and above 95%: 5). The classroom performance of the students would be assessed by the course teacher on the basis of performance in class room test(s)/ seminar(s)/ class room assignment(s), declamation etc. as per the choice of the course teacher.
- **Pattern of Question Paper:** The paper would be set from the syllabus covering the full content. The question paper in this course will be divided into two parts. **Part-I** will be compulsory and consist of **10** short answer type questions covering full syllabus and carrying **3** marks each. **Part-II** will consist of **8** descriptive (long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt **4** questions selecting one from each unit. Each question carries **10** marks.

Books Recommended:

- Bergwan, Edward E (1995): Human Geography: Culture, Connections and Landscape, Prentice-Hall, New Jersey.
- Carr, M. (1987): Patterns, Process and Change in Human Geography. MacMillan Education, London.
- Cloke, P., Crang, P. and Goodwin, M (1999): Introducing Human Geographies. Arnold, London.
- Daniels, P., Bradshaw, M., Shaw, D and Sidaway, J. (2001): Human Geography: Issues for the 21st Century. Pearson, Delhi.
- De Blij H.J. (1996): Human Geography, Culture, Society and Space. John Wiley, New York.
- Fellmah, J.L. (1997): Human Geography- Landscapes of Human Activities. Brown and Benchman Pub., U.S.A.
- Johnston, R.J. (1994): Dictionary of Human Geography. Balckwell, Oxford. Majid Husain. (2002). Human Geography. Rawat Publications.
- Mark Boyle. (2015): Human Geography- A Concise Introduction. Wiley Blackwell, UK.
- McBride, P.J. (1996): Human Geography Systems, Patterns and Change. Nelson, U.K. and Canada.
- Michael, Can (1997): New Patterns: Process and Change in Human Geography, Nelson.
- Potter, Rob, Dennis Conway, Ruth Evans and Sally Lloyd Evans (2012): Key Concepts in Development Geography. Sage Publications, London and New Delhi

Course- GEOG.103
CLIMATOLOGY

Max. Marks: 100

Course description:

Climate is one of the major factors which determine the life of man on the earth. This course will explain nature and scope of studying climatology and the dynamics of the Earth's atmosphere. The students will come to know about the different climatic classifications of the world and thereby can visualize the relation of the climatic with several other natural and cultural phenomena. This course will provide an overview of contemporary global climatic issues such as climate change and global warming to the learners.

Course objectives:

- To develop an understanding about atmospheric motions, atmospheric moisture, global atmospheric circulations and disturbances
- To know the basis and typology of climatic classification
- To understand the climates in different parts of the world
- To understand and develop a critical thinking about the various issues related to Global climatic changes

Course learning outcomes:

- Acquaintance with atmospheric processes and dynamics
- Knowledge about the types of climate and their global distribution
- Understanding the recent climatic issues arising in the world
- Development of approach towards critical analysis of the climatic issues

UNIT-I

Compositional and thermal structure of the atmosphere, Insolation: Solar source, heat balance of the earth, greenhouse effect and global warming, vertical and horizontal distribution of temperature

UNIT-II

Atmospheric motion: Forces controlling motion of air, vertical motion and vorticity, local winds, jet stream, general circulation in the atmosphere;
Atmospheric moisture: humidity, evaporation, condensation, precipitation: formation, types, acid rain, world pattern of precipitation

UNIT-III

Tropical, temperate and high latitude weather systems- concept of air masses and atmospheric disturbances, ocean atmospheric interaction- El Nino, southern oscillation (ENSO) and La Nina, monsoon winds, northwesterly and cyclones, Tropical and Temperate phenomena, climate of India and its controls: Eastern disturbances.

UNIT – IV

Climatic classification of Koppen, and Thornthwaite, Major climates of the world- tropical, temperate, desert and mountain climate. Climatic Changes: Ozone Depletion; Global Warming: Strengthening of Greenhouse effect.

Instructions for paper setter and students:

- **Maximum Marks:** Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment test will also be 40% to be obtained separately.
- **Distribution of Marks:** 100 marks for the course would be divided as follows:
 - a. Written examination 70 marks (Pass Marks = 28)
 - b. Internal assessment 30 marks (Pass Marks = 12)
- **Duration of Examination:** Written examination would be of 3 hours duration and would be conducted in the university. The question paper for the written examination shall be set by the external examiner as per the university norms.
- **Distribution of IA Marks:** Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (25 marks). The marks in the classroom attendance would be given in the following manner: (upto 75% : Nil; 75 - 80% : 1; 81-85% : 2; 86-90% : 3; 91-95%: 4 and above 95%: 5). The classroom performance of the students would be assessed by the course teacher on the basis of performance in class room test(s)/ seminar(s)/ class room assignment(s), declamation etc. as per the choice of the course teacher.
- **Pattern of Question Paper:** The paper would be set from the syllabus covering the full content. The question paper in this course will be divided into two parts. **Part-I** will be compulsory and consist of **10** short answer type questions covering full syllabus and carrying **3** marks each. **Part-II** will consist of **8** descriptive (long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt **4** questions selecting one from each unit. Each question carries **10** marks.

Books Recommended:

- Barry, R.G. and Chorley P.J., Atmosphere, Weather and Climate, Routledge, London and New York, 1998.
- Critchfield, J.H.: General Climatology, Prentice Hall, India, New Delhi, 1993.
- Das, P.K.: Monsoons National Book Trust, New Delhi, 1987.
- Fein, J.S. and Stephens, P.N.: Monsoons, Wiley Inter-science, 1987.
- India Met, Deptt.: Climatological Tables of Observatories in India, govt. of India, 1968.
- Lal. D.S.: Climatology, Chaitanya Publications, Allahabad, 1986.
- Lydolph, P.E.: The Climate of the Earth, Rowman, 1985.
- Menon, P.A.: Out Weather, N.B.T., New Delhi, 1989.
- Oliver, J.E. and John J. Hidore. 2002. Climatology- An Atmospheric Science (2nd Ed.) Pearson Education (Low Price Edition).
- Peterson, s.: Introduction to Meteorology, McGraw Hill Book, London, 1969.
- Robinson, P.J. and Henderson S.: Contemporary Climatology, Henow, 1999.
- Thompson, R.D. and Perry, A (ed.): Applied Climatology, Principles and Practice, Rourtledge, London 1997.

Course- GEOG.104
CARTOGRAPHY (Practical)

Max. Marks: 100

Course description:

Cartography helps us understand our place in the world, analyze positional relationships, and reflect on geography's effect on our daily lives. This course will familiarize the students about Map making process. This involves the application of both scientific and artistic elements, combining graphic talents and specialized knowledge of compilation and design principles with available techniques for product generation. The students will come to know the use of the map making techniques for physical, social and economic phenomena under this course.

Course objectives:

- To acquaint students about history, nature and scope of cartography
- To enable to students to use different methods of mapping physical phenomena and slope analysis
- To different methods of mapping economic phenomena
- Apply different methods of mapping social phenomena

Course learning outcomes:

- Understanding the history, nature and scope of cartography
- Application of different methods of mapping physical phenomena
- Use of different techniques of mapping social phenomena
- Applying different methods of mapping economic phenomena

UNIT-I

Basics of cartography: Nature and history of cartography, Map essentials and classification, Types of data and symbols, Cartographic communication process

UNIT-II

Mapping physical phenomena: Depiction of relief: contour method, spot heights and layer shading, Gradient and Profiles: Serial, longitudinal, transverse, superimposed, composite and projected, Methods of slope analysis: Wentworth, and Robinson, Representation of climatic data: Hythergraph, Climograph, Wind rose Diagram.

UNIT-III

Mapping Social Phenomena: Distribution of population, density, growth, age & sex composition, Urbanisation, literacy and occupational composition.

UNIT-IV

Mapping Economic data: Land use and Cropping pattern

Instructions for paper setter and students:

Maximum Marks: Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in Record book, Viva-voce and Internal assessment test will also be 40% to be obtained separately in each component.

Distribution of Marks: In the practical paper, the marks would be divided as follows:

(a) Written examination	40 marks (Pass Marks = 16)
(b) Record book	20 marks (Pass Marks = 8)
(c) Viva -Voce	10 marks (Pass Marks = 4)
(d) Internal assessment	30 marks (Pass Marks = 12)

Duration of Examination: Written examination would be of 3 hours duration and would be conducted in the university. The question paper for the written examination shall be set by the external examiner as per the university norms.

Distribution of IA Marks: Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (25 marks). The marks in the classroom attendance would be given in the following manner: (upto 75% : Nil; 75 - 80% : 1; 81-85% : 2; 86-90% : 3; 91-95%: 4 and above 95%: 5). The classroom performance of the students would be assessed by the course teacher on the basis of performance in class room test(s)/ seminar(s)/ class room assignment(s), declamation etc. as per the choice of the course teacher.

Pattern of Question Paper: The paper would be set from the syllabus covering the full content. The question paper for the written examination shall be made by the external examiner in assistance with the internal examiner (who generally would be the course teacher). The question paper in this course will be divided into three parts. **Part-I** will consist of 10 multiple choice type/ true or false/ fill in the blanks type questions carrying 1 mark each. **Part - II** will consist of 5 short answer type questions of 2 marks each. **Part- III** will consist of 8 choice based descriptive (long answer type) questions each from all units and carrying 5 marks each. Students will have to answer 4 questions selecting 1 from each unit.

External examiner: External examiner would be appointed by the Vice-chancellor out of a panel of five university teachers supplied by the Department Chairperson in consultation with the course teacher.

Evaluation of Record book: Record book would be evaluated by the external examiner.

Viva- voce: Viva- voce would be conducted by the external examiner and would pertain to the complete contents of the syllabus.

Evaluation of Answer books: Answer books would be evaluated jointly by external and internal examiners on the day of examination.

Books Recommended:

- Keats, J.S. (1973): Cartographic Design and production Longman, London
- Monkhouse, F.J. and H.R. Wilkinson (1967) Maps and Diagrams, B.T. Publications Pvt. Ltd., Delhi 1989.
- Raisz Erwin (1962): Principles of Cartography, McGraw Hill, New York.
- Misra R.P. and A. Ramesh (1989): Fundamentals of Cartography, Concept Publishing Company New Delhi.
- Singh L.R. and R.N. Singh (1975): Map work and Practical Geography, Central Book Depot, Allahabad.
- Singh R.L. (1979): Elements of Practical Geography, Kalyani Publishers, New Delhi.
- John Compbell (1991): Map Use and Analysis, WCB Dubuque.
- Dent Borden D. (1990): Cartography, Thematic Map Design, Wim.C. Brown Publishers.
- Kraak, M.J. and Ferjan Ormeling (2003): Cartography, Visualization of Geospatial Data, Pearson Education Limited, Patparganj, Delhi, India.
- Robinson, Arthur and et.al.(2005): Elements of Cartography, John Wiley and Sons, New York.

Course- GEOG.201
ECONOMIC GEOGRAPHY

Max. Marks: 100

Course description:

Economic geography is a discipline that studies the location, distribution, and spatial organization of economic activities across the world. Over the years, economic geography has taken various approaches to different subject matters such as nature of economic activities, location and land use, resource economics, economic growth and development etc. In this course, the aforesaid topics will be covered and development will be covered with special reference to India.

Course objectives:

- To explain the relationship in geographic landscape and economic activities
- To understand newer economic concepts like FDI and FTA and role of Geography
- To study various Economic models and their significance at present
- To understand the relationship of natural resources and development in the World
- Elucidate to the students various economic models and their significance at present

Course learning outcomes:

- Understanding the relationship in geographic landscape and economic activities
- Understanding different set of economic activities and its general expression
- Understanding different Trading Blocks of the world and their hegemony
- Explaining the newer economic concepts like FDI and FTA and role of Geography
- Grasping the global challenges to Indian economy

UNIT-I

Nature of Economic Activity: Definition, nature, and scope of economic geography Types of Economic Activity, Geographical Configuration of World trade (WTO, NAFTA, SAPTA, EU) Open World Trading System (FTA): Merits & Demerits, International Trade and Foreign Direct Investment (FDI)

UNIT-II

Location and Land Use: Central Place Theory: Christaller's Model Agricultural Land Use: Von Thunen's Model Industrial location: Weber's Model, Urban Land Use: Monocentric city and Polycentric city

UNIT-III

Resource Economics: Resource: Concept and Types, Natural Resources and Development: An Overview of Land, water and Minerals World Production and Distribution of Coal, Petroleum and Iron Ore

UNIT-IV

Economic Growth: Concept of Economic Growth and Development Rostow's Stage Model, Polarized Development: Models of Myrdal, Hirschman and Friedman Growth Pole Theory of Perroux

Instructions for paper setter and students:

- **Maximum Marks:** Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment test will also be 40% to be obtained separately.
- **Distribution of Marks:** 100 marks for the course would be divided as follows:
 - a. Written examination 70 marks (Pass Marks = 28)

b. Internal assessment 30 marks (Pass Marks = 12)

- **Duration of Examination:** Written examination would be of 3 hours duration and would be conducted in the university. The question paper for the written examination shall be set by the external examiner as per the university norms.
- **Distribution of IA Marks:** Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (25 marks). The marks in the classroom attendance would be given in the following manner: (upto 75% : Nil; 75 - 80% : 1; 81-85% : 2; 86-90% : 3; 91-95%: 4 and above 95%: 5). The classroom performance of the students would be assessed by the course teacher on the basis of performance in class room test(s)/ seminar(s)/ class room assignment(s), declamation etc. as per the choice of the course teacher.
- **Pattern of Question Paper:** The paper would be set from the syllabus covering the full content. The question paper in this course will be divided into two parts. **Part-1** will be compulsory and consist of **10** short answer type questions covering full syllabus and carrying **3** marks each. **Part-II** will consist of **8** descriptive (long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt **4** questions selecting one from each unit. Each question carries **10** marks.

Books Recommended:

Abler, R., Adams, J.S., and Gould, P., Spatial Organization (Prentice Hall, 1991). Anderson, William P., Economic Geography. Rotledge 2012
Berry, B.J.L. Corkling, E.C., Ray, D.M., The Geography of Economic System Prentice Hall, 1976.
Broadford, M.G. and Kent, W.A., Human Geography: Theories and their Application, Oxford University Press, 1977.
Gautam, Alka, AarthikBhugolKeMoolTatav, ShardaPustakBhavan 2010 Haggeett, P., Locational Analysis in Human Geography, Arnold, 1965.
Losen, A, The Economics of Location, Yale University Press, 1954.
Misra. H.N. (Ed.) Managing Natural resources Focus on Land and water, Prentice Hall, 2014
Hartshorne,T.A. and Alexander, J.W., Economic Geography, Prentice Hall, 1988

Course- GEOG.202
GEOGRAPHICAL THOUGHT

Max. Marks: 100

Course description:

This course will acquaint students about nature and philosophy of geography and the place of geography in the sciences. Through this course, students will be made aware about the philosophy and concepts of modern geography. Students will also learn about the positivist and alternative explanations in geography. This course will help the students to conceptualize and contextualize the development of geographic knowledge from ancient times to postmodern period.

Course objectives:

- Elucidate and demonstrate the nature of geographical work and place of geography in the sciences
- Explain the students about evolution and development of Geography as a discipline
- Discuss and illustrate about the nature, history and philosophy of geography

Course learning outcomes:

- Cognizance of nature and philosophy of geography
- Understanding contributions of Greeks, Romans and Indians in Geography
- Contextualization of development of geographic knowledge in ancient and medieval period.
- Awareness about philosophy and concepts of modern geography
- Acquaintance with positivist and alternative explanations in geography.

UNIT-I

The field of geography and characteristics of geographical work, Classification of knowledge, place of geography among sciences.

Nature of geographic knowledge during ancient (Greek, Roman and Indian) and Medieval (Arab) periods.

Foundations of modern geography-contributions of Varenus, Kant, Humboldt and Ritter.

UNIT-II

Emergence of geography as a study of (i) physical features (ii) chorology (iii) landscapes.

Concepts in geography: environmental determinism and possibilism, areal differentiation and spatial organisation

Dichotomy and dualism in Geography: Physical versus Human Geography and Systematic versus Regional Geography.

UNIT-III

Quantitative revolution-emergence of geography as spatial science

Positivist explanations in geography-laws, theories, models

Inductive and deductive logic in geographic explanations

UNIT-IV

Behavioural and humanistic perspectives in geography

Social relevance in geography – Welfare, Radical and Feminist Perspectives

Postmodernism and Geography

Instructions for paper setter and students:

- **Maximum Marks:** Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment test will also be 40% to be obtained separately.

- **Distribution of Marks:** 100 marks for the course would be divided as follows:
 - a. Written examination 70 marks (Pass Marks = 28)
 - b. Internal assessment 30 marks (Pass Marks = 12)
- **Duration of Examination:** Written examination would be of 3 hours duration and would be conducted in the university. The question paper for the written examination shall be set by the external examiner as per the university norms.
- **Distribution of IA Marks:** Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (25 marks). The marks in the classroom attendance would be given in the following manner: (upto 75% : Nil; 75 - 80% : 1; 81-85% : 2; 86-90% : 3; 91-95%: 4 and above 95%: 5). The classroom performance of the students would be assessed by the course teacher on the basis of performance in class room test(s)/ seminar(s)/ class room assignment(s), declamation etc. as per the choice of the course teacher.
- **Pattern of Question Paper:** The paper would be set from the syllabus covering the full content. The question paper in this course will be divided into two parts. **Part-1** will be compulsory and consist of **10** short answer type questions covering full syllabus and carrying **3** marks each. **Part-II** will consist of **8** descriptive (long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt **4** questions selecting one from each unit. Each question carries **10** marks.

Books Recommended:

- Ali, S. Muzaffar (1966), The Geography of Puranas, Delhi: Peoples PublishingHouse.
- Dikinson, R.E. (1969), The Makers of Modern Geography, London.
- Dikshit, R.D. (1994), The Art and Science of Geography, New Delhi:Prentice Hall of India Pvt.Ltd.
- Dikshit, R.D. (1997) Geographical Thought, New Delhi: Prentice Hall of India, Pvt. Ltd.
- Gauld, J.R. (1980), An Introduction to Behavioural Geography, Oxford.
- Hartshorene, R. (1939) Nature of Geography, Pennsylvania: AAG
- Harvey, David (1989) Explanation in Geography, London: Edward Arnold
- Hussain, Majid (1995) Evolution of Geographical Thought, Jaipur: Rawat Publications.
- James, P.E. (1972) All Possible World, New York: John Wiley.
- Minshull, R. (1970) The Changing Nature of Geography, London: Hutchinson University Library

Course- GEOG.203
FUNDAMENTALS OF REMOTE SENSING (Practical)

Max. Marks: 100

Course description:

The course covers concepts and foundations of remote sensing, aerial photography and photogrammetry, visual image interpretation, characteristics of various sensing systems, and an introduction to digital image processing techniques. It introduces the students to the basic concepts and the operational skills necessary to acquire remote sensing data and extract geo-information from them. The course links the theoretical physical principles and its visualization in form of remote sensed images. The course develops understanding of multiple uses of satellite images for different applications of resource management.

Course objectives:

- To understand the basic concepts and principles of remote sensing
- To learn about properties of different remote sensing satellites.
- To learn about the basis of image processing and application areas of remote sensing

Course learning outcomes:

- Understanding of basic concepts of remote sensing
- Knowledge about historical evolution of remote sensing
- To cognisance of different elements of photographic and image interpretation
- Practical experience of digital image processing

UNIT-I

Remote sensing: Definition, Historical Development, Stages of Remote sensing, Platforms and Sensor, Types of Remote Sensing.

Basic principles of remote sensing; Electromagnetic energy (EMR); energy and radiation principles; energy interactions in the atmosphere and with earth surface; spectral signatures and spectral reflectance Curve

UNIT-II

Aerial Photograph, Photogrammetry: Type, Basic concepts and Geometry of aerial photography, stereoscopic viewing and measurements.

Remote Sensing Satellites: Polar sun-synchronous, geo-stationary satellite – LANDSAT and IRS satellite program, Sensor, Characteristics of satellite imageries, Recent satellite Based Image Products, High resolution Satellites: IKONOS, Quickbird, World view, Geo Eye, CARTOSAT.

UNIT-III

Fundamentals of visual image interpretation, Digital Image Processing, concepts of image rectification and restoration; image enhancement, image classification: Supervised and unsupervised

UNIT-IV

Applications of remote sensing in monitoring Land use and Land cover change, Forestry, Urban sprawl and regional planning.

Instructions for paper setter and students:

Maximum Marks: Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in Record book, Viva-voce and Internal assessment test will also be 40% to be obtained separately in each component.

Distribution of Marks: In the practical paper, the marks would be divided as follows:

(a) Written examination	40 marks (Pass Marks = 16)
(b) Record book	20 marks (Pass Marks = 8)
(c) Viva -Voce	10 marks (Pass Marks = 4)
(d) Internal assessment	30 marks (Pass Marks = 12)

Duration of Examination: Written examination would be of 3 hours duration and would be conducted in the university. The question paper for the written examination shall be set by the external examiner as per the university norms.

Distribution of IA Marks: Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (25 marks). The marks in the classroom attendance would be given in the following manner: (upto 75% : Nil; 75 - 80% : 1; 81-85% : 2; 86-90% : 3; 91-95%: 4 and above 95%: 5). The classroom performance of the students would be assessed by the course teacher on the basis of performance in class room test(s)/ seminar(s)/ class room assignment(s), declamation etc. as per the choice of the course teacher.

Pattern of Question Paper: The paper would be set from the syllabus covering the full content. The question paper for the written examination shall be made by the external examiner in assistance with the internal examiner (who generally would be the course teacher). The question paper in this course will be divided into three parts. **Part-I** will consist of 10 multiple choice type/ true or false/ fill in the blanks type questions carrying 1 mark each. **Part - II** will consist of 5 short answer type questions of 2 marks each. **Part- III** will consist of 8 choice based descriptive (long answer type) questions each from all units and carrying 5 marks each. Students will have to answer 4 questions selecting 1 from each unit.

External examiner: External examiner would be appointed by the Vice-chancellor out of a panel of five university teachers supplied by the Department Chairperson in consultation with the course teacher.

Evaluation of Record book: Record book would be evaluated by the external examiner.

Viva- voce: Viva- voce would be conducted by the external examiner and would pertain to the complete contents of the syllabus.

Evaluation of Answer books: Answer books would be evaluated jointly by external and internal examiners on the day of examination.

Books Recommended:

- American Society of Photogrammetry: Manual of Remote Sensing ASP, Falls Church, V.A., 1983.
 Barrett E.C and L.F. Curtis: Fundamentals of Remote Sensing and Air Photo Interpretation, Mcmillan, New York, 1992.
 Compbell J.: Introduction to remote Sensing, Guilford, New York, 1989.
 Chaunial, D.D. (2001): Remote Sensing and G.I.S. (in Hindi), Sharda Pustak Bhawan, Allahabad
 Curran, Paul J.: Principles of Remote Sensing, Longman, London, 1985.
 Gibson, Paul J. (2000): Introductory Remote Sensing- Principles and Concepts. London & New York: Routledge.
 Hord R.M.: Digital Image Processing of Remotely Sensed Data, Academic, New York, 1989.
 Jensen, John R. 1996. Introductory Digital Image Processing- A Remote Sensing Perspective (2nd Ed.). Upper Saddle River, New Jersey: Prentice Hall.
 Juder D.: Aerial Photography Interpretation: Principles and Application, McGraw Hill, New York, 1959.
 Pratt W.K. Digital Image Processing, Wiley, New York, 1978.
 Rao D.P. (eds.): Remote Sensing for Earth Resources, Association of Exploration Geophysicist, Hyderabad, 1998.
 Thomas M. Lilesand and Ralph W. Kefer, Remote Sensing and Image Interpretation, John Wiley & Sons, New York, 1994.

Course- GEOG.204
GEOGRAPHY OF SOCIAL WELL-BEING

Max. Marks: 100

Course description:

The course is designed to introduce students about the concepts of wellbeing, development and quality of life. The course covers issues relating to health and education as expression of measuring geographies of wellbeing. It also deals with conceptualization of poverty, public distribution system and food security issues in India.

Course objectives:

- Describe, explain and demonstrate the concept of social well being and human development
- Demonstrate by evaluating historical development of Education and Education policies in India
- Demonstrate by analyzing the essentials of poverty, public distribution system and food security issues in India.

Course learning outcomes:

- Understanding the nature of social wellbeing, quality of life and sustainable development goals
- Description and explanation of health and sanitation issues in India
- Description, discussion and illustration of concept and measurement of poverty
Cognizance of public distribution system and food security issues in India.

Unit-I

Social Well Being, Human Development and Quality of Life

Meanings of development, Concept of social well-being, measuring development as human development: The Human Development Index- Concept and measurement.

Quality of Life: Concept and measurement, the origins and nature of the sustainable development goals (SDGs) and social well being.

Unit-II

Education and Health Factors in Social Well Being

Indicators of educational development in India and their data sources, Historical development of education in India, National Education Policy-2020 and its likely impacts on social well-being, Indicators of health development in India and their data sources, current scenario of undernourished children and ageing population in India.

Unit-III

Poverty as Expression of Poor State of Social Well Being

Poverty: Concept and measurement (UNDP and Indian Perspectives), Current State wise pattern of poverty in India, Causes of poverty in India

Unit-IV

Food Security and Public Distribution System

Concept of food security, Indicators of food security, Public distribution system as a tool to ensure food security in India, Major challenges of food security in India.

Instructions for paper setter and students:

- **Maximum Marks:** Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment test will also be 40% to be obtained separately.
- **Distribution of Marks:** 100 marks for the course would be divided as follows:
 - a. Written examination 70 marks (Pass Marks = 28)
 - b. Internal assessment 30 marks (Pass Marks = 12)

- **Duration of Examination:** Written examination would be of 3 hours duration and would be conducted in the university. The question paper for the written examination shall be set by the external examiner as per the university norms.
- **Distribution of IA Marks:** Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (25 marks). The marks in the classroom attendance would be given in the following manner: (upto 75% : Nil; 75 - 80% : 1; 81-85% : 2; 86-90% : 3; 91-95%: 4 and above 95%: 5). The classroom performance of the students would be assessed by the course teacher on the basis of performance in class room test(s)/ seminar(s)/ class room assignment(s), declamation etc. as per the choice of the course teacher.
- **Pattern of Question Paper:** The paper would be set from the syllabus covering the full content. The question paper in this course will be divided into two parts. **Part-1** will be compulsory and consist of **10** short answer type questions covering full syllabus and carrying **3** marks each. **Part-II** will consist of **8** descriptive (long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt **4** questions selecting one from each unit. Each question carries **10** marks.

Books Recommended:

Coates, B.E., R.J. Johnston and P.L. Knox (1977). Geography and Inequality, Oxford University Press, London.

D.M. Smith (1977). Where the Grass is Greener: Geographical Perspectives on Inequality, Penguin, Harmondsworth.

D.M. Smith (1973). The Geography of Social Well-being in the United States. McGraw- Hill, New York.

David M. Smith (1977). Human Geography: A Welfare Approach, Arnold Heinemann.

Draze, Jean and Amartya Sen (2002). India: Development and Participation, OUP, New Delhi.

Dreze Jean and Amartya Sen (1996). Economic Development and Social Opportunity, Oxford University Press, New Delhi.

National Nutrition Monitoring Bureau (2000). Dynamic Database on Diet and Nutrition, National Institute & Nutrition, Hyderabad.

Planning Commission of India Reports.

Sen, Amartya & Drze Jean (1966). Indian Development: Selected Regional Perspectives, Oxford University Press.

Uma Kapila (2007). India's Economic Development Since 1947(ed). Academic Foundation.

Course- GEOG.205
URBAN GEOGRAPHY

Max. Marks: 100

Course description:

The course focuses on a historical and contemporary development of the cities across the world and urban geographical approaches to urban analysis. This provides the exploration of urban forms, processes in terms of shape, social, cultural, economic and physical context. The course will cover range of topics like origin and evolution of urban areas, development and characteristics of different type of cities, functional classifications, contemporary challenges of cities and city dwellers in both developed and developing countries. However, there will be an emphasis on Indian cities in theoretical as well as practical assignments.

Course Objectives:

- To understand the evolutionary, morphological, and functional attributes of urban places
- To analyse the social, cultural, political and economic attributes and patterns of urban areas
- To highlight the complexities of urban cities and the experience of living in these cities
- To understand the contemporary issues of urban landscape

Course Learning Outcomes:

- Acquaintance with the pattern of urban cities and the societal forces shaping them
- Understanding and analysis of functional pattern and theories of urbanization
- Knowledge of contemporary challenges and effective planning and policy interventions
- Understand the role of urban governance in planning and development

UNIT-I

Nature and scope of Urban geography, approaches to urban studies, Origin and evolution of cities: Characteristics of cities in different historical periods: Pre-industrial, industrial and Post-industrial.

UNIT-II

Functional classification of cities: Qualitative and Quantitative methods, Theories of urban structure: Burgess, Hoyt, Harris and Ullman, Mann.

UNIT-III

Pattern of urbanizations in developed and developing world, Urban Sprawl, Urban Environmental Problems and their Management: Air, water, Transport and solid waste with special reference to India.

UNIT-IV

Urban Governance: Role of state and other agencies in urban planning and development, Urban policies and development: Smart and Sustainable Cities.

Instructions for paper setter and students:

- **Maximum Marks:** Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment test will also be 40% to be obtained separately.
- **Distribution of Marks:** 100 marks for the course would be divided as follows:
 - a. Written examination 70 marks (Pass Marks = 28)
 - b. Internal assessment 30 marks (Pass Marks = 12)
- **Duration of Examination:** Written examination would be of 3 hours duration and would be conducted in the university. The question paper for the written examination shall be set by the external examiner as per the university norms.

- **Distribution of IA Marks:** Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (25 marks). The marks in the classroom attendance would be given in the following manner: (upto 75% : Nil; 75 - 80% : 1; 81-85% : 2; 86-90% : 3; 91-95%: 4 and above 95%: 5). The classroom performance of the students would be assessed by the course teacher on the basis of performance in class room test(s)/ seminar(s)/ class room assignment(s), declamation etc. as per the choice of the course teacher.
- **Pattern of Question Paper:** The paper would be set from the syllabus covering the full content. The question paper in this course will be divided into two parts. **Part-1** will be compulsory and consist of **10** short answer type questions covering full syllabus and carrying **3** marks each. **Part-II** will consist of **8** descriptive (long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt **4** questions selecting one from each unit. Each question carries **10** marks.

Books Recommended:

- Bridge, B. and Watson, S. (eds.) (2000): A Companion to the City. Blackwell, Oxford.
- Badcock, B. (2002): Making Sense of Cities: A Geographical Survey. Arnold, London.
- Bala, Raj (1986) Urbanisation in India, Rawat Publishers, Jaipur.
- Bansal, S.C. (2010): Urban Geography. Meenakshi Prakashan, Meerut.
- Beall, Jo and Sean Fox (2009): Cities and Development. Routledge, London.
- Carter, H. (1995): The Study of Urban Geography. 4th ed. Reprinted in 2002 by Rawat Publications, Jaipur and New Delhi.
- Carter, H. (1995): The Study of Urban Geography. 4th edn, Arnold, London.
- Dubey, K.K. (1976): Use and Misuse of Land in KAVAL Towns. National Geographical Society of India, Varanasi.
- Dubey, K.K. and Singh, A.K. (1983): Urban Environment in India. Deep and Deep, New Delhi.
- Dutt, A. Allen, K. Noble, G., Venugopal G. and Subbiah S. (eds.) (2003): Challenges to Asian Urbanisation in the 21st Century. Kluwer Academic Publishers, Dordrecht and London.
- Fyfe, Nicholas R. and Judith T. Kenny (2005): The Urban Geography Reader. Routledge, New York.
- Hall, T. (2001): Urban Geography. 2nd edition. Routledge, London.
- Haughton, G. and Hunter, C. (1994): Sustainable Cities. Jessica Kingsley, London.
- Jacquemin, A. (1999): Urban Development and New Towns in the Third World: A Lesson from the New Bombay Experience. Ashgate, Aldershot, UK.
- Johnson, J.H. (1981): Urban Geography, Pergaman Press, Oxford.
- Mayer, H. and Cohn, C. F. (1959): Readings in Urban Geography, University of Chicago Press, Chicago.
- Pacione, M. (2005): Urban Geography: A Global Perspective. Routledge, London and New York.
- Paddison, R. (ed.) (2001): Handbook of Urban Studies. Sage, London.
- Ramachandran, R. (1991): Urbanisation and Urban Systems in India. Oxford University Press, Delhi.
- Rao, B. P. & Sharma, N. (2007): Nagariya Bhoogol, Vasundhara Prakashan, Gorakhpur.
- Singh, O. P. (1987): Nagariya Bhoogol. Tara Book Agency, Varanasi
- Singh, R.L. (1955): Banaras. A Study in Urban Geography. Nand Kishore and Brothers, Banaras.
- Singh, R.L. and Singh, Rana P.B., (eds.) (1979): Place of Small Towns in India. National Geographical Society of India, Varanasi.
- Singh, Rana P.B. and Rana, P.S. (2002): Banaras Region. Indica Books, Varanasi.
- Sidhartha, K. and Mukherjee (2021): Cities, Urbanisation and Urban Systems, Kitab Mahal, New Delhi.
- Indian Development Reports: <https://niti.gov.in/planningcommission.gov.in/docs/plans/stateplan/shdr.php>.

Course- GEOG.206
POPULATION AND SETTLEMENT GEOGRAPHY

Max. Marks: 100

Course description:

The branch of human geography which focuses on distribution of population and other attributes related to is termed as population geography. While the branch of human geography which specially focuses on the pattern of settlement of population is termed as Settlement Geography. These two branches of human geography are related to each other as one shows the distribution of population, while the house shows the pattern of their houses on the surface of the earth. In this course students will learn about these two separate identities in relation to geographical location.

Course objectives:

- Explain the history, nature and course of population and settlement geography
- Make students understand the spatial patterns which evolve through distribution of human beings and their settlements
- Explain them the laws which work behind the formation of patterns in distribution of population and human settlement

Course learning outcomes:

- Description of history, nature and course of population and settlement geography
- Critical analysis of evolution of patterns of humans and their settlement distribution
- Evaluation of laws governing distribution of population and human settlements

UNIT-I

Historical Development of Population Geography as a discipline; Nature and Scope of population geography. Sources of population data; their quality and reliability. Major theories of population: Malthusian perspective and Marxist perspective, Demographic transition theory.

UNIT-II

Concept, determinants & pattern of the following attributes of population in India and World: Density and distribution, Growth, Urbanization and Literacy

UNIT-III

Settlement Geography: Nature and Scope of Settlement Geography; Theories of evolution of settlements, Internal and External physical structure of settlement, Rural and Urban

UNIT-IV

Settlement Hierarchy: Concept of Hierarchy, central place theory, hierarchical structure of settlements in India. Issues and Policies on population and Human Settlements

Instructions for paper setter and students:

- **Maximum Marks:** Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment test will also be 40% to be obtained separately.
- **Distribution of Marks:** 100 marks for the course would be divided as follows:
 - a. Written examination 70 marks (Pass Marks = 28)
 - b. Internal assessment 30 marks (Pass Marks = 12)
- **Duration of Examination:** Written examination would be of 3 hours duration and would be conducted in the university. The question paper for the written examination shall be set by the external examiner as per the university norms.

- **Distribution of IA Marks:** Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (25 marks). The marks in the classroom attendance would be given in the following manner: (upto 75% : Nil; 75 - 80% : 1; 81-85% : 2; 86-90% : 3; 91-95%: 4 and above 95%: 5). The classroom performance of the students would be assessed by the course teacher on the basis of performance in class room test(s)/ seminar(s)/ class room assignment(s), declamation etc. as per the choice of the course teacher.
- **Pattern of Question Paper:** The paper would be set from the syllabus covering the full content. The question paper in this course will be divided into two parts. **Part-1** will be compulsory and consist of **10** short answer type questions covering full syllabus and carrying **3** marks each. **Part-II** will consist of **8** descriptive (long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt **4** questions selecting one from each unit. Each question carries **10** marks.

Books Recommended:

(A) Population Geography

- BeaufeuGarnier,J. (1966): Geography of Population, Longman, London.
- Brooks, S. (1977): The World Population Today (Ethnodemographic Processes), USSR Academy of Sciences; Moscow.
- Chandna, R.C. (2000): Geography of Population Concepts Determinants and Patterns, Kalyani Publishers, New Delhi:
- Clarke, John, I (1972): Population Geography, Pergamon Press, NewYork.
- Charles B. Nam & Susn G. Philliber (1984): Population A Basic Orientation, Prentice Hall, New Jersey.
- Demko, G.J and Others (Eds) (1971): Population Geography- A Reader, McGraw- Hill Books Co. New York.
- Ghosh, B.N. (1985): Fundamentals of Population Geography, Sterling Publishers Private Limited, New Delhi.
- Jones, H.R. (1981): A Population Geography, Harper and Row London.
- Petrov, V. (1985): India: Spotlight of population, Progress Publishers, Moscow.
- Trewartha, G.T. (1969): A Geography of Population: World Patterns, Wiley, New York.
- Trewartha, G.T. (1972): The Less Developed Realm- A Geography of its population, Pergamon Press, New York.
- Trewartha, G.T. (1978): The More Developed Realm- A Geography of its population, Pergamon Press, New York.
- Weeks, John R. (1978): Population, An Introduction to Concepts and Issues, Wadsworth Publishing Company, Belmont, California.
- Woods R.I. (1979): Population Analysis in Geography, Longman, London.
- Zelinsky, W. (1970): A Prologue to population, Prentice Hall, London

(B) Settlement Geography

- Ambrose, Peter (1970): Concepts in Geography Vol.I: Settlement Pattern, Longman.
- Hudson, R.S. (1970): A Geography of settlements, McDonald and Sons, London.
- Chisholm, M. (1962): Rural Settlements and Landuse, Hutchinson, London.
- Daniel, P. (2002): Geography of Settlement. Rawat Publications., Jaipur and New Delhi.
- Eidt, R. C., Singh, K. N. and Singh, Rana, P.B. (eds.) (1977): Man, Culture and Settlement. Kalyani Publishers., New Delhi.
- Ghosh, S. (1999): A Geography of Settlements. Orient Longman, Kolkata.
- Hudson, F. S. (1976): A Geography of Settlements. MacDonald and Evans, New York.
- Mitra, A. (1960): Report on House Types and Village Settlement Patterns in India. Publication Division, Govt. of India, New Delhi

Course- GEOG.207
CITY AND METROPOLITAN PLANNING

Max. Marks: 100

The course curriculum of this paper will remain the same as designed by UGC MOOCs and will be offered from the academic session implementing NEP – 2020 based syllabus in the University.

Course- GEOG.208
GEOGRAPHY OF HIMACHAL PRADESH

Max. Marks: 100

Course description:

Situated in the western Himalayas, the state of Himachal Pradesh witnesses diversity in physical and agro climatic conditions. This course shall enable the students from various backgrounds besides geography to acquire the knowledge about the historical, physical, social and economic evolution of the state. This course intends to deliver information about the state in terms of its programmes, policies and different environment problems which the state faces from time to time. This course will also enable the students to learn about the various prospects in the development of the state in various fields.

Course objectives:

- To understand the emergence and stages of development of Himachal Pradesh
- To apprehend the criteria for regionalization of Himachal Pradesh
- To comprehend the physical and socio-economic/ cultural setting of the state
- To analyze the problems and prospects of Himachal Pradesh

Course learning outcomes:

- Describing the emergence of Himachal Pradesh from pre-independence to modern era
- Classification of the regions of Himachal Pradesh
- Understanding the physical, socio-cultural and economic setting of Himachal Pradesh
- Appraising and analyzing the prospects of development in different sectors of Himachal Pradesh

UNIT-I

Emergence of Himachal Pradesh, Pre Independence Period, Independence to period of Re-organisation (1947-1966) Modern Himachal Pradesh

UNIT-II

Physical Setting: Regions of Himachal Pradesh: Criteria for Regionalisation, Relief, Drainage, Climate, Natural Vegetation

UNIT-III

Cultural Setting: Population: Distribution, Density, Sex Ratio, Literacy and Urbanisation, Agriculture: Crops and Cropping Pattern, Horticulture: Significance, Horticulture zones, Major Fruits: Area and Production

UNIT-IV

Socio-Economic Development: Health: Spatio-Temporal Development of health Sector, Education: Distribution and development, Hydro Power Generation: Potentials, Development, Achievements. Tourism: Different types of Tourism, Destinations, Problems & Prospects: Physical, Economic and Social

Instructions for paper setter and students:

- **Maximum Marks:** Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment test will also be 40% to be obtained separately.
- **Distribution of Marks:** 100 marks for the course would be divided as follows:
 - a. Written examination 70 marks (Pass Marks = 28)
 - b. Internal assessment 30 marks (Pass Marks = 12)

- **Duration of Examination:** Written examination would be of 3 hours duration and would be conducted in the university. The question paper for the written examination shall be set by the external examiner as per the university norms.
- **Distribution of IA Marks:** Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (25 marks). The marks in the classroom attendance would be given in the following manner: (upto 75% : Nil; 75 - 80% : 1; 81-85% : 2; 86-90% : 3; 91-95%: 4 and above 95%: 5). The classroom performance of the students would be assessed by the course teacher on the basis of performance in class room test(s)/ seminar(s)/ class room assignment(s), declamation etc. as per the choice of the course teacher.
- **Pattern of Question Paper:** The paper would be set from the syllabus covering the full content. The question paper in this course will be divided into two parts. **Part-1** will be compulsory and consist of **10** short answer type questions covering full syllabus and carrying **3** marks each. **Part-II** will consist of **8** descriptive (long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt **4** questions selecting one from each unit. Each question carries **10** marks.

Books Recommended:

Ahmad, Enayat (1991) Geography of the Himalaya, Kalyani Publisher, Ludhiana & New Delhi.
 Joshi, K.L (1984) Geography of Himachal Pradesh, National Book Trust of India, New Delhi.
 Jreat, Manoj (2006) Geography of Himachal Pradesh, Indus Publishing Company, New Delhi.
 Singh, R.L. (1992) India, A Regional Geography, National Geographical Society of India, Varanasi.
 Spate, O.H.K and Learmonth, A.T.A. (1960) India & Pakistan. A General and Regional Geography, Methuen and Company
 State of Environment Report- Himachal Pradesh (2000), State Council for Science, Technology & Environment, Kasumpti, Shimla.

Course- GEOG.301
REGIONAL PLANNING

Max. Marks: 100

Course description:

A region is an area on Earth's surface marked by a degree of formal, functional, or perceptual homogeneity of some phenomenon. Planning means looking ahead and chalking out future courses of action to be followed. It is a preparatory step and systematic activity which determines when, how, and who is going to perform a specific job. In this course students will learn about the basic concepts related to regional planning and its historical development, role of geography in regional planning, regions for planning, surveys and methods for planning elaborately. The course will also acquaint the students about regional planning in India.

Course objectives:

- To explain the place of Geography in Regional Planning
- To enlighten students about regions, its different elements and types for all practical purposes
- To make students understand the need and importance of planning regions

Course learning outcomes:

- Understanding the place of Geography in Regional Planning
- Cognizance of regions, its elements and types for all practical purposes
- Knowledge of evolution and latest planning structure in India

UNIT-I

Basic Concepts and Historical Development: Regional Planning: Concept, Nature and scope, Aims and objectives Rationale of Regional Planning, Principles of Regional Planning Historical Development: Regional Planning in the Developed World Regional Planning in Less Developed World

UNIT-II

Geography and Regional Planning: Background and Philosophical Base. Role of Geography in Regional Planning. Methodology: Design Method, Regional Method. Techniques of Regional Planning: Analytical technique, Procedural techniques

UNIT-III

Regions for Planning: Concept of Regions: Delineation and variables. Types of Regions, Planning Region: Concept and Characteristics Need and Importance of Planning Region. Principle, Criterion and Method for Planning Region. Planning Regions of India: Detailed Study of Planning Regions given by C.S. Chandrasekhara. Problems and Prospects of Regional Planning in India.

UNIT-IV

Surveys and Methods for Planning: Concept and Functions of Surveys. Types of surveys: Regional and Diagnostic survey. Role of Geospatial Technology in planning Environment Impact Assessment

Instructions for paper setter and students:

- **Maximum Marks:** Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment test will also be 40% to be obtained separately.
- **Distribution of Marks:** 100 marks for the course would be divided as follows:
 - a. Written examination 70 marks (Pass Marks = 28)

b. Internal assessment 30 marks (Pass Marks = 12)

- **Duration of Examination:** Written examination would be of 3 hours duration and would be conducted in the university. The question paper for the written examination shall be set by the external examiner as per the university norms.
- **Distribution of IA Marks:** Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (25 marks). The marks in the classroom attendance would be given in the following manner: (upto 75% : Nil; 75 - 80% : 1; 81-85% : 2; 86-90% : 3; 91-95%: 4 and above 95%: 5). The classroom performance of the students would be assessed by the course teacher on the basis of performance in class room test(s)/ seminar(s)/ class room assignment(s), declamation etc. as per the choice of the course teacher.
- **Pattern of Question Paper:** The paper would be set from the syllabus covering the full content. The question paper in this course will be divided into two parts. **Part-I** will be compulsory and consist of **10** short answer type questions covering full syllabus and carrying **3** marks each. **Part-II** will consist of **8** descriptive (long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt **4** questions selecting one from each unit. Each question carries **10** marks.

Books Recommended:

- Abler, R.et.al.: Spatial Organisation: The Geographer's View of the World, Prentice Hall, Englewood Cliffs, N.J., 1971.
- Chandna, R.C. 2010. Regional Planning- A Comprehensive Text, Ludhiana: Kalyani Publishers.
- Choreley, R.J. and Haggett, P.: Models in Geography, Methuen, London, 1967. Christaller, W. Central Places in Southern Germany, Translated by C.W. Baskin, PrenticeHall, Englewood Cliff, New Jersey, 1966.
- Friedmann, J. and Alonso, W., Regional Development Policy- A Case Study of Venezuela, M.I.T. Press Cambridge, Mass, 1966.
- Friedmann, J. and Alonso, W.: Regional Development and Planning- A Reader, M.I.T. press, Cambridge, Mass, 1967.
- Glikson, Arthur: Regional Planning and Development, Netherlands Universities foundation for International Co-operation, London, 1955.
- Gosal, G.S. and Krishan, G.: Regional Disparities in Levels of Socio-Economic Development in Punjab, Vishal Publications, Kurukshetra, 1984.
- Government of India, Planning Commission: Third Five Year Plan, Chapter on Regional Imbalances in Development, New Delhi, 1961.
- Indian Council of Social Science Research: Survey of Research in Geography, Popular Prakashn, Bombay, 1992.
- Kundu, A. and Raza, Moonis: Indian Economy- The Regional Dimension, Spectrum Publishers, new Delhi, 1982.
- Losch, A.: The Economics of location, University Press, Yale, New Haven, 1954.
- Misra, R.P.: Regional Planning: Concepts, Techniques and Policies, University of Mysore, Mysore, 1969.
- Misra, R.P. and Others (editors): Regional Development Planning in India- A Strategy, Institute of Development Studies, Mysore, 1974.
- Mitra, A.: Levels of Regional Development, Census of India, Vol.I, Part IA (I) and (ii), New Delhi, 1965.
- Nangia Sudesh, Delhi Metropolitan Region Rajesh Publication, Delhi, 1976. Richardson,, H.W.: Regional Economics, Weidenfeld and Nicolson, London, 1969.
- Sundaram, K.V. (ed.): Geography and Planning, Essays in Honour of V.L.S. Prakasa Rao, Concept Publishing Co., New Delhi, 1985.
- Tarlok Singh India's Development Experience, McMillan new Delhi, India, 1974. Raza Moonis (editor) Regional Development Heritage Publishers, Delhi, 1988.
- Misra, R.P. et al. Multi-Level Planning, Heritage Publishers, Delhi, 1980.

Course- GEOG.302
QUANTIATIVE TECHNIQUES

Max. Marks: 100

Course description:

Geography is a spatial science which aims at spatial analysis of phenomena in order to understand differences across space rather than regularities. In this regard the Quantitative methods have been introduced into arena of Geography and it has acted as an integral part of human geography since the quantitative revolution of the 1950s. In this present course the students will come across basic statistical approaches like measures of central tendency, dispersion, correlation and regression.

Course objectives:

- To explain the students about need and use of quantitative techniques in Geography
- To understand the concepts of measures of central tendency in case of spatial and non-spatial data.
- To elucidate the students about concepts of probability and sampling in Geography
- To explain the students about the nature, degree and casual effect of relationship between variables.

Course learning outcomes:

- Determining the need and use of quantitative techniques in Geography
- Understanding and evaluating the measures of central tendency in case of spatial and non-spatial data.
- Acquaintance with probability and sampling in terms of its concept, approaches and laws
- Understanding the nature, degree and casual effect of relationship between variables

UNIT-I

Measures of Central tendency: Mean, median and mode. Measures of Central locations in spatial situation: types of spatial data and scales of measurement, concept of Mean centre, weighted mean centre and median point.

UNIT-II

Measures of dispersion: Mean deviation, standard deviation, coefficient of variation, measures of spatial dispersion along point, line and area distributions.

UNIT-III

Probability: Classical and relative frequency approaches to probability, calculation of probability: Law of addition, law of multiplication. Probability distributions: normal and binomial. Sampling: Basic concept, sampling frame, different sampling designs.

UNIT-IV

Measuring the strength of relationship: Scatter diagram, Spearman's rank correlation, Karl Pearson's product movement correlation coefficient, Regression analysis: Fitting a regression line by semi-averages and least square methods

Instructions for paper setter and students:

- **Maximum Marks:** Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment test will also be 40% to be obtained separately.
- **Distribution of Marks:** 100 marks for the course would be divided as follows:
 - a. Written examination 70 marks (Pass Marks = 28)
 - b. Internal assessment 30 marks (Pass Marks = 12)

- **Duration of Examination:** Written examination would be of 3 hours duration and would be conducted in the university. The question paper for the written examination shall be set by the external examiner as per the university norms.
- **Distribution of IA Marks:** Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (25 marks). The marks in the classroom attendance would be given in the following manner: (upto 75% : Nil; 75 - 80% : 1; 81-85% : 2; 86-90% : 3; 91-95%: 4 and above 95%: 5). The classroom performance of the students would be assessed by the course teacher on the basis of performance in class room test(s)/ seminar(s)/ class room assignment(s), declamation etc. as per the choice of the course teacher.
- **Pattern of Question Paper:** The paper would be set from the syllabus covering the full content. The question paper in this course will be divided into two parts. **Part-1** will be compulsory and consist of **10** short answer type questions covering full syllabus and carrying **3** marks each. **Part-II** will consist of **8** descriptive (long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt **4** questions selecting one from each unit. Each question carries **10** marks.

Books Recommended:

- Cole, John P. and Cuchlaine a. M. King (1968): Quantitative Geography, Techniques and Theories in Geography, John Wiley and Sons Ltd., London.
- Taylor, Peter J. (1977): Quantitative Methods in Geography, An Introduction to Spatial Analysis. HoughtonMifflin Company, Boston, USA.
- Hammond, R. and PatrikMcCullagh (1974): Quantitative Methods in Geography, Clarendon Press, Oxford.
- Smith, David M. (1975): Patterns in Human Geography, An introduction to Numerical Methods, Crane Russak& Company, Inc NewYork.
- Frank Harry and Steven C. Althoen (1994): Statistics Concepts and Applications, Cambridge University Press.
- Gulot, S.K.: Statistical Methods
- Elhance, D.N. (1972): Fundamentals of Statistics, KitabMahal, Allahabad.

Course- GEOG.303
RESEARCH METHODOLOGY IN GEOGRAPHY

Max. Marks: 100

Course description:

This course introduces students to the key approaches that geographers use to answer important questions and solve complex problems relating to the social world. The subject provides a conceptual and practical overview of the diverse research methods used in geography. It is designed to help Geography students to prepare for their research based project work. Topics covered include the scope of geographical research, research design, sampling design and data collection, data analysis and presentation, project feasibility and management, ethics, oral and written presentation skills.

Course objectives:

- To understand essentials of research in Geography and its significance
- To understand the ways data are collected, classified, tabulated and analyzed
- To makes students aware about fundamentals of sampling techniques in social science research
- To make students aware about the basics of project report writing

Course learning outcomes:

- Acquaintance with basics of research, its typology and conceptualization of research problem
- Understanding of sources and tools of data collection and analysis
- Cognizance of data representation and interoperation
- Understanding essentials of project report writing

UNIT-I

Nature of Geography, Perspectives in Geographic Research, Geographic questions in research, Meaning and Types of Research, Plagiarism and Ethical Issues in Research

UNIT-II

Selection of the broad area of research, Identification and formulation of Research Problem, Writing of the research proposal, Literature search and Review, and research hypothesis.

UNIT-III

Sources and methods of primary Data Collection- Field work, observation Method, the Questionnaire, Sampling- Sampling design, sampling frame, sampling methods and types
Secondary Data: Census, National Sample Survey Organization, Central Statistical Organization, National Family Health Survey.

UNIT-IV

Data Analysis- Qualitative Methods-Phenomenology, ethnography, Grounded Theory, Content analysis, Discourse analysis and historiography, Quantitative Research design, Comparison between quantitative and qualitative research, Data interpretation and report writing in Geography.

Instructions for paper setter and students:

- **Maximum Marks:** Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment test will also be 40% to be obtained separately.
- **Distribution of Marks:** 100 marks for the course would be divided as follows:
 - a. Written examination 70 marks (Pass Marks = 28)
 - b. Internal assessment 30 marks (Pass Marks = 12)
- **Duration of Examination:** Written examination would be of 3 hours duration and would be conducted in the university. The question paper for the written examination shall be set by the external examiner as per the university norms.

- **Distribution of IA Marks:** Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (25 marks). The marks in the classroom attendance would be given in the following manner: (upto 75% : Nil; 75 - 80% : 1; 81-85% : 2; 86-90% : 3; 91-95%: 4 and above 95%: 5). The classroom performance of the students would be assessed by the course teacher on the basis of performance in class room test(s)/ seminar(s)/ class room assignment(s), declamation etc. as per the choice of the course teacher.
- **Pattern of Question Paper:** The paper would be set from the syllabus covering the full content. The question paper in this course will be divided into two parts. **Part-1** will be compulsory and consist of **10** short answer type questions covering full syllabus and carrying **3** marks each. **Part-II** will consist of **8** descriptive (long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt **4** questions selecting one from each unit. Each question carries **10** marks.

Books Recommended:

- Blaxter, L.; Hughes, C. and Tight, M. (1996): How to Research. Open University Press, Buckingham.
- Davis, P.C. (1985): Data Description and Presentation, Oxford, London.
- Dikshit, R. D. (2003): The Art and Science of Geography: Integrated Readings. Prentice-Hall of India, New Delhi.
- Dorling, D. and Simpson, L. (eds.) (1999): Statistics in Society. Edward Arnold, London.
- Fisher, P. and Unwin, D., (eds.) (2002): Virtual Reality in Geography. Taylor and Francis, London.
- Flowerdew, R. and Martin, David. (2005): Methods in Human Geography: A Guide for Students Doing a Research Project, Second Edition, Routledge, USA.
- Gregory, D., Johnston, R., Pratt, G., Watts, M. and Whatmore, S. (2009): The Dictionary of Human Geography, Wiley-Blackwell, Singapore
- Hay, I. (ed.) (2000): Qualitative Research Methods in Human Geography. Oxford University Press, New York.
- Kitchin, R. and Tate, N., (2001): Conducting Research into Human Geography. Theory, Methodology and Practice. Prentice-Hall, London.
- Krishan, G. and Singh, N., (2020): Researching Geography- The Indian Context, Second Edition, Routledge, London and New York.
- Kothari, C. R. (2008): Research Methodology, Methods & Techniques, New Age International Publisher, New Delhi.
- Limb, M. (2001): Qualitative Methodologies for Geographers. Issue and Debates. Edward Arnold, London.
- Mishra, H.N. & Singh, V.P. (2002): Research Methodology in Geography, Rawat Publications, Jaipur.
- Misra, R.P. (1985): Research Methodology, Concept Publishing Co., New Delhi.
- Stoddart, R.H. (1982): Field, Techniques and Research Methods in Geography, Kendall Hunt, Dubuque.
- Tandon, B.C. (1997): Research Methodology in Social Sciences, Chaitanya Pub., Allahabad.
- Warf, B. (Ed) (2006): Encyclopedia of Human Geography, SAGE Publications, London.

Course- GEOG.304
GEOGRAPHICAL INFORMATION SYSTEM (Practical)

Max. Marks: 100

Course description:

A geographic information system (GIS) is a system designed to capture, store, manipulate, analyze, manage, and present all types of geographical data. GIS can be used as tool in both problem solving and decision making processes, as well as for visualization of data in a spatial environment. In today's time use of GIS has become part and parcel of our life. Thus this course intends to expose students about the use and need of GIS and the build their theoretical base.

Course objectives:

- To describe, explain and demonstrate about GIS
- To make students understand and demonstrate about Spatial referencing systems and spatial data analysis
- To describe and illustrate NSDI, Metadata and spatial data analysis techniques Explain
- To provide hands on training on GIS packages

Course learning outcomes:

- Understanding the concept and components of GIS
- Knowledge about classification of data types
- Understanding and demonstration of spatial referencing systems
- Working exposure on spatial data handling problems

UNIT-I

Geographical Information Systems (GIS): Definitions, Sub-systems and components of GIS, History of GIS, Approaches to the study of GIS: GIS as an Academic Discipline, GIS as a branch of Information Technology and GIS as a Spatial Data Institution and its societal implications, Major application areas of GIS.

UNIT-II

GIS data types: Spatial and attribute data, Spatial data models-Raster and vector, Raster data format- tessellated data structure, Vector data formats-topologic data structure and CAD data structure, Vector and Raster-advantages and disadvantages, Spatial data relationships-topology in GIS.

UNIT-III

Georeferencing, geoid and ellipsoid, global and local datum. Sources of Spatial and Non-spatial data, data input techniques, Errors in GIS, Spatial data analysis and global positioning system.

UNIT-IV

GIS Issues: Interoperability and open GIS, Spatial data warehouses and metadata, National geospatial data infrastructure and Indian initiatives, Internet GIS and issues in the development of Internet GIS.

Instructions for paper setter and students:

Maximum Marks: Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in Record book, Viva-voce and Internal assessment test will also be 40% to be obtained separately in each component.

Distribution of Marks: In the practical paper, the marks would be divided as follows:

(a) Written examination	40 marks (Pass Marks = 16)
(b) Record book	20 marks (Pass Marks = 8)
(c) Viva -Voce	10 marks (Pass Marks = 4)
(d) Internal assessment	30 marks (Pass Marks = 12)

Duration of Examination: Written examination would be of 3 hours duration and would be conducted in the university. The question paper for the written examination shall be set by the external examiner as per the university norms.

Distribution of IA Marks: Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (25 marks). The marks in the classroom attendance would be given in the following manner: (upto 75% : Nil; 75 - 80% : 1; 81-85% : 2; 86-90% : 3; 91-95%: 4 and above 95%: 5). The classroom performance of the students would be assessed by the course teacher on the basis of performance in class room test(s)/ seminar(s)/ class room assignment(s), declamation etc. as per the choice of the course teacher.

Pattern of Question Paper: The paper would be set from the syllabus covering the full content. The question paper for the written examination shall be made by the external examiner in assistance with the internal examiner (who generally would be the course teacher). The question paper in this course will be divided into three parts. **Part-I** will consist of 10 multiple choice type/ true or false/ fill in the blanks type questions carrying 1 mark each. **Part - II** will consist of 5 short answer type questions of 2 marks each. **Part- III** will consist of 8 choice based descriptive (long answer type) questions each from all units and carrying 5 marks each. Students will have to answer 4 questions selecting 1 from each unit.

External examiner: External examiner would be appointed by the Vice-chancellor out of a panel of five university teachers supplied by the Department Chairperson in consultation with the course teacher.

Evaluation of Record book: Record book would be evaluated by the external examiner.

Viva- voce: Viva- voce would be conducted by the external examiner and would pertain to the complete contents of the syllabus.

Evaluation of Answer books: Answer books would be evaluated jointly by external and internal examiners on the day of examination.

Books Recommended:

C.P. Lo and Albert K.W. Yeung (2002): Concepts and Techniques of Geographic Information System, Prentice-Hall of India Private Limited, New Delhi.

Ian-Haybood et.al. (2002): An Introduction to Geographical Information System.

Kang-tsung Chang (2002): Geographic Information System, Tata-McGraw Hill, New Delhi.

Keith C. Clarke (1997): Getting Started with Geographic Information Systems, Prentice Hall, New Jersey.

Michael N. Demers (2000): Fundamentals of Geographic information Systems, John Wiley and Sons, Inc, New York.

Paul, A. Longley et.al. (): Geographic Information Systems and Science, John Wiley and Sons Ltd. New York.

Peter A. Burrough and Rachael A. McDonnell (1998): Principles of Geographic Information Systems, Oxford University Press

Course- GEOG.305
CULTURAL GEOGRAPHY

Max. Marks: 100

Course description:

Cultural geography provides the sense of culture and geographic epistemologies for analysing culture. It provides the understanding that how culture play a key role in relationship between man and environment. It will provide clear understanding about cultural landscape, origin of race, innovation and agricultural practices and also able to explain how do culture impact on industrial and technological revolution. It develops analytical capability to understand contemporary issues of culture and its relevance in society. Cultural geography helps to understand the cultural environment and various cultural regions of the world.

Course objectives:

- To enhance the understanding of culture using key concepts of geography
- To develop analytical skills to decode culture
- To provide critical understanding of the contemporary issues and the politics in cultural aspects
- To foster a comprehensive understanding of culture as a concept in Geography

Course learning outcomes:

- Understanding of the relationship between geography and culture
- Acquaintance of cultural geographic processes and the global distribution of cultural mosaics
- Analytical capability to understand contemporary issues of culture
- Understanding about the cultural geography of the Himalayas and its adjoining regions

UNIT-I

Cultural Geography: meaning, nature, Components of culture, cultural traits, significance and framework of cultural geography. Major themes of cultural geography

The evolutionary approach in cultural geography. The evolution of cultural Geography- The contribution of Otto Schluter and Carl Sauer.

UNIT-II

Linguistic cultural regions, linguistic diffusion, linguistic ecology, linguistic cultural integration, and linguistic landscapes.

Religious cultural regions, major religions of the world, religious diffusion, religious ecology, cultural integration in religion, religious landscapes.

UNIT-III

Concept of folk Geography, folk culture region, folk culture diffusion, folk architecture in the cultural landscape, house types.

Concept of Popular cultural Regions, Popular cultural diffusion, popular cultural ecology, Landscapes in popular culture.

UNIT-IV

Cultural Realms and Ecology; Concept of Cultural Hearths; Major Cultural Realms and Regions of the World.

Behavioral geography as a sub-field of cultural geography. A general account of cultural geography of the Himalayas. Humankind as a geomorphic and biotic agent.

Instructions for paper setter and students:

- **Maximum Marks:** Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment test will also be 40% to be obtained separately.

- **Distribution of Marks:** 100 marks for the course would be divided as follows:
 - a. Written examination 70 marks (Pass Marks = 28)
 - b. Internal assessment 30 marks (Pass Marks = 12)
- **Duration of Examination:** Written examination would be of 3 hours duration and would be conducted in the university. The question paper for the written examination shall be set by the external examiner as per the university norms.
- **Distribution of IA Marks:** Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (25 marks). The marks in the classroom attendance would be given in the following manner: (upto 75% : Nil; 75 - 80% : 1; 81-85% : 2; 86-90% : 3; 91-95%: 4 and above 95%: 5). The classroom performance of the students would be assessed by the course teacher on the basis of performance in class room test(s)/ seminar(s)/ class room assignment(s), declamation etc. as per the choice of the course teacher.
- **Pattern of Question Paper:** The paper would be set from the syllabus covering the full content. The question paper in this course will be divided into two parts. **Part-I** will be compulsory and consist of **10** short answer type questions covering full syllabus and carrying **3** marks each. **Part-II** will consist of **8** descriptive (long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt **4** questions selecting one from each unit. Each question carries **10** marks.

Books Recommended:

- Jackson, W.A.D. (1986): The shaping of Our World, New York: John Wiley and Sons.
- Jorden, T.G. and Rowntree, L. (1990): The Human Mosaic, New York: Harper and Row.
- Karan, P.P. (1984): "A Cultural Geography of Himalaya", in ed. Eidt, R.C. Singh, R.B. and Singh, K.N. ed., Man Culture and Settlement, New Delhi: Kalyani Publishers, pp.24-30.
- Mitra, Asok, Mukherjee S. and Bose, R. (1980): Indian Cities, New Delhi: Abhinay Publications.
- Rubenstein, J.M. (1989): The Cultural Landscape, Columbus: Merrill Pub. Com.
- Human mosaic: A cultural approach to Human Geoghrapy12th eds. (2010): Terry G. J. Bychkov
- Singh,R.L. (1993): India: A Regional Geography, Varanasi: National Geographical Society of India.
- Singh, R.L. and Singh, K.N. (1975): Readings in Rural Settlement Geography, Varanasi: NGS.I.
- Spencer, J.E. and Thomas, W.L. (1978): Introduction to Cultural Geography, New York: John Wiley and Sons.
- Stoddart, R.H. Wishart, D.J. and Blouct, B.W. (1989): Human Geography: People, Places andCultures, New Jersey: Prentice Hall.
- Wagner, P.L. and Mikesell, M.W. (1962): Readings in Cultural Geography, Chicago: The University of Chicago Press.

Course- GEOG.306
AGRICULTURAL GEOGRAPHY

Max. Marks: 100

Course description:

Agricultural Geography is the branch of economic geography. It deals with the territorial distribution of agriculture and the processes governing the spatial distribution. In the present course, students will learn about the basics of agricultural geography and various concepts related to it. Since, agriculture is the main occupation of human beings which provides food and in turn sustains life on earth, hence it becomes important to introduce this course to the students.

Course objectives:

- To familiarize the students with the basic concepts in agricultural geography
- To learn about important concepts like cropping intensity, crop-concentration, crop pattern, crop combinations, diversification and commercialization of agriculture
- To acquaint the students about agricultural regionalization, land use and land capability classifications and classification of agricultural types

Course learning outcome:

- Cognizance with the basic concepts in agricultural geography
- Knowledge about important concepts like cropping intensity, crop-concentration, crop pattern, crop combinations, diversification and commercialization of agriculture
- Learning about agricultural regionalization, land use and land capability classifications and classification of agricultural types
- .

Unit-I

Definition, Nature, subject matter and Significance of Agricultural Geography Approaches: (i) commodity, (ii) systematic, (iii) regional, Determinants: (i) physical, (ii) economic, (iii) socio-cultural

Unit-II

Agricultural Types: Agricultural types and their world distribution, Subsistence Agriculture, Commercial farming, Plantation agriculture, mixed agriculture, State, Collective and Cooperative farming, Spatial patterns of major commodities in each type

Unit-III

Selected agricultural concepts and their measurement, Intensity of cropping, Degree of commercialization, Diversification and specialization, Efficiency and productivity. Land-use survey and classification

Unit-IV

A critical evaluation of the classification of world agriculture with reference to Whittlesey, New perspectives in Agriculture: Contract Farming, Agri-business and Food Security

Instructions for paper setter and students:

- **Maximum Marks:** Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment test will also be 40% to be obtained separately.
- **Distribution of Marks:** 100 marks for the course would be divided as follows:
 - a. Written examination 70 marks (Pass Marks = 28)
 - b. Internal assessment 30 marks (Pass Marks = 12)

- **Duration of Examination:** Written examination would be of 3 hours duration and would be conducted in the university. The question paper for the written examination shall be set by the external examiner as per the university norms.
- **Distribution of IA Marks:** Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (25 marks). The marks in the classroom attendance would be given in the following manner: (upto 75% : Nil; 75 - 80% : 1; 81-85% : 2; 86-90% : 3; 91-95%: 4 and above 95%: 5). The classroom performance of the students would be assessed by the course teacher on the basis of performance in class room test(s)/ seminar(s)/ class room assignment(s), declamation etc. as per the choice of the course teacher.
- **Pattern of Question Paper:** The paper would be set from the syllabus covering the full content. The question paper in this course will be divided into two parts. **Part-1** will be compulsory and consist of **10** short answer type questions covering full syllabus and carrying **3** marks each. **Part-II** will consist of **8** descriptive (long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt **4** questions selecting one from each unit. Each question carries **10** marks.

Books Recommended:

- Husain, M.: Systematic Agricultural Geography, Rawat Publications, Jaipur, 1996 & 2004.
 Ilbery, B. W.: Agricultural Geography, Oxford University Press, Oxford, 1985.
 Pacione, Michael: Progress in Agricultural Geography, Routledge Revivals, 2013.
 Singh, J. and Dhillon, S.S.: Agricultural Geography, Tata McGraw Hill, New Delhi, 1984.
 Singh, Jasbir: Agricultural Geography, 3 rd edition, Oxford, New Delhi, 2003.
 Symons, L.: Agricultural Geography, G. Bells, London, 1967.
 Gobind, N. (1986) Regional perspective in agriculture, concept, New Delhi
 Morgan, Agricultural Geography
 Gregor, Howard, F., Geography of Agriculture: Themes in Research
 Randhawa, M.S., Indian Agriculture.
 Page, W.G., Origins of Agriculture
 BireswarBanergee (ed), Agricultural Geography.
 Singh, B.B., KrishiBhoogol (in Hindi).
 Tiwari, R.C. & Singh, B.N., KrishiBhoogol, PrayagPustakBhawan, Allahabad

Course- GEOG.307
POLITICAL GEOGRAPHY

Max. Marks: 100

Course description:

Political geography is a subfield within human geography that examines the connection between politics and geography. Political geography concerns how politics is geographical and geography is political? The main theoretical premise of the course is that the current world order based on nation-states and the ideology of nationalism has had a profound impact on the definition of what is political and on the scope for changing political ideas, institutions and organization. It deals with the nature, scope and dimensions of political geography. It covers the broader themes of geopolitical traditions along with geography of imperialism and electoral issues.

Course Objectives:

- To learn key concepts of political geography and geopolitical traditions
- To understand the changing nature of modern state and related challenges
- To learn about the geography of imperialism and electoral issues

Course Learning Outcomes:

- Acquaintance with fundamental concepts of political geography
- Understanding geopolitical traditions and global politics
- Cognizance of geography of imperialism and electoral concepts

UNIT-I

Nature, scope and dimensions of Political Geography; Approaches to the Study of Political Geography, Perspectives: Political-Economy, Power and Politics in World Economy, World Systems, Place, and Globalisation.

UNIT-II

Power-Political Heritage: Mackinder's heartland theory, German geopolitics 1924-1941, Containment and deterrence: the US world model
Geopolitical World-Orders: Cycles of international politics, the cold war as a geopolitical world order, Forms of Governance: Unitary and Federal

UNIT-III

Geography of Imperialism: The rise and fall of the classical theory, A world-systems interpretation of imperialism, Formal Imperialism: The creation of empires, Informal Imperialism: Dominance without empire

UNIT-IV

Geography and electoral studies: Geography of voting; Geographical influences on voting; geographical influences on representation;
Electoral Abuses: Malapportionment, Boundary Discrimination, Gerrymandering. Electoral Reforms: The Problem of Alternative Geographic; the problems of Alternative Electoral Systems.

Instructions for paper setter and students:

- **Maximum Marks:** Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment test will also be 40% to be obtained separately.
- **Distribution of Marks:** 100 marks for the course would be divided as follows:
 - a. Written examination 70 marks (Pass Marks = 28)

b. Internal assessment 30 marks (Pass Marks = 12)

- **Duration of Examination:** Written examination would be of 3 hours duration and would be conducted in the university. The question paper for the written examination shall be set by the external examiner as per the university norms.
- **Distribution of IA Marks:** Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (25 marks). The marks in the classroom attendance would be given in the following manner: (upto 75% : Nil; 75 - 80% : 1; 81-85% : 2; 86-90% : 3; 91-95%: 4 and above 95%: 5). The classroom performance of the students would be assessed by the course teacher on the basis of performance in class room test(s)/ seminar(s)/ class room assignment(s), declamation etc. as per the choice of the course teacher.
- **Pattern of Question Paper:** The paper would be set from the syllabus covering the full content. The question paper in this course will be divided into two parts. **Part-1** will be compulsory and consist of **10** short answer type questions covering full syllabus and carrying **3** marks each. **Part-II** will consist of **8** descriptive (long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt **4** questions selecting one from each unit. Each question carries **10** marks.

Books Recommended:

- Adhikari, S. (2005): Political Geography of India, Sharada Pustak Bhawan, Allahabad
- Busteed, M.A. (1980): Developments in Political Geography, London.
- Carlson, L. (1971): Geography and World Politics, Prentice Hall, New Jersey.
- Chauhan, P.R. (1996): Rajnitik Bhoogol, Vasundhara Prakashan, Gorakhpur.
- Cox, K. (2002): Political Geography: Territory, State and Society, Wiley-Blackwell
- Dikshit, R.D. (1989): Political Geography: A Contemporary Perspective, Tata Mc Graw Hill, New Delhi.
- Dikshit, S.K. (2007): Rajnitik Bhoogol Avam Bhurajniti, Vishwavidyalaya Prakashan, Varanasi.
- Dwivedi, R.L. (1980): Political Geography, Chaitanya Publishing House, Allahabad.
- Glassner, M.L. & Blij, H. J. de (1968): Systematic Political Geography, John Wiley, New York.
- John, R. S. (2002): An introduction to Political Geography, Taylor & Francis.
- Johnston, R.J. (1982): Geography and the State, Mac Millan, London.
- Kasperson, R.E. & Minghi, J.V. (1971): Structure of Political Geography, London.
- Muir, P. (1981): Modern Political Geography, Macmillan London.
- Pounds, N. J.G. (1977): Political Geography, Mc Graw Hill, New York.
- Sinha, Manorama (1995): Political Geography, Horizon Publication, Allahabad.
- Sukhwai, B.L. (1985): Modern Political Geography of India, Sterling Publication, New Delhi.
- Taylor, P. (1985): Political Geography, Longman, London.
- Taylor, P.J. and Johnston, R.J. (1979): Geography of Elections, Penguin Books Ltd., Harmondsworth.

Course- GEOG.308
**URBAN DISASTER RISK MITIGATION AND CLIMATE RESILIENT
DEVELOPMENT**

Max. Marks: 100

The course curriculum of this paper will remain the same as designed by UGC MOOCs and will be offered from the academic session implementing NEP – 2020 based syllabus in the University.

Course- GEOG.401
GEOGRAPHY OF INDIA

Max. Marks: 100

Course description:

India is a vast country and is known for its diversity in terms of its physical, social, cultural and economic aspects. As at masters level it is desired from a student to have developed basic understanding about India, therefore this course is designed to enable students to further broaden and deepen their understanding about India.

Course objectives:

- To obtain in-depth knowledge about physical aspects of India and its regional schemes
- To understand the demography of India and its features
- To explain the features of agriculture and industrial regions in India
- To make students understand about network of transport and patterns of foreign trade in India

Course learning outcomes:

- Understanding the basics behind the regionalization of India and its physical divisions
- Knowledge of demographic aspects of India and the regional variations
- Identification of the agricultural and industrial regions of India
- Understanding about the development of transport network in India

UNIT-I

Physical Geography: Introduction: Physiographic Regions; Drainage Systems; Indian Monsoon; Natural Vegetation and Soil.

UNIT-II

Demography: Population Growth and Distribution; Sex-Ratio and Literacy Rate; Urbanization

UNIT-III

Regional Geography; Regional schemes of LD Stamp, O.H. K.Spate, R.L. Singh; Himachal Region

UNIT-IV

Economic Geography of India: Agriculture: Salient Features, Problems and Solutions of Indian Agriculture; Green Revolution; Industries: New Industrial Policy and Industrial Regions. Development and Patterns of Transport Networks: Railways, Roadways and Waterways; Indian Foreign Trade.

Instructions for paper setter and students:

- **Maximum Marks:** Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment test will also be 40% to be obtained separately.
- **Distribution of Marks:** 100 marks for the course would be divided as follows:
 - a. Written examination 70 marks (Pass Marks = 28)
 - b. Internal assessment 30 marks (Pass Marks = 12)
- **Duration of Examination:** Written examination would be of 3 hours duration and would be conducted in the university. The question paper for the written examination shall be set by the external examiner as per the university norms.
- **Distribution of IA Marks:** Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (25 marks). The marks in the classroom attendance would be given in the following manner: (upto 75% : Nil; 75 - 80% : 1; 81-85% : 2; 86-90% : 3; 91-95% : 4 and above 95% : 5). The classroom performance of the students would be assessed by the course teacher on the basis of performance in class room test(s)/ seminar(s)/ class room assignment(s), declamation etc. as per the choice of the course teacher.

- **Pattern of Question Paper:** The paper would be set from the syllabus covering the full content. The question paper in this course will be divided into two parts. **Part-1** will be compulsory and consist of **10** short answer type questions covering full syllabus and carrying **3** marks each. **Part-II** will consist of **8** descriptive (long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt **4** questions selecting one from each unit. Each question carries **10** marks.

Books Recommended:

- Bose Ashish. (2010). India's Quest for Population Stabilisation, National Book Trust, New Delhi.
- Tiwari, R.C. (2010). Geography of India. PrayagPustakBhawan, Allahabad.
- Gautam, A. (2009). Advanced Geography of India (Second Edition). SharadaPustakBhawan, Allahabad.
- Husain, M. (2008). Geography of India. Tata McGraw-Hill, New Delhi.
- Bhalla, G. S. (2007). Indian Agriculture Since Independence, National Book Trust, New Delhi
- Khullar, D.R. (2006). India: A Comprehensive Geography. Kalyani Pub., New Delhi.
- Goh Cheng Leong and Gillian C. Morgan. (1999). Human and Economic Geography. Oxford University Press.
- Dreze, J. & Sen A. (ed.) (1996). India's Economic Development and Social Opportunity. Oxford University Press, New Delhi.
- Tirtha R., Krishan, G. (1996). Emerging India. Rawat, Jaipur.
- Deshpande, C.D. (1992). India: A Regional Interpretation, ICSSR. Northern Book Centre, New Delhi.
- Robinson, F. (1989). The Cambridge Encyclopedia of India, Pakistan, Bangladesh, Sri Lanka, Nepal, Bhutan & Maldives. Cambridge University Press, London.
- Centre for Science & Environment (1988). State of India's, Environment. New Delhi.
- Kundu A. and Raza, M. (1982). Indian Economy: The Regional Dimension. Spectrum Publishers, New Delhi.
- Singh R.L. (ed.) (1971). India-A Regional Geography, National Geographical Society of India. Varanasi.
- Spate, O.H.K., Learmonth, A.T.A. (1967). India and Pakistan. Methuen, London.

Course- GEOG.402
BIOGEOGRAPHY

Max. Marks: 100

Course description:

Biogeography has a long and distinguished history, and one interwoven with that of ecology and evolutionary biology. Traditionally viewed as the study of geographic distributions, modern biogeography now explores a great diversity of patterns in the geographic variation of nature from physiological, morphological and genetic variation among individuals. Given its interdisciplinary and integrative nature, biogeography is now broadly recognized as a unifying field that provides a holistic understanding of the relationships between the earth and its biota. The present course paper discusses the concepts and properties of ecology and mountain ecosystems. It covers the broader themes relating to biomes, biodiversity, plants & animal kingdoms and environmental management.

Course objectives:

- To understand the concept of biogeography and its importance
- To analyse the significance of biodiversity and causes of biodiversity loss
- To learn about the characteristics and evolution of living things in ecosystem
- To describe the linkages of plants and animals and its relation to human beings

Course learning outcomes:

- Acquaintance with biogeography and major approaches to bio-geographical studies
- Understanding the concept, components, types and functioning of an ecosystem
- Understanding about importance of biodiversity and their global concern
- Knowledge about extinction of species and their global concern

UNIT-I

Biogeography: Concept, field and significance and approaches to biogeographical studies

Ecosystem: Concept, properties, components, types and functioning.

Mountain Ecosystems: Mountain ecology, risks and vulnerabilities

UNIT-II

Soil system: Definition, function, components and characteristics; Soil Profiles.

Biomes: Meaning and major forest biomes of the world.

Biodiversity: Meaning, types and importance of biodiversity, Extinctions of species and their global concern, Biodiversity and conservation, Biodiversity hot spots.

UNIT-III

The characteristics and evolution of living things: Lamarck and Darwin views of evolution, Factors affecting distribution of organisms,

General characteristics of plants and animals. Plant association and succession. Taxonomic, Climatic, and Raunkiaer's classification of plants.

UNIT-IV

Environmental Management: meaning, importance, Environmental governance and Management;

Environmental policies and legislations: Conservation Act of 1972, Environmental Protection Act, 1986, Biological Diversity Act, 2002. Global Environmental problems and Sustainable Development.

Instructions for paper setter and students:

- **Maximum Marks:** Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment test will also be 40% to be obtained separately.

- **Distribution of Marks:** 100 marks for the course would be divided as follows:
 - a. Written examination 70 marks (Pass Marks = 28)
 - b. Internal assessment 30 marks (Pass Marks = 12)
- **Duration of Examination:** Written examination would be of 3 hours duration and would be conducted in the university. The question paper for the written examination shall be set by the external examiner as per the university norms.
- **Distribution of IA Marks:** Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (25 marks). The marks in the classroom attendance would be given in the following manner: (upto 75% : Nil; 75 - 80% : 1; 81-85% : 2; 86-90% : 3; 91-95%: 4 and above 95%: 5). The classroom performance of the students would be assessed by the course teacher on the basis of performance in class room test(s)/ seminar(s)/ class room assignment(s), declamation etc. as per the choice of the course teacher.
- **Pattern of Question Paper:** The paper would be set from the syllabus covering the full content. The question paper in this course will be divided into two parts. **Part-I** will be compulsory and consist of **10** short answer type questions covering full syllabus and carrying **3** marks each. **Part-II** will consist of **8** descriptive (long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt **4** questions selecting one from each unit. Each question carries **10** marks.

Books Recommended:

- Chapman, J.L. and Reiss, M.J. (1997) Ecology, London: Cambridge University Press.
- Cox, C.D. and Moore, P.D. (1993) Biogeography: An Ecological and Evolutionary Approach, Blackwell.
- Hoyt, J.B. (1992) Man and the Earth, USA: Prentice.
- Huggett, R.J. (1998) Fundamental of Biogeography, London: Routledge.
- Illies, J. (1974) Introduction to Zoogeography, London: Macmillan
- Lapedes, D.N. ed. (1974) Encyclopedia of Environment Science, London: McGraw Hill.
- Mathur, H.S. (1988) Essentials of Biogeography, Jaipur: Pointer Publishers.
- Pears, N. (1985) Basic Biogeography, London: Longman.
- Robinson, H. (1978) Biogeography, London: The English Language Book Society.
- Simmon, I.G. (1974) Biogeography, Natural and Cultural, London: Longman.
- Singh, Savindra (1991) Environmental Geography, Allahabad Prayag Pustak Bhawan.

Course- GEOG.403
FIELD WORK AND PROJECT REPORT

Max. Marks: 100

Guidelines for preparing M.A. Project Report

The written presentation of project report has to follow certain guidelines. The project report must be a piece of original research, characterized by either the discovery of new facts or a fresh interpretation of the known facts or theories. The project report is to be satisfactory in its literary presentation.

1. **Credits and Marks:** In Semester 4, students will have to write the project report as a core and skill based course of minimum 45 pages to maximum 70 pages including references and bibliography. The project report shall carry 6 (six) credits including viva-voce. The overall weightage of field work and project report shall carry 100 marks.
2. **Working Partnership:** The students will be given freedom to explore their individual potential along with the provision of co-working environment. Students will be free to work i) individually or ii) in a group of three students or iii) in a group of maximum five students. The group formation will be allowed in consultation with supervisor and permission of HoD. The larger groups will not be allowed.
3. **Field work and Research Topic:** Every student will have to conduct the field work. A joint field survey will be organized by the department with the prior permission of Hon'ble Vice-Chancellor. The students will be asked to prepare the research synopsis of his /her own interest. The research topic shall be based on the field work and decided in consultation with course teacher/supervisor. The research problem should be a relevant issue related to the geography discipline. The research topics either individually or group wise will be approved in the internal Research Degree Committee constituted by the HoD for every post graduate candidate or group.
4. **Project Report Evaluation:** The project report will be evaluated separately by an external examiner (to be appointed by the Vice-Chancellor out of a panel of five experts to be submitted by the Chairperson of the Department). A written report will also be submitted by the external examiner in which the external examiner will clearly mention whether he/she approves the project work for the conduct of viva-voce or not.

If recommended by the external examiner, an open viva-voce examination will be conducted by a committee comprising:

- Head of the department
- External examiner
- Internal examiner-Supervisor of the candidate
- All teachers of the department

Distribution of Marks: The distribution of marks in the project report, thus, will be as below:

	Particulars	Marks
i)	Internal Assessment	30 Marks
ii)	Project Report Evaluation	50 Marks
iii)	Viva-voce	20 Marks
	Total Marks	100

Pass Marks: The pass marks would be 40% in project report evaluation. The pass marks in internal assessment test will also be 40% to be obtained separately. Thus the pass marks would be divided as follows:

- a. Project Report Evaluation and Viva-Voce 70 marks (Pass Marks = 28)
- b. Internal assessment 30 marks (Pass Marks = 12)

5. Components of Project Report: Every Post-Graduate student will have to submit a project report on the compulsory research work carried out by him/her. The project report will have the following components:

1. Title Page
2. Declaration Certificate (Signed by student and supervisor and forwarded by Chairperson of the department)
3. Acknowledgements
4. Abstract (It should be of 2 pages and must have at least 5 key words)
5. Table of Contents
6. List of Tables
7. List of Figures
8. List of Abbreviations
9. Content- the subject matter: The chapters must include the following components) Introduction and Geographical Personality of Study Area ii) Review of literature iii) Material and methods iv) Results and Discussion and v) Summary of Conclusions
10. References/Bibliography
11. Annexures
12. Colour Code of project report (Optional)
13. Revision certificate

Instructions: The following instructions must be followed by the students while preparing the M.A. project report in Geography:

Preliminary Pages: The preliminary pages must include the title page, the declaration certificate, acknowledgements, abstract, table of contents, list of tables, list of figures, list of appendices and list of abbreviations used in the project report. These should be numbered using lower case Roman numerals (i, ii, iii,...).

5.1 Title Page: The title page should be printed exactly in accordance with the sample provided. The date appearing on the title page must be the year in which the project report is submitted.

Instructions for title page

[PROJECT REPORT TITLE HERE] size 20

[PROJECT REPORT SUBMITTED TO HIMACHAL PRADESH
UNIVERSITY IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR
THE AWARD OF THE DEGREE OF]size 14

[M.A. in Geography] size20

(University logo, to be put only after the acceptance of project report)

BY [Name of the candidate] size 18

Supervised By [Name of supervisor] size 18

Department of Geography
Faculty of Social Sciences
Himachal Pradesh University
(NAAC ACCREDITED Status)
Summerhill, Shimla-171005size16

[Year with month] Font size 16

5.2.Declaration Certificate:

CERTIFICATE

I (Name of the Candidate) declare that the project report entitled "TYPE PROJECT REPORT TITLE HERE" submitted for the degree of M.A. in Geography is my original piece of work. The work has been carried out under the able guidance of [Name of the supervisor). I certify that no part of this project report has formed the basis for the award of any degree or fellowship previously. I shall be solely responsible for any dispute or plagiarism issue arising out of the project report, therefore may be placed before the examiner for evaluation.

(Name and signature of candidate)
(Roll No. of the Candidate)

FORWARDED BY

(Name and signature)
(Chairperson)

(Name and signature)
(Supervisor)

5.3. Acknowledgements: Acknowledgments, if any, should be brief and not exceed more than one page. The acknowledgements page must include the name and signature of the candidate at the end.

5.4. Abstract: The abstract is the brief summary of the work. It is expected to be a concise but comprehensive statement on objective of research, methodology followed, research output and theoretical derivations. The abstract should not exceed two (2) pages, it has to be typed single space in the format given as under:

ABSTRACT [Type title of project report here]

Name of student:

University roll number:

Degree for which submitted:

Name of supervisor:

Name of department:

Key words (Five minimum):

Type your abstract here in single space

(Name and signature of student)

(Name and signature of supervisor)

5.5 Table of contents: Except the title page, certificate, acknowledgements and abstract, all other major divisions of the project report should be listed in the table of contents. These divisions and sub-divisions, if any, must agree in wording and style with the text. *List of tables, list of figures, list of appendices and list of abbreviations should be typed separately on a page in the same style as for the text.*

6. Content-the subject matter: It essentially refers to the text of the project report. Here the basic task pertains to division of the main theme into meaningful sub-themes to be dealt within various chapters. An arrangement of this kind on conceptual lines always creates a greater stimulus. This requires rigorous reflection on all possible alternative schemes. The text of the project report may also include certain materials such as tables, illustrations, photographs and statistical formulas.

6.1 Tables: Tables should be self-explanatory, headings and the content shown should be clearly related. Tables less than half a page may be centered on the pages with text above and below. All tables should be numbered with Arabic numerals (1,2,3, ...) consecutively throughout the project report.

6.2. Illustrations: Illustrations used in the project report must appear in all the copies at appropriate places.

6.3. Statistical Formulas: The statistical formula should be carefully done on computer. Complex statistical formula of two or more lines should not be included in text lines, but these should be placed in the proper position in the centre of the page between lines of text.

6.4. Scientific names: Give technical and botanical names of living organisms and agricultural crops in full at the first mention e.g. *Pyrusmallus*. Thereafter, abbreviate them in the text as *P. mallus*.

6.5. Abbreviations: Abbreviations of organizations, departments, weights, measures, calendar and time should be followed as per the internationally accepted norms.

7. References/bibliography

References/bibliography should preferably be classified by the nature of outlet (journal, books, government publications, internet retrievals etc.) in place of making them run alphabetically.

7.1 Reference from a Journal

Kumar, S. and Thakur, B. R. 2020. Infrastructural Development in Churah Tehsil of Himachal Pradesh - A Village Level Analysis. *Transactions*, 42(2): 273-282.

7.2 Reference from a Book

Hillel, D. 1980. Applications of Soil Physics. Academic Press, New York: 385.

Hansen, V.H., Israelsen, O.W. and Stringham, G. 1980. Irrigation Principles and Practices. Wiley and Sons, New York: 417.

7.3 Reference from an Edited Book

Beckinsal, R.P. 1969. River regimes. In Introduction to Physical Hydrology, ed., Chorley, R.D., Methuen and Co. Ltd., London: 176-192.

7.4 Reference from a Technical Report

National Sample Survey Organization (NSSO). 1994. Nutrition intake in India (2004-05). Government of India, New Delhi, Report No. 513:15.

7.5 Reference from a Research Bulletin

Hema Malini, B. 1984. Water balance techniques and their applicability. Indian Geographical Studies, Geographical Research Centre, Patna, Research Bulletin, 22: 48-58.

7.6 Reference from Internet

Jacquemoud, S. and Ustin, S.L. 2008. Modeling leaf optical properties. Photobiological Sciences Online. Environmental Photobiology. [http:// photobiology.info/Jacq_Ustin.html](http://photobiology.info/Jacq_Ustin.html). Accessed on Nov. 12, 2012.

7.7 Reference from Seminar/Symposia Presented Article

Bhardwaj, P.D. 2012. Declining sex ratio in India: a social concern. Presented at 13th APG National Conference, Govt. PG College, Karnal, Oct. 6-7, 2012, Abstract Book: 21

7.8 Reference from a Ph.D. Thesis

Chand, Puran. 2021. Quality of Life in Sangrah Block of Sirmaur District, Himachal Pradesh: a socio-

spatial study. Ph.D. dissertation, Department of Geography, Himachal Pradesh University, Shimla, India: 110.

7.9 Reference from a Newspaper

Ribeiro, J. 2022. Two governments in a fix. *The Tribune*, (10/06/2022).

Note: Students can consult *The Chicago Manual of Style, 16th edition (2010)* for citing other type of sources also.

8. Annexures: Annexures are additional materials that cannot be accommodated within the text but are essential to its context. These should be numbered like chapters, Annexure 1, Annexure 2 etc. Each should be given a title also.

9. Instructions of typing and printing of project report

9.1. Paper quality: The original project report along with the photocopy should be prepared on a high quality white paper of A4 size. All pages must have at least 4 cm margin on the left, 1.5 cm on the right and 2.5 cm on the top and bottom.

9.2 Typing: The project report must be typed on computer. The general text of the manuscript should be typed in 1.5 line space in Times New Roman font size 12 with both sides printing. Except photographs and tables which can be on one side of the paper. The text of the manuscript should be justified.

9.3 Pagination: Title page, certificate of approval, acknowledgements and abstract should be given page number in lower case Roman numerals (i, ii, iii, iv....). For text, Arabic numerals (1, 2, 3, 4...) should be used beginning with the first page of the text and continued throughout the rest of the project report including the references. The page number should be at bottom of the page and positioned at centre.

9.4 Number of copies to be submitted and other requirements: After completion of all the prescribed requirements of the programme, two hard bound/ spiral copies of project report will be submitted by the candidate for evaluation by an external examiner and office record. The candidate should use high quality blue coloured Rexene with golden letters on the front cover and spine of the project report in case of hard copy. A soft copy of approved project report on a CD in a prescribed format approved by the Departmental Council will be submitted in the office of the department for record or uploading on the departmental webpage.

10. Revision of Work, if any: If the project report is not found satisfactory by the external examiner, the candidate will be treated fail. In order to be declared pass and improve the quality of research work the candidate will be given further 1 month to incorporate the suggestions and necessary changes as suggested by the external examiner. The candidate shall have to submit the certificate (Format given as under) stating that changes suggested by the external examiner have been incorporated in the project report. The revised project report will be submitted and the Viva-Voce will be conducted by the in-house Expert committee constituted by the Chairperson. No further extension will be granted to revise the project work at departmental level. However, the candidate may approach the Hon'ble Vice Chancellor to seek time allowance after one month.

11. Colour Code of Project Report (optional): Light blue with golden letters (in case of Hard bound)

12.

[Format for submission of Revised Work-Revision Certificate]

Himachal Pradesh University, Summerhill Shimla-171005

Declaration

I (Name of the Candidate) declare that all the changes suggested by the external examiner in the project report entitled "title of the project report" submitted by me for the award of degree of Master of Arts in Geography, Faculty of Social Sciences have been incorporated in the project report.

Name and signature of the student along with date

Name and signature of the supervisor along with date

Course- GEOG.404
DISASTER RISK REDUCTION AND MANAGEMENT

Max. Marks: 100

Course description:

Disasters have devastating consequences. It affects the everyday life as well as long-term development plans. For many decades the prevailing approach in dealing with disasters was focus on response and recovery, however lately pre-disaster actions to minimize the disaster risks are encouraged. The course introduces Disaster Risk Reduction and Management, focusing on natural disasters. The problem is addressed in a holistic cross-sectoral and cross-disciplinary manner, including all stages of disaster management cycle: mitigation, preparation, response and recovery. This Disaster Risk Reduction and Management (DRRM) course has been designed to provide an in-depth overview of DRRM to humanitarian professionals interested in expanding their knowledge on DRRM. It focuses on resilience theory, adaptation, and transformation in societies impacted by disasters.

Course objectives:

- To introduce students with the concepts of disasters and their characteristics.
- To make them aware about forms, mechanisms and processes of disaster risk reduction mechanism.
- Discuss and propose solutions to complex problems in disaster risk reduction
- To introduce the concepts of disaster vulnerability, risk reduction and resilience

Course learning outcomes:

- The students would be able to understand the fundamentals of disaster and its management.
- The student can address real life vulnerability issues of people.
- Students will be able to comprehend the typology of disaster.
- Comprehend the national and international initiatives for disaster risk reduction

UNIT – I

Introduction to Disaster: Definition and Concepts; hazard, risk, vulnerability and capacity analysis (HRVC), Classification and Types of disaster, Characteristics and its Spatio-temporal distribution.

UNIT – II

Disaster Management: Paradigm and approaches in disaster management, Concepts of Disaster Risk Reduction and mitigation, Disaster Management Cycle.

UNIT – III

Disasters in India: Landslide; Flood; Drought; Earthquake and Tsunami; Causes, Impact, Distribution and its Mapping in Indian context.

UNIT – IV

Institutional Initiatives: UN and its programmes: International Decade of Natural Disaster Reduction (IDNDR), International Strategy for Disaster Risk Reduction (ISDR), Institutions initiatives: National Disaster Management Authority (NDMA), National Institute of Disaster Management (NIDM) and Disaster Management Act 2005, Indigenous Knowledge and Community-Based Disaster Management.

Instructions for paper setter and students:

- **Maximum Marks:** Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment test will also be 40% to be obtained separately.

- **Distribution of Marks:** 100 marks for the course would be divided as follows:
 - a. Written examination 70 marks (Pass Marks = 28)
 - b. Internal assessment 30 marks (Pass Marks = 12)
- **Duration of Examination:** Written examination would be of 3 hours duration and would be conducted in the university. The question paper for the written examination shall be set by the external examiner as per the university norms.
- **Distribution of IA Marks:** Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (25 marks). The marks in the classroom attendance would be given in the following manner: (upto 75% : Nil; 75 - 80% : 1; 81-85% : 2; 86-90% : 3; 91-95%: 4 and above 95%: 5). The classroom performance of the students would be assessed by the course teacher on the basis of performance in class room test(s)/ seminar(s)/ class room assignment(s), declamation etc. as per the choice of the course teacher.
- **Pattern of Question Paper:** The paper would be set from the syllabus covering the full content. The question paper in this course will be divided into two parts. **Part-1** will be compulsory and consist of **10** short answer type questions covering full syllabus and carrying **3** marks each. **Part-II** will consist of **8** descriptive (long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt **4** questions selecting one from each unit. Each question carries **10** marks.

Books Recommended:

- Alexander, D. (1993): Natural Disasters, Springer, Berlin
- Burton, I. et.al. (1978) Environment as Hazards, O.P.O., New York. Beck, Ulrich, 1992. Risk Society: Towards a New Modernity, Sage.
- Cutter, Susan (ed). 1993. Environmental Risks and Hazards, Pearson.
- Drabek, Thomas, 2010. The Human Side of Disaster, Taylor and Francis
- Government of India, 2005. Disaster Management Act, 2005, The Gazette of India, New Delhi.
- Hayes, Flynn, (2020). Global flood hazard: Mappings forecasting and risk assessment, Syrawood publishing house.
- Kusky, T. (2012): Encyclopedia of the Hazardous Earth, Viva Books, New Delhi
- Kapur, Anu. et al. 2005. Disasters in India: Studies of Grim Reality, Rawat Publications, Jaipur and Delhi.
- Kapur, Anu, 2008. On Disasters in India, Cambridge University Press.
- Kapur, Anu, (2010), Vulnerable India: A geographical Study of Disaster, Sage and IIAS Publication.
- Lopez-Carresi, Alejandro (2014). Disaster management: International lessons in risk reduction, response and recovery, Routledge.
- Parasuraman, S. (2004): India Disasters Report: Towards a Policy Initiatives, Oxford University Press.
- Petak, W.J. and Atkinson, A.D. (1982): Natural Hazards Risk Assessment and Public Policy, Sprinager, Verlay, New York.
- Roy, P.S. et.al. (2000): Natural Disaster and their Mitigation, ITC Publication.