## M.A./M.Sc. (Geography) Scheme of Examinations
(July 2018 Onwards)

<table>
<thead>
<tr>
<th>Semester and Course No.</th>
<th>Nomenclature</th>
<th>Max. Marks</th>
<th>Hours of Teaching per week</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SEMESTER I</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GEOG-101</td>
<td>Geomorphology</td>
<td>100</td>
<td>6 Hours</td>
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<tr>
<td>GEOG-102</td>
<td>Climatology</td>
<td>100</td>
<td>6 Hours</td>
</tr>
<tr>
<td>GEOG-103</td>
<td>Human Geography</td>
<td>100</td>
<td>6 Hours</td>
</tr>
<tr>
<td>GEOG-104</td>
<td>Cartography</td>
<td>100</td>
<td>12 Hours</td>
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<tr>
<td><strong>SEMESTER-II</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GEOG-201</td>
<td>Economic Geography</td>
<td>100</td>
<td>6 Hours</td>
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<tr>
<td>GEOG-202</td>
<td>Population Geography</td>
<td>100</td>
<td>6 Hours</td>
</tr>
<tr>
<td>GEOG-203</td>
<td>Bio-geography</td>
<td>100</td>
<td>6 Hours</td>
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<tr>
<td>GEOG-204</td>
<td>Fundamentals of Geographical Information System (GIS)</td>
<td>100</td>
<td>12 Hours</td>
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<tr>
<td><strong>SEMESTER-III</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GEOG-301</td>
<td>Regional Planning</td>
<td>100</td>
<td>6 Hours</td>
</tr>
<tr>
<td>GEOG-302</td>
<td>Quantitative Techniques in Geography</td>
<td>100</td>
<td>6 Hours</td>
</tr>
<tr>
<td>GEOG-303</td>
<td>History of Geographical Thought</td>
<td>100</td>
<td>6 Hours</td>
</tr>
<tr>
<td>GEOG-304</td>
<td>Field Survey</td>
<td>100</td>
<td>12 Hours</td>
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<tr>
<td><strong>SEMESTER-IV</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GEOG-401</td>
<td>Geography of Himachal Pradesh</td>
<td>100</td>
<td>6 Hours</td>
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<tr>
<td>GEOG-402</td>
<td>Cultural Geography</td>
<td>100</td>
<td>6 Hours</td>
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<tr>
<td>GEOG-403</td>
<td>Geography of Social Well-being</td>
<td>100</td>
<td>6 Hours</td>
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<tr>
<td>GEOG-404</td>
<td>Fundamentals of Remote Sensing</td>
<td>100</td>
<td>12 Hours</td>
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<tr>
<td><strong>Total</strong></td>
<td></td>
<td>1600</td>
<td>120 Hours</td>
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</tbody>
</table>
COURSE-I GEOMORPHOLOGY

Max.Marks: 100

Unit I
Definition, nature and scope of geomorphology. Approaches to and methods of geomorphological analysis. Some fundamental concepts in geomorphology: geological structure and landforms, uniformitarianism, characteristic assemblages of landforms, sequential changes in landforms, climatic geomorphology.

Unit II
Structural geomorphology: Characteristics and topographic expression of fault and fold structures. Mountain and mountain building theories by Suess and Argan, Kober and Holmes. Plate tectonics and mountain building. Forces of crustal instability: Isostasy, plate tectonics, and vulcanicity

Unit III
Meaning, causes, types and geomorphic significance of weathering and mass-movement. Concept of Hill-slope development approaches to slope studies, slope elements. Theories of slope evolution: Slope decline theory by Davis, Slope replacement by Penck and parallel retreat by King.

Unit IV
Fluvial, Periglacial, Glacial, and Eolian processes and landforms. Meaning of denudation chronology and erosion surfaces, Peneplain concept.

Unit V

Notes for paper setter and the students:

i) Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment will also be 40%.

ii) 100 marks for the course would be divided as follows:
(a) Written examination 80 marks
(b) Internal assessment 20 marks

iii) 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.

iv) Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (15 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) as per the choice of the course teacher.

v) 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 2 marks each. Part II will consist of 10 descriptive(long answer type) questions, two from each
unit are to be framed, out of which candidates will have to attempt five questions selecting one from each unit. Each question carries 12 marks.

Suggested Readings:

COURSE-II  CLIMATOLOGY

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 verticity, 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, norwesters 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.

Unit-V
Climatic Changes: Ozone Depletion; Global Warming: Strengthening of Greenhouse effect; Evidences and Possible causes of global warming; Environmental impacts of global warming and societal responses.

Notes for paper setter and students
i) Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment will also be 40%.

ii) 100 marks for the course would be divided as follows:
    (a) Written examination 80 marks
    (b) Internal assessment 20 marks

iii) 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.

iv) Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (15 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) as per the choice of the course teacher.

v) 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 2 marks each. Part II will consist of 10 descriptive(long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt five questions selecting one from each unit. Each question carries 12 marks.
Suggested Readings

5. India Met, Deptt.: Climatological Tables of Observatories in India, govt. of India, 1968.
COURSE –III: HUMAN GEOGRAPHY

UNIT-I
Human Geography: Changing Scales of Experience
- Human Geography versus Human Ecology, Subject Matter of Human Geography, Human Geography through the corridors of time.
- Pre capitalist world: A classification of Human Societies; Defining capitalism, organized capitalism and its salient features, disorganisation of capitalism.

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

UNIT-IV
Geopolitical Traditions and States
- Organic Theory of State, German Geopolitics, Heartland and Rimland Theories, Concept of State, Nation and Nation-States, Concept of Boundaries, their classification and Frontiers.

UNIT-V
Uneven Global Development and Sustainability
- Geography and Third world Development, Conceptions of Development-the Modernization and Dependency Schools
- Sustainable Development and environmental sustainability with reference to India.

Notes for paper setter and students
i) Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment will also be 40%.

ii) 100 marks for the course would be divided as follows:
   (a) Written examination 80 marks
   (b) Internal assessment 20 marks

iii) 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.

iv) Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (15 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) as per the choice of the course teacher.

v) 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 2 marks.
Part II will consist of 10 descriptive (long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt five questions selecting one from each unit. Each question carries 12 marks.

Books Recommended:
Paper IV: Cartography

(Practical Paper)  
Max. Marks: 100

UNIT-I
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, Smith, and Robinson.
Representation of climatic data: Hythergraphs, Climograph, Wind rose Diagram.

UNIT-III

UNIT-IV
Mapping Economic data: Land use, Cropping pattern and irrigation, employment, traffic flow and accessibility

Notes for paper setter and the students:

1. Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment will also be 40%.
2. 100 marks for the course would be divided as follows:
   (a) Written examination 50 marks
   (b) Record book 20 marks
   (c) Viva Voce 10 marks
   (d) Internal assessment 20 marks
3. Written examination would be of 3 hours duration and would be conducted in the Department.
4. 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 20 multiple choice type/true or false/fill in the blanks type questions carrying 0.5 mark each. Part-II will consist of 10 short answer type questions of 2 marks each. The questions in Part-I and Part-II would be set from the entire syllabus of the course paper. Part-III will consist of 4 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.
5. External examiner would be appointed by the VC/PVC out of a panel of four university teachers supplied by the Department Chairperson in consultation with the course teacher.
6. Record book would be evaluated by the external examiner.
(7) Viva-voce would be conducted by the external examiner and would pertain to the complete contents of the syllabus.
(8) Internal assessment would be given by the course teacher on the basis of lecture attendance and classroom performance.
(9) Answer books would be evaluated jointly by external and internal examiners on the day of examination.

BOOKS RECOMMENDED

COURSE-V: ECONOMIC GEOGRAPHY

Max. Marks: 100

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

UNIT-V

Economic Development in India
Regional Disparities in the levels of Development
Impact of Green Revolution on Indian economy and Environment
Need for New Green Revolution
Impact of Globalisation on Indian Economy

Notes for paper setter and students
i) Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment will also be 40%.

ii) 100 marks for the course would be divided as follows:
(a) Written examination 80 marks
(b) Internal assessment 20 marks
iii) 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.

iv) Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (15 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) as per the choice of the course teacher.

v) 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 2 marks each. Part II will consist of 10 descriptive (long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt five questions selecting one from each unit. Each question carries 12 marks.

**Suggested Readings**

Gautam, Alka, Aarthik Bhugol Ke Mool Tatav, Sharda Pustak Bhavan 2010
Misra. H.N. (Ed.) Managing Natural resources Focus on Land and water, Prentice Hall, 2014
Paper VI: POPULATION GEOGRAPHY

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 & world pattern of the following attributes of population:
Density and distribution, Growth and Literacy

UNIT-III
Concepts, determinants and patterns in India of the following attributes of population:
Age & Sex Composition, Occupational composition and Urbanisation

UNIT-IV
Migration, types, determinants and consequences
Laws of migration: Revernstein’s and Lee’s laws of migration.
International migration pattern.

UNIT-V
Population and resources: Concepts of optimum population over population and under population.
Population policy: Concept, Population Policy of India.
Population problems and policy formulation in developed and developing countries

Notes for paper setter and students
i) Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment will also be 40%.

ii) 100 marks for the course would be divided as follows:
(a) Written examination 80 marks
(b) Internal assessment 20 marks

iii) 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.

iv) Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (15 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) as per the choice of the course teacher.

v) 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 2 marks each. Part II will consist of 10 descriptive(long answer type) questions, two from each
unit are to be framed, out of which candidates will have to attempt five questions selecting one from each unit. Each question carries 12 marks.

BOOKS RECOMMENDED

COURSE-VII BIO GEOGRAPHY

Max. Marks: 100

Unit I
Concept, field and significance of biogeography. Approaches to bio-geographical studies
Basic concepts in biogeography: Environment, Habitat, ecological niches
Ecosystem: Concept, properties, components, types and functioning.
Food chain and Food web.

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, Biodiversity loss, Causes of biodiversity loss, Biodiversity hot spots

Unit III
The characteristics and evolution of living things: Lamarck and Darwin views of evolution,
Factors affecting distribution of organisms.
Extinctions of species and their global concern.
Island biogeography.

Unit IV
General characteristics of plants and animals. Animals and plants in relation to man.
Plant association and succession.
Animals and plants dispersals.

Unit V
Field of phytogeography and zoogeography.
Taxonomic, Climatic, and Raunkiaer’s classification of plants.
A study of world floristic regions and zoogeographical realms.

Notes for paper setter and students
i) Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment will also be 40%.

ii) 100 marks for the course would be divided as follows:
(a) Written examination 80 marks
(b) Internal assessment 20 marks

iii) 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.

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v) 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 2 marks each. Part-II will consist of 10 descriptive(long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt five questions selecting one from each unit. Each question carries 12 marks.
Suggested Readings:

Paper VIII: Fundamentals of Geographical Information System (GIS)

Max. Marks: 100 Marks

(Practical Paper)

UNIT-I
Geographical Information Systems (GIS): Definitions, Sub-systems and components of GIS, History of GIS, Potential 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, database generation, editing and errors Spatial data analysis- retrieval, reclassification, topological overlay techniques, region transformations, neighbourhood operations and connectivity functions, 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.

Practical Exercises would include Georeferencing SOI toposheets and Administrative Maps of Himachal Pradesh, Satellite images and Google Earth Images, Raster Subset, Vectorization- Generation of data base on ArcGIS software, Preparation of Base map, Basic morphometric analysis of any watershed, socio-demographic and economic data mapping and other exercises given by course teacher.

Notes for paper setter and the students:

1. Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment will also be 40%.
2. 100 marks for the course would be divided as follows:
   (a) Written examination 50 marks
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questions of 2 marks each. The questions in Part-I and Part –II would be set from the entire syllabus of the course paper. Part- III will consist of 4 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.

(5) External examiner would be appointed by the VC/PVC out of a panel of four university teachers supplied by the Department Chairperson in consultation with the course teacher.

(6) Record book would be evaluated by the external examiner.

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

(8) Internal assessment would be given by the course teacher on the basis of lecture attendance and classroom performance.

(9) Answer books would be evaluated jointly by external and internal examiners on the day of examination.

Books Recommended

Ian-Haybood et.al. (2002): An Introduction to Geographical Information System.
Paul, A. Longley et.al. ( ): Geographic Information Systems and Science, John Wiley and Sons Ltd. New York.
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

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

UNIT-V

Regional Planning in India
Regional Planning in India in Retrospect.
Planning Commission and NITI Aayog: Role and Functions
Problems and Prospects of Regional Planning.
Detailed Study of Damodar Valley Corporation (DVC) and National Capital Region Delhi (NCR)

Notes for paper setter and students
i) Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment will also be 40%.

ii) 100 marks for the course would be divided as follows:
   (a) Written examination 80 marks
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iii) 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.
iv) Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (15 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) as per the choice of the course teacher.

v) 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 2 marks each. Part II will consist of 10 descriptive (long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt five questions selecting one from each unit. Each question carries 12 marks.

Books Recommended:

Government of India, Planning Commission: Third Five Year Plan, Chapter on Regional Imbalances in Development, New Delhi, 1961.
Nangia Sudesh, Delhi Metropolitan Region Rajesh Publication, Delhi, 1976.
Tarlok Singh India’s Development Experience, McMillan new Delhi, India, 1974.
Paper X: Quantitative Techniques in Geography

Max. Marks: 100

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. Basic concepts of testing hypothesis.

UNIT-IV

Measuring the strength of relationship: Scatter diagram, Spearman’s rank correlation, Karl Pearson’s product movement correlation coefficient, co-efficient of variation and correlation coefficients as areal association.

UNIT-V

Regression analysis: Fitting a regression line by semi-averages and least square methods, coefficient of regression; residual from regression; Factor analyses theory and concepts.

Notes for paper setter and students

i) Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment will also be 40%.

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   (a) Written examination 80 marks
   (b) Internal assessment 20 marks

iii) 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.

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each. Part II will consist of 10 descriptive (long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt five questions selecting one from each unit. Each question carries 12 marks.

BOOKS RECOMMENDED


COURSE-XI        HISTORY OF GEOGRAPHIC THOUGHT

Max. Marks: 100

Unit I
The field of geography and characteristics of geographical work.
Place of geography in the classification of sciences.
Geography as a social and natural sciences. Geography as the study of distribution,
man-nature relationship, spatial interaction and areal differentiation.

Unit II
Contribution to geographic thought by the Greeks and Romans.
Geography in the middle ages.
The age of exploration and the impact of discoveries.
Contributions of Varenius, Immanuel Kant, Humboldt and Ritter to geographic
thought.

Unit III
Development of geographic thought in Germany, France, Britain and America.
Dualism in geography.
Regional Geography: Concept, attributes and classification of regions.
Significance, need, features and types of models in geography.

Unit IV
Meaning, nature, approaches and realm of historical geography. Role of time and
genesis in geography. Major areas of temporal explanation in geography.
Role of evolutionary biology in geographic thought.
Meaning, need and constructing of scientific explanation; routes of scientific
explanation (inductive/deductive)

Unit V
Paradigms in geography
Positivism
Behavioural geography
Postmodernism

Notes for paper setter and students

i) Maximum marks for the course paper would be 100 and pass marks would be 40% in
written examination. The pass marks in internal assessment will also be 40%.

ii) 100 marks for the course would be divided as follows:
(a)    Written examination    80 marks
(b)    Internal assessment    20 marks

iii) 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.

iv) Internal assessment marks would be given by the course teacher on the basis of
lecture attendance (5 marks) and classroom performance (15 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) as per the
choice of the course teacher.

v) 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 2 marks
each. Part II will consist of 10 descriptive (long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt five questions selecting one from each unit. Each question carries 12 marks.

**Suggested Readings:**

Note: Students would be taught the following topics in the class in order to make them aware of the tools and techniques before going to the field:

UNIT-I

**Geographic Field Methods and Techniques**
- Role of Field methods and techniques in modern Geographical research (Physical & Socio-economic)
- Historical development of Field investigation: Travelogue, sketches, photographs
- The structure of Modern Field Research
- Training in Field Geography
- Geographic Field Instruction

UNIT-II

**Maps and Instruments**
- Base Map for Field Survey
- Use topographic maps, Aerial photographs and Satellite Imageries for Field Survey
- Use of Brunton Compass and Abney Level
- Global Positioning System (GPS)
- Selection of Mapping Techniques

UNIT-III

**Procedures for Geographical Field Survey**
- Methods of Data collection: Primary/Secondary Observation Method
- Census and Sampling
- Questionnaire Design, Inventory Design
- Administration of the questionnaire
- Tabulation of Data

UNIT-IV

**Field Research Design & Report Writing**
- Basic Phases of Field Research Design
- The Problem Statement
- Hypothesis Formulation
- Project Timing and Management
- Importance of Research Design
- Mechanics of writing a report
Writing of Field Report:

Field trip to the selected station(s) shall be compulsory to all the students. They will make study of physico-cultural milieu of the selected station(s) through personal observations and questionnaire/schedule methods. On the basis of data collected from the field the students shall prepare a field report on the allotted subject/topic and will make use of tables, figures and photo-plates.

Notes for paper setter and the students:

1. Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment will also be 40%.
2. 100 marks for the course would be divided as follows:
   (a) Written examination 50 marks
   (b) Record book 20 marks
   (c) Viva Voce 10 marks
   (d) Internal assessment 20 marks
3. Written examination would be of 3 hours duration and would be conducted in the Department.
4. 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 20 multiple choice type/true or false/fill in the blanks type questions carrying 0.5 mark each. Part-II will consist of 10 short answer type questions of 2 marks each. The questions in Part-I and Part –II would be set from the entire syllabus of the course paper. Part-III will consist of 4 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.
5. The evaluation of the report shall be jointly done by an external examiner and by an internal examiner who would generally be the course teacher. The external examiner will be appointed by the Vice-Chancellor out of a penal of FIVE experts submitted to him/her by the Chairperson of the Department.
6. Viva-voce would be conducted by the external examiner and would pertain to the complete contents of the syllabus.
7. Internal assessment would be given by the course teacher on the basis of lecture attendance and classroom performance.
8. Answer books would be evaluated jointly by external and internal examiners on the day of examination.

Suggested Readings:
COURSE-XIII: GEOGRAPHY OF HIMACHAL PRADESH

Max. Marks: 100

UNIT-I
Emergence of Himachal Pradesh
Pre Independence Period
Independence to period of Re-organisation (1947-1966)
Modern Himachal Pradesh
Regions of Himachal Pradesh: Criteria for Regionalisation

UNIT-II
Physical Setting
Relief, Drainage, Climate, Natural Vegetation, Soils and Mineral Resources

UNIT-III
Cultural Setting
Population: Distribution, Density, Sex Ratio, Literacy and Urbanisation
Agriculture: Crops and Cropping Pattern, Irrigation
Horticulture: Significance, Horticulture zones, Major Fruits: Area and Production
Transport and Communication

UNIT-IV
Socio-Economic Development
Industries: Structure, Distribution,
Health: Spatio-Temporal Development of health Sector
Education: Distribution and development
Hydro Power Generation: Potentials, Development, Achievements.
Tourism: Different types of Tourism, Destinations

UNIT-V
Problems, Prospects and Policies
Problems & Prospects: Physical, Economic and Social
Natural Hazards and Disasters: Earthquake, Floods, Cloudburst, Snow Avalanches
Policies: Forest Policy, Industrial Policy, Tourism Policy

Notes for paper setter and students

i) Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment will also be 40%.

ii) 100 marks for the course would be divided as follows:
(a) Written examination 80 marks
(b) Internal assessment 20 marks

iii) 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.

iv) Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (15 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) as per the choice of the course teacher.

v) 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 2 marks each. Part II will consist of 10 descriptive (long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt five questions selecting one from each unit. Each question carries 12 marks.

Suggested Readings:
COURSE-XIV  CULTURAL GEOGRAPHY
Max. Marks: 100

UNIT-I
The concept of culture. Components of culture, cultural traits, complexes and systems. Meaning and nature of cultural geography.
Basic cultural processes. Functional concepts and interlocking relationships. Man-environment relations as changeable.
Themes in cultural geography: Cultural regions, cultural diffusion, cultural ecology, cultural integration and cultural landscapes.

UNIT-II
Linguistic cultural regions, language patterns in India, 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.
Agricultural world: Agricultural regions, agricultural diffusion, agricultural ecology, cultural integration in agriculture, agricultural landscapes.

UNIT-III
Concept of folk Geography, folk culture region, folk culture diffusion, folk ecology, folk architecture in the cultural landscape, folk dwelling, features of houses, house types.
Concept of Popular Culture, popular culture regions, cultural diffusion in popular culture, the ecology of popular culture. Landscape in popular culture.
Concept of Ethnic Geography, ethnic cultural regions, cultural diffusion and ethnic groups, cultural ecology and ethnicity, cultural integration and ethnicity, ethnic landscapes.

UNIT-IV
Meaning scope and approaches of settlement geography, Human settlement system.
Significance of settlement studies, Place names versus settlements. Types and pattern of settlements. Causes of diverse types of rural settlements.
Urban culture regions, cultural diffusion in the city, cultural ecology of the city, cultural integration of the city, urban landscapes.

UNIT-V
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.

Notes for paper setter and students
i) Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment will also be 40%.
ii) 100 marks for the course would be divided as follows:
(a) Written examination 80 marks
(b) Internal assessment 20 marks
iii) 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.

iv) Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (15 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) as per the choice of the course teacher.

v) 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 twenty multiple choice type/true or false/ very short answer type questions carrying 1 Mark each. Part II will consist of 10 descriptive(long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt five questions selecting one from each unit. Each question carries 12 marks.

**Suggested Readings:**

Course-XV: Geography of Social Well-being

Max Marks: 100

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).

Education as Factor in Social Well Being
Indicators of educational development in India and their data sources, Historical development of education in India: Education Policies in India and State wise patterns of total literacy in India (1991 and 2011 census years).

Unit-III
Health and sanitation as Factor in Social Well Being
Indicators of health development in India and their data sources, current scenario of undernourished children in India, Dynamics and state wise patterns of sanitation (toilet provisions) in India (1991 and 2011).

Unit-IV
Poverty as Expression of Poor State of Social Well Being
Poverty: Concept and measurement (UNDP and Indian Perspectives), Causes of poverty in India, Current pattern (statewise) of poverty in India
Concept of BPL households and their current State wise pattern in India

Unit-V
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.

Notes for paper setter and students
i) Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment will also be 40%.

ii) 100 marks for the course would be divided as follows:
   (a) Written examination 80 marks
   (b) Internal assessment 20 marks

iii) 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.

iv) Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (15 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) as per the choice of the course teacher.

v) 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 2 marks each. Part II will consist of 10 descriptive (long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt five questions selecting one from each unit. Each question carries 12 marks.
Suggested Readings:

Planning Commission of India Reports.
COURSE XVI : FUNDAMENTALS OF REMOTE SENSING

(Practical Paper)

Maximum Marks: 100

Unit-I

History of remote sensing: Development of aerial photography (pre-1960 period); Development of satellite-based remote sensing (post-1960 period)
Basic principles of remote sensing; electromagnetic energy; energy and radiation principles; energy interactions in the atmosphere and with earth surface features; spectral signatures and spectral reflectance Curve

Unit-II

Air photos and photogrammetry: Photograph geometry, Vertical aerial photogrammetry: relief displacement, image parallax, stereoscopic viewing and measurements.
Elements of aerial photographic interpretation- shape, size, pattern, tone, texture, shadow, association and site etc

Unit-III

Satellite Remote Sensing: RS Satellites- Polar sun-synchronous, geo-stationary; satellite platforms- LANDSAT, SPOT, IRS, Recent satellite Based Image Products. Major applications areas of Remote sensing

Unit-IV

Digital Image Processing: Digital image and gray scale images; image rectification and restoration; image enhancement, contrast manipulation, rationing; image classification: Supervised and unsupervised classification approaches

Notes for paper setter and the students:

(1) Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment will also be 40%.

(2) 100 marks for the course would be divided as follows:

(a) Written examination 50 marks
(b) Record book 20 marks
(c) Viva Voce 10 marks
(d) Internal assessment 20 marks

(3) Written examination would be of 3 hours duration and would be conducted in the Department.

(4) 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 20 multiple choice type/ true or false/ fill in the blanks type questions carrying 0.5 mark each. Part - II will consist of 10 short answer type questions of 2 marks each. The questions in Part-I and Part –II would be set from the entire syllabus of the course paper. Part- III will consist of 4 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.

(5) External examiner would be appointed by the VC/PVC out of a panel of four university teachers supplied by the Department Chairperson in consultation with the course teacher.

(6) Record book would be evaluated by the external examiner.

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

(8) Internal assessment would be given by the course teacher on the basis of lecture attendance and classroom performance.

(9) Answer books would be evaluated jointly by external and internal examiners on the day of examination.

Suggested Readings: