

Geography

This course will be as follows:

	Full Marks
(a) Compulsory Subjects	300
(b) Optional Subjects	200
(c) Functional Paper	100

Paper	Code No.	Title	Full Marks	
				Total
I	Geog 301	Physical Geography: (a) Geomorphology (b) Climatology	50 50	100
II	Geog 302	Practical and Techniques: (a) Surveying and Cartography (b) Quantitative and Field i) Quantitative Theory (30) ii) Field Studies Practical (20)	50 50	100
III	Geog 303	Human/Regional Geography: (a) Geography of Nepal (b) Settlement	50 50	100
IV	Geog 304	Optional Subjects (I) (any two of the followings) a) Regional Geography of South Asia or South East or Asia or East Asia or Anglo America or Europe or South America b) Population Geography c) Biogeography d) Environmental Geography e) Geography of Natural Resources f) Regional Planning	50+50 50 50 50 50 50 50	100

		g) Rural Development (Geography of Development Planning)		
V	Geog 305	Optional Subjects (II) (any two of the followings)	50+50	100
		a) Agriculture Geography	50	
		b) Political Geography	50	
		c) Trade, Transport and Industries	50	
		d) Geographical Thought	50	
		e) Geography of Tourism	50	
		f) Medical Geography	50	
		g) Remote Sensing and GIS	50	
	Geog 306	Functional Paper		100

Note:

1. Optional Paper will be offered according to the decision of the subject committee Chairman. The minimum number of students for each optional subjects will be decided by the subject committee Chairman.
2. The Practical class hours will be of TWO hours.

(a) Agricultural Geography

Geography: 305

Paper: IV

Full Marks: 50

Year: III

Objectives

The main objective of this course is to familiarize students with the issues of agriculture from a geographical point of view. At the end of the course, students will be able to I) describe the basic concepts used in the study of agriculture; ii) critically examine the agricultural situations of Nepal based on the issues, concepts discussed in the earlier sections of this course, and iii) develop criteria and methods towards agricultural regionalization.

Unit

- i. **Introduction to Agricultural Geography:** Nature; Definitions (Hillman, Bernhard, Otremba, Reeds, and Andréa); Scope and Significance; Approaches: a) Traditional (Commodity, Regional and Occupational), b) Modern (Economic, Ecological and System) and c) Deterministic (Natural, Human and Natural-gynab); Relation to Other Sciences (Economics, Agronomy, Soil Sciences, Plant Protection Sciences and Animal Science).

- ii. **Processes in Agriculture:** a) Physical Influences on Agriculture: i) Climate (Temperature, Winds, Humidity, Dew, Frost, Dust and Snow, Sunlight and Sunshine, Rainfall); ii) Soil (Texture and Structure); iii) Relief (Altitude, Slope and Aspect); iv) Water Resources (Ground and Surface Water); b) Socio-economic Influences on Agriculture: i) Land Tenure and Land Ownership, ii) Demographic Factors, iii) State Policies and iv) Cultural Factors; c) Technological and Infrastructure Influences on Agriculture (Irrigation, Mechanization, Bio-chemical Inputs and Transport and Marketing).

- iii. **Models in Agricultural Geography (Bases and Relevance):** Isolated State (von Thunen); Diffusion of Innovation (Hagerstrand); Game Theory; Input Output Model.

- iv. **Classification and Regionalization:** Concept and Criteria; Whittlesey's Classification of World Agricultural System; Classification of Agricultural Farms (Land Classification, Land Use Classification, Farming System Classification); Problems of Delimitation and Classification; Pattern of World Agriculture (Introduction, Characteristics, Distribution and Trend of Subsistence Farming, Intensive Farming, Commercial Grain Farming, Commercial Dairy Farming, Mixed Farming, Plantation Farming); Agricultural Regionalization in Nepal.

- v. **Agricultural Problems and Policy with particular reference to Nepal:** Problems (Man/ Land Ratio, Land Productivity, Drought and Floods, Soil Erosion); Agricultural Policy

References

1. Alexander, John W. (1977), *Economic Geography*. New Delhi: Prentice-Hall of India.
2. Barlow, M. H. & Newton, R. G. (1977), *Pattern and Processes in Man's Economic Environment*. Sydney: McGraw-Hill Int. Editions.
3. Grigg, D. B. (1984), *An Introduction to Agriculture Geography*. London: Hutchinson.
4. Guha, Jahar Lal and Chattoraj, Prabhas Ranjan (1993), *A New Approach to Economic Geography: A Study of Resources*. Calcutta: The World Press Pvt. Ltd.
5. Hartshorn, Truman A. and Alexander, John W. (1994), *Economic Geography*. New Delhi: Prentice-Hall of India.
6. Husain, Majid (1998), *Agriculture Geography*.
7. Ilbery, B. W. (1985), *Agricultural Geography: A Social and Economic Analysis*. Oxford: Oxford University Press.
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9. Leong, Goh Cheng and Morgan (1986), *Human and Economic Geography*. New Delhi: Oxford University Press.
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11. Roy, Prithwish (1997), *Economic Geography: A Study of Resources*. Calcutta: Central Educational Enterprises.
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14. Symons, L. (1967), *Agricultural Geography*. New York: Praeger,
15. Tarrant, John R. (1974), *Agricultural Geography: Problems in Modern Geography*. Devon: David & Charles Ltd.
16. Whittlesey, D. "Major Agricultural Regions of the Earth", *Annals of the Association of American Geographers*

References on Nepal

1. *Agriculture Prospective Plan* (Summary Report)
2. Central Bureau of Statistics. (1962). *Sample Census of Agriculture*. Kathmandu. Nepal: Central Bureau of Statistics.
3. Government of Nepal (1972). *Organizational Reform Plan for the Ministry of Food and Agriculture*. Kathmandu: Government of Nepal.
4. Karan, Pradyumna P. and Ishii, Hiroshi (1996). *Nepal: Himalayan Kingdom in Transition*. Tokyo: United Nations University Press.
5. National Planning Commission. *Tenth Five Year Plan (2062 – 2067)*. Kathmandu: Government of Nepal, National Planning Commission.
6. Pande, Ram Kumar (1987). *Altitude Geography of Nepal*. Kathmandu: Center for Altitude Geography.
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8. Amataya, S. L. (1972), "*The Growth and General Distribution of Cash Crops in Nepal*", *The Himalayan Review*, Vol. V. p.2.
9. Shrestha, Sharan Hari (2004). *Economic Geography of Nepal*. Kathmandu: Educational Publishing House.

(b) Climatology

Geography – 301

Full Marks: 50

Part: I

Year: I

Objectives

The course aims to discuss climate as a part of the study of the physical earth, the home of man. The main focus is on the climatic elements, the factors that determine and control its distribution and actual distribution over the globe and its relation to human activities. At the end of the course the students will be able to: i) describe and explain the elements and factors of climate, ii) identify and analyze the climatic types and their spatial distribution, iii) interpret and analyze the basic climatic data and iv) interpret and explain the importance of climate and its relation with human activities.

Unit

- i. **Introduction:** Nature and Scope of Climatology; Elements and Factors of Weather and Climate; Nature of the Atmosphere (Origin, Composition, Atmospheric Layers and Extent).
- ii. **Energy of the Atmosphere:** Solar Radiation and Insolation; Global heat balance; Variability of Insolation (Factors Determining Distribution of Solar Radiation); World distribution of solar energy.
- iii. **Temperature of the Atmosphere:** Air Temperature and its Measurements; Heating and Cooling of the Atmosphere; Distribution of Temperature (Temporal, Vertical and Horizontal).
- iv. **Atmospheric Moisture and Precipitation:** Humidity; Measurements of Humidity; Hydrologic Cycle; Condensation; Processes of Cooling to Produce Condensation and Sublimation; Forms of Condensation; Formation and Classification of Clouds; Precipitation (Causes, Forms, Processes, and Types); Observation of Precipitation; Distribution (Regional and Seasonal Variation).

- v. **Winds and Pressure System:** Measurements of Atmospheric Pressure; Types of Pressure Systems and Their Origin; Vertical and Horizontal Distributions; Relation of Winds to Pressure; Forces Governing Winds Direction and Velocity; Earth's Surface General Wind Systems and Their Weather; Minor Terrestrial Winds (Land and Sea Breezes, Mountain and Valley Winds, Gravity Winds); General Circulation Features of the Upper Troposphere (Upper Level Long Waves and Jet Streams; Seasonal Changes in the General Circulation; Monsoons; Climatic Influences of Oceanic Circulation).

- vi. **Air masses, Fronts and Atmospheric Disturbances:** Air Masses (Characteristics, Source Region, Classification, Modification, Stability and Instability and World Pattern and General Properties of Main Air Masses); Fronts (Definition and Characteristics, Types and World Pattern); Atmospheric Disturbances and Their Weather (Extra-tropical/ Middle Latitude Cyclones, Anticyclones and Tropical Disturbances).

- vii. **Classification of Climates of the World and their Pattern:** Approaches to Climatic Classification; Koeppen's Climatic Classification; Thornwait's Classification (Including Thornwait's Scheme and Climates of Nepal); Climatic Regions of the World.

- viii. **Climatic Change:** Concept, Theories of Climatic Changes and Trends of Climatic Changes.

- ix. **Applied Climatology:** Climate and Soil; Climate and Vegetation; Climate and Water Resources; Climate and Agriculture

References

1. Critchfield, Howard J. (1995), *General Climatology*. New Delhi: Prentice-Hall of India.
2. Koeppen, Clarence E. and Long, C. De (1979), *Weather and Climate*. New York: Robert E. Krieger Publishing Co. Inc.
3. Lal, D. S. (1998), *Climatology*. Allahabad: Chaitanya Publishing House.
4. Lutgens, Fredrick K. and Tarbuck, Edward J. (1998), *The Atmosphere*. New Jersey: Prentice Hall International, Inc.
5. Miller, A. Austin. (1994), *Climatology*. New Delhi: P. I. Publications Pvt. Ltd.

6. Monkhouse, F. J. (1985), *Principles of Physical Geography*. London: Hodder and Stroughton.
7. Naya Va, Janak Lal (1975), Climates of Nepal in The Himalayan Review. Vol. VII. No.7. Kathmandu: Nepal Geographical Society: 14-20.
8. Oliver, John E. and Hidore, John J. (2003), *Climatology: An Atmospheric Series*. New Delhi: Pearson Education, Inc.
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11. Shakya, Ananda Man. (2051 B. S.), *Bhoutik Bhoogol (in Nepali)*. Kathmandu: Curriculum Development Center, Tribhuvan University.
12. Singh, Sabindra Singh (1995), *Bhoutik Bhoogol (in Hindi)*. Gorakhpur: Bashundara Publication.
13. Strahler, Arthur N. (1975), *Physical Geography*. New York: John Wiley and Sons.
14. Stringer, E. T. (2003), *Foundations of Climatology*. New Delhi: Surjeet Publications.
15. Trewartha, G. T. (1968), *An Introduction to Climate*. London: McGraw Hill Inc.

(d) Environmental Geography

Geog. 304

Full Marks: 50

Paper: IV

Year: III

Objectives

The main objective of the course is to familiarize students with the concept, approaches and issues of environment from a geographic point of view. By the end of the course the students will be able to i) understand and explain the concepts and approaches to Environmental Geography and ii) examine various issues related to physical as well as social environment.

Unit

- i. **Introduction:** Concept, Scope and Approaches.
- ii. **Ecosystem:** Introduction; Types; Components (Biotic and Abiotic); Energy Flow (Trophic Levels, Food Chain and Food Web); Earth's Life Support System (Matter Cycling and Solar Energy Flow); Biogeochemical Cycles (Carbon Cycle, Nitrogen Cycle, Phosphorous Cycle and Hydrological Cycle); Introduction to Mountain Environment (Geo-ecological Regions).
- iii. **Environmental Degradation and Pollution:** Introduction; Types of Pollution: i) Air Pollution (Global Warming, Ozone Depletion and Acid Rain); ii) Water Pollution; iii) Land Pollution and Landscape Degradation; iv) Noise Pollution
- iv. **Soil Resources and Its Conservation:** *Soil Components and Properties; Importance of Soil in Ecosystem; Soil Erosion (Natural and Human Accelerated); Desertification and Its Processes; Management of Soil Resource: i) Farm Management (Conservation Tillage, Contour Farming, Strip Farming, and Alley Cropping, Gully Reclamation and Land Breaks); ii) Eco-farming (use of organic manure).*
- v. **Degradation and Conservation of Forest Resources:** Importance of Forest Resources; Causes of Forest Conversion and Degradation; Measures of Forest Conservation; Introduction to Agro-forestry; Introduction to Non-timber Forest

Products; Introduction to Biodiversity and Its Types (Genetic, Species and Ecosystem); Biodiversity Conservation and Community Forest in Nepal.

- vi. **Water Resources and Watershed Management:** introduction and Importance; Concept of Watershed Management; Major Watershed Areas of Nepal; Problems of Water Resource Development in Nepal

- vii. **Environmental Impact Assessment:** Concept and Processes of Environmental Impact Assessment (EIA) with Examples of Some Large Infrastructure Development Projects of Nepal

References

1. Bhatta, Basu Dev (2057 B.S), *Environmental Education*. Kathmandu: Bidyarthi Pustak Bhandar.
2. Miller, G. Tyler (1994), *Living in the Environment*. California: Wadsworth Publishing Company.
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5. Sharma, P. D. (1996), *Ecology and Environment*. Meerut: Rastogi Publication.
6. Saxena, H.M. (2005), *Environmental Geography*. Jaipur: Rawat Publications.
7. Singh, Savindra (1999), *Environmental Geography*. Allahbad: Prayag Pustak Bhandar.
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11. Chauhan, A. S. (2004), *Environmental Studies*. New Delhi: Jain Brothers.
12. Don, Funnell and Parish, Romola (2001), *Mountain Environments and Communities*. Rutledge.
13. Faculty of Education, T. U. (1998), *Environmental Education: Source Book for Bachelor of Education Program*. Kathmandu: IUCN.
14. HMG/Ministry of Population and Environment (1999), *Environmental Planning and Management of the Kathmandu Valley*. Kathmandu: HMG/ IUCN.

15. Karan, Pradyumna. P. and Ishii, Hiroshi (1997), *Nepal: A Himalayan Kingdom in Transition*.
Delhi: Bookwell.

(d) Geographic Thought

Geog: 305

Year: III

Paper: IV

Full Marks: 50

Objectives

The main objective of the course is to familiarize students with the evolution of geographical knowledge thoughts and its contributors. At the end of course the student will be able to i) understand the gradual development of geographic knowledge, ideas, concepts and methodologies, and ii) to assess the contributions of the notable geographers.

Unit

- i. **Classical Geography:** Introduction to the Regions of Earlier Geographical Knowledge (Indo-Gangetic plain, Mesopotamian region, Nile valley, Aegean environs, Hwang-Ho basin and Volga basin); Contributions of the Greek Geographers (Homer, Thales, Herodotus, Plato, Aristotle, and Eratosthenes); Contribution of the Roman Geographers (Strabo, Pliny, and Ptolemy).
- ii. **Medieval Geography and Renaissance:** Dark age; Geography in the Christian World; Development of Geographical discipline in Asia with special reference to India, China and Arabs; Important journeys, Explorations and Discoveries of the Great Travelers (Marco Polo, Christopher Columbus, Vasco de Gama, Amerigo Vespucci, Francis Drake); Renaissance Period, Some Inventions Related to Geography of Renaissance Period and Geographers of the Renaissance Period (Philip Cluverius (Cluver) and Bernhard Varenius).
- iii. **The Classical Period: Dawn of Modern Geography:** Development of Natural and Social Sciences, Influence of Natural and Social Sciences; Development of Geography in the 18th century (Politico-Statistical School of Thought, Reine Geography, Scientific Thought, Philosophical Thought); Contribution of the 19th Century Geographers (Classical Period of Modern Geography: Alexander Von Humboldt and Carl Ritter).

- iv. **Different Schools of Geography:** Contributions of Notable Geographers of German School of Geographical Thought (Ferdinand von Ritschthofen, Friedrich Ratzel , Alfred Hettner, Albrecht Penck, Walther Penck, Carl Haushofer, and Carl Troll); Contributions of Notable Geographers of French School of Geographical Thought (Paul Vidal de la Blache, Jean Brunhes, Albert Demangeon, Emmanuel de Martonne); Contributions of Notable Geographers of British School of Geographical Thought (Halford J. Mackinder, A. J. Herbertson, Laurence Dudley Stamp and P. M. Roxby); Contributions of Notable Geographers of American School of Geographical Thought (G. P. Marsh, Richard Hartshorne, William Morris Davis, Ellen Churchill Semple, Ellsworth Huntington, Isaiah Bowman, Carl Oscar Sauer, and Thomas Griffith Taylor).

- v. **Dualism and Dichotomism in Geography:**

- vi. **Recent Trends in Geography:** The Concept of Occupied Space (Regional Concept, Conceptual Structure); New Methods of Observation and Analysis (Technology of Observation, New Analytical Procedures); Geography: A New Synthesis); Applied Geography.

- vii. **Geography in Nepal:** Development of Geography as an Academic Discipline; Conceptual and Institutional Development.

References

1. Adhikari, Sudepta (1992), *Fundamentals of Geographic Thought*. Allahabad: Chaitanya Publishing House.
2. Baker, J. N. L. (1963), *History of Geographical Discovery and Exploration*. New York: Barnes & Noble.
3. Bharati, Bal Bhadra (2058 B. S.), *Bhugolik Bichardhara ko Bikas (Evolution of Geographical Thought in Nepali)*. Kathmandu: Deurali Printing Press.
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8. James, Preston E. (1972), *All Possible Worlds: a History of Geographical Ideas*. Indianapolis: the Odessey Press.
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13. Saxena, J. P. (1974), *History of Geographical Thought*. Gwalior: Kitab Mahal.
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15. Singh, U., *Evolution of Geographical Thought*. New Delhi: Kalyan Publisher.
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18. Taylor G., ed. (1967), *Geography in the Twentieth Century*. London: Methueun.

(e) Geography of Tourism

Geography: 305

Full Marks: 50

Paper: V

Year: III

Objectives

After the completion of the course, the students will be able to i) understand general concept of tourism relation between geography and tourism; ii) understand the status of tourism in SAARC countries with focus on Nepal; iii) get familiarize with the requirement & attractions related to mountain tourism; iv) evaluate the impacts of tourism and suggest the possible measures; and v) pursue further studies in geography and tourism.

Unit

- i. **Introduction:** Concepts of travel and tourism, Defining and describing tourism, Carrying capacity (limits to acceptable change), Types of tourism, Scope, nature and importance of tourism, Typology of tourists; Development of tourism in the world perspective.

- ii. **Geography and Tourism:** Tourism a geographical study and geography of tourism as applied geography; Elements and geographical components of tourism; Genesis of tourism destination.

- iii. **Theories and concepts of Tourism Development:** Sustainable development of tourism, Eco-tourism, System theory, Cohen's theory of organic development, Butler's concept of evolution of tourist destinations.

- iv. **Supply and Demand of Tourism Product:** Role and Functions of National Organizations (Ministry of Culture, Tourism and Civil Aviation (MoCTCA), Nepal Tourism Board (NTB), Nepal Mountaineering Association (NMA), Trekking Agents Association of Nepal (TAAN)); Role and Functions of International Tourism Organization (United Nations World Tourism Organization (UNWTO), Pacific Asia Travel Association (PATA), International Air Transport Association (IATA)).

v. **Characteristics of Tourism Product:** The tourist destination (Attraction Accessibility, Accommodation, Amenities); Motivational factors, demand and Supply; Characteristics of Tourism demand

vi. **Impact of Tourism:** Physical; Socio-Culture; Economic.

vii. **Tourism in Nepal:** Trends of tourism development; Tourism resources (Natural, Religious, Socio-cultural); Prospects of tourism in Nepal; Tourism planning and development in Nepal.

References

Robinson, H. (1976). *A Geography of Tourism*. MacDonald and Evans, London.

Murphy, P. E. (1985). *Tourism: A Community Approach*. Rutledge, New York & London.

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Gurung, Harka (1989). *Nepal: Dimensions of Development*. Saroj Gurung, Panipokhari, Kathmandu.

Satyal, Y.R. (2001). *Tourism in Nepal: A Profile*. North Publishing House, Vanarasi, India. ICIMOD's various publication on tourism.

(a) Geomorphology

Geog. 301

Full Marks: 50

Part: I

Year: I

Objectives

The main objectives of this course are to i) familiarize students with the general concept of geomorphology, landform evolution and transformations under different environments and ii) to apply geomorphic concepts in different fields.

Unit

- i. **Introduction to Geomorphology:** Basic Concepts; Approaches; Models of Landform Evolution (W. M. Davis, W. Penck and L. C. King).
- ii. **Isostasy:** Doctrines of Isostasy (George Airy, Alfred Pratt and Hayford).
- iii. **Diastrophism and Landforms:** Introduction; Diastrophic movements (Epeirogenetic and Orogenetic); Landforms Associated to Diastrophic Movements (folding and faulting).
- iv. **Crustal movements:** Theories of Continental Drift (A. Wegner); Plate Tectonics and Mountain Building.
- v. **Denudation processes:** Introduction to Denudation; Weathering; Erosion; Mass Wasting.
- vi. **Drainage system:** Introduction to Drainage Basin; Types of Rivers; Drainage Order; Rejuvenation.
- vii. **Processes and Landforms:** Fluvial; Aeolian; Glacial; Peri-glacier; Karst.
- viii. **Applied Geomorphology:** Application of Geomorphology (Mapping, Land Use Planning, Hazard Assessment); Field surveying: Students are required to visit local

area selected by the concerned teacher on the specified aspects to observe, measure, and record, landslides; rills and gullies; types and layer of soil; cross section profile of river; dip and strike.

References

1. Arthur L. Bloom (2002), *Geomorphology: A Systematic Analysis of Late Cenozoic Landforms*. New Delhi: Prentice – Hall of India Pvt. Ltd.
2. Bishwas, S. Kale and Gupta, Avijit (2001), *Introduction to Geomorphology*. Calcutta: Orient Longman of India.
3. Bryant, Richard, *Physical Geography*.
4. Dayal, P. (1994), *A Text Book of Geomorphology*. Patna: Shukla Book Depot.
5. Holmes, A. (199...), *Principles of Physical Geology*. London: ELBS.
6. Lorie, William (1997), *Fundamentals of Geophysics*. U. K.: Cambridge University Press.
7. Mahapatra, G. B. (2000), *Text Book of Physical Geology*. New Delhi: CBS Publishers and Distributors.
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9. Mucknight, Tom L. and Darrel Hess (2002), *Physical Geography*. New Jersey:
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18. Steers, J. A. (1994), *The Unstable Earth*. New Delhi: Kalyani Publishers.

19. Strahler Arthur N. and Strahler, Alan H. (1987), *Modern Physical Geography*. New York: John Wiley and Sons.
20. Strahler, Arthur N. (1975), *Physical Geography*. New York: John Wiley and Sons.
21. Strahler, Arthur N. (1976), *Principles of Earth Science*. New York: Harper International Edition.
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(b) Political Geography

Geog. 305.

Year III

Paper: IV

Full Marks: 50

Objectives

The main objective of the course is to familiarize students with the political issues at various levels from the geographic point of view. The course mainly focuses on the definitions, concept, development, morphology and pattern of national, regional and global politics. At the end of the course the students will be able to i) explain the meaning, concept, and development of Political Geography, ii) explain the development, concept, and processes of state formation, iii) to analyze and get acquainted with the global political patterns, iv) describe geopolitics, geopolitical theories and geopolitical situation of Nepal and v) get acquainted with electoral geographical concepts and methods.

Unit

- i. **Introduction to Political Geography:** definition, development and scope.
- ii. **Approaches to Political Geography:** morphological, functional, world–system and historical or genetic.
- iii. **State:** meaning and concept; nation and nation–state; national integration; element of states; geographical theories of states; types of states; morphology of states: location, shape, size, administrative areas, frontiers and boundaries, core and capital and political regions.
- iv. **Geopolitics:** concept of Geopolitics and its development, Mackinder’s Geo–strategic view and its relevance; alternative revisions in strategic views: Rim land view and Mid-basin view.
- v. **Electoral Geography:** meaning, scope, methods and implications
- vi. **Global and Regional Organizations:** UNO, ASEAN, European Union SAARC, BIMSTEC (Bay of Bengal Initiative for Multi-sector Technical and Economic

Cooperation), OPEC; contemporary global political polarizations; super powers and developed and developing states; landlocked countries and their problems.

- vii. **Political Geography of Nepal:** geopolitical dynamics in Nepal; political regionalization: development regions, administrative divisions and local governance.
- viii. **Socio-political Issues and Their Consequences:** concepts on the restructuring of the State administration; politics in natural resources; boundaries issues in Nepal with neighboring states; importance of Nepal as a transit point (zone).

References

1. Adhikari, Sudepta (1999). *Political Geography*. New Delhi: Rawat Publications
2. Buckholst, Paul (1966). *Political Geography*. New York: Ronald Press.
3. Aditya, Ananda (2001). *Political Economy of Small States*. Kathmandu: Nepal Foundation for Advanced Studies (NEFAS) and Friedrich-Ebart-Stiftung (FES).
4. De Blij, Harn J. (1968). *Geography: Regions and Concepts*. London: Hutchinson University Library.
5. Dikshit, R. D. (2000). *Political Geography*. New Delhi: Prentice-Hall of India.
6. Pounds, N. J. G. (1963). *Political Geography*. New York: McGraw Hill.
7. Short, John R. (1982). *An Introduction to Political Geography*. London: Ront Ledge and Kegan Paul.
8. Short, R. J. (1982). *An Introduction to Political Geography*. London: Rutledge & Kagan Paul.
9. Taylor, J. Peter (1993). *Political Geography, World-Economy, Nation-State and Locality*. New York: John Wiley & Sons, Inc.

(b) Population Geography

Geography 304

Year: III

Full Marks: 50

Paper: IV

Objectives

The main objective of this course is to familiarize students with the issues of population from a geographic point of view. The primary focus is on the concepts, definitions and elementary measures of distribution, fertility, mortality and migration. At the end of the course students are expected i) to understand and describe the basic concepts and measures used in the study of population, ii) to critically examine the population situation in Nepal based on the issues and concepts discussed in the earlier section of this course, iii) to develop a positive attitude towards the population problems.

Unit

- i. **Introduction to Population Geography:** Definition; Scope; Historical Development; Relation Geography with other Disciplines (e.g. Demography and Population Studies) and Approaches.
- ii. **Sources of Data for the Study of Population:** Population Census (History, Nature, Limitations of Census Data); Vital Registration (Meaning, Essence and Limitations); Demographic Survey (Method, Quality and Limitations); Administrative Records (International Publications and Research Reports); Sources of Population Data in Nepal.
- iii. **Population Growth in the World:** Trends and Patterns of the Population Growth in the World; Theories of Population Growth (Malthusian Theory of Population, Neo-Malthusian Theories, Marxian Theory, Optimum Theory and Demographic Transition Theory).
- iv. **Population Distribution and Density:** Conceptual Difference between Population Distribution and Density; Factors Affecting Spatial Distribution of Population (Physical Factors; Demographic Factors and Socio-Cultural Factors); Measures of Population

Density (Arithmetic, Agriculture, Physiological and Economic); Distribution and Density of Population in the World.

- v. **Population Change:** Components of Change; Fertility and its Measures, Fertility Factors; Mortality and its Measures, Mortality Factors; Migration: Basic Concepts, Types of Migration and Mobility, Determinants of Migration, Theories of Migration (Raven Stein, Zipf, and Stouffer); Consequences of Migration.
- vi. **Population Composition:** Biological Characteristics: Age Composition (Age Pyramids and Broad Age Groups), Sex Composition (Sex Ratio and Masculinity Index); Socio-economic Characteristics: Racial Composition and Ethnic Composition, Religious and Linguistic Composition, Composition by Educational Status, Marital Composition, Occupational Composition and Composition by Rural-Urban Categories.
- vii. **Population Policies:** Essence, Types, and Case of Nepal (Family Planning and Other Policies).
- viii. **Population Dynamics of Nepal:** Growth, Distribution and Density, Composition and Migration.

References

1. CBS (2003), *Population Monograph of Nepal*. Kathmandu: CBS.
2. Chandana, R. C. (1994), *Geography of Population*. New Delhi: Kalyani Publications
3. Ghosh, B. N. (1987), *Fundamentals of Population Geography*. New Delhi: Sterling Publishers
4. HMG, Ministry of Population and Environment (2002), *Nepal Population Report, 2002*. Kathmandu: Ministry of Population and Environment
5. Mizra, Bhaker D. (1998), *An Introduction to a Study of Population*. New Delhi: South Asian Publisher Pvt. Ltd.
6. Population Reference Bureau (2005), *World Population Data Sheet: 2005*.
7. Subedi, Bhim Prasad (1996), *Dominant Approaches to Population Mobility in Geographical Journal of Nepal*. Kathmandu: Central Department of Geography, T. U.

8. World Bank (2003/2004), *World Bank Report 2003/2004*. New York: Oxford University Press
9. Population Commission of Nepal (2006). *Population Perspective Plan of Nepal*. Kathmandu: Population Commission of Nepal

Practical Geography

Geog. 302	Full
Marks: 100	
Year: II	Part: II

<i>Subjects</i>	<i>Marks</i>
(a) Surveying and Cartography	50
(b) Quantitative Techniques	30
(c) Field Study	<u>20</u>
	100

Objectives

The main objectives of this course are to i) familiarize students with cartographic, surveying and quantitative techniques in geography and ii) participate and internalize basic geographic field research.

(a) Surveying and Cartography

Surveying

Objectives

The main objective of this section is to enable the students to prepare maps of a given area with the help of survey instruments.

Unit

- i. **Fundamentals of surveying:** introduction: definition, classification, principles, methods, map scale, measurements: linear and angular.
- ii. **Surveying and map preparation with the help of:** (a) Prismatic compass (Introduction, Methods Advantages and Disadvantages; (b) Plane table (Introduction, Methods, Advantages and Disadvantages; (c) Dumpy level (Introduction, Principles and Preparation of the Profile).

Cartography

Objectives

The main objective of this section is to impart knowledge to the students about the principles and techniques of cartography. At the end of the course the students will be able to: I) use various elements and techniques for the preparation of maps; ii) use suitable mapping symbols for the representation of different types of statistical data; iii) determine suitable projection for a thematic map; iv) understand the use of various cartographic materials and drafting equipments; v) understand the basic elements of aerial photographs, interpretations; interpretation of topographical maps.

Unit

- i. **Cartography:** Introduction to Basic Concepts, Its Scope and Trends
- ii. **Maps:** Meaning, Importance and Types.
- iii. **Map Symbols:** Types of Symbols and Their Use (Point, Line and Area, Pictorial, Letter and Number).
- iv. **Thematic Mapping:** Introduction, Types of Thematic maps (Qualitative Quantitative); Scale of measurements (nominal, ordinal and interval).
- v. **Map Design:** Drawing Equipments/ Materials; Map Layout (Introduction to Map Scale and Its Types); Frames and Borders; Margins; Legends; North Line; Grid Line; Source of Information; Lettering (Size and Spacing); Selection of Appropriate Map Elements.
- vi. **Concept of Map Reproduction:** Enlargement and Reduction of Scales (Square Method and Instrumental Methods).
- vii. **Methods of Measurement of Area:** Square, Dot and Instrumental Methods (Planimeter etc.).
- viii. **Representation of Statistical Data and Interpretation of Thematic Maps:** Graphical Representation (Line and Bar); Diagrammatic Representation (Block Piling,

Proportional Rings, Pie and Sphere; Flow Cartograms); Distribution Maps (Choropleth, Isopleths and Dot).

- ix. **Map Projection:** Introduction, Major Types, Properties, Use and Limitations; Graphical Construction of Selected Projections (Bonne's, Mercator's, Zenithal Equal Area and UTM Projections).
- x. **Use and interpretation of:** a) Aerial Photographs (introduction, Vertical and Oblique Types, Elements of aerial photographs interpretation); b) Topographical Maps (Conventional Signs, and Interpretation of Topographical Maps).

References

1. Keats, J. S. (1989), *Cartographic Design and Production*. London: Longman Group Ltd.
2. Misra, R. P. and Ramesh, A. (1989), *Fundamental of Cartography*. New Delhi: Concept Publishing Co.
3. Monkhouse, F. J. and Wilkinson, H. R. (1998), *Maps and Diagrams*. New Delhi: B. I. Publication.
4. Raiz, Erwin (1989), *General Cartography*. New York: McGraw Hill Co.
5. Sharma, R. K. (2043 B. S.), *Cartography for Mapping*. Kathmandu: Shree Chakrapati Raj Rajopadhyia.
6. Singh, R. L. (2004), *Elements of Practical Geography*. New Delhi; Kalyani Publishers.

(b) Quantitative Techniques in Geography

Objectives

The main objectives of this section are to I) familiarize the students about the use of quantitative technique in the study and ii) analyze geographic problems.

Unit

- i. **Revision:** Representation of Data (Data Processing, Table and Matrix, Symbolic Representation, Frequency Distribution); Measures of Central Tendency for Linear Data (Arithmetic Mean, Median and Mode).
- ii. **Statistical Concept:** Nature of Geographic Data (Dimensions, Discrete and Continuous, Population and Sample, Parametric and Non-parametric and Probability and Significance).
- iii. **Measures of Dispersion:** Range, Mean Deviation, Standard Deviation and Coefficient of Variance.
- iv. **Sampling:** Sampling Methods, Sample Size and Estimation from Samples.
- v. **Correlation and Regression:** Correlation (Spearman's Rank Correlation, and Product Moment Correlation); Simple Linear Regression.
- vi. **Spatial Statistics:** Central Location (Arithmetic Mean Center, Median Center and Population Potential); Pattern [Nearest Neighbor Analysis, Quadratic Measures (Coefficient of Dispersion, Index of Dispersion and Comparison of Frequency Distribution); Network Analysis (Relative Indices of Connectivity); Spatial Relationship (Coefficient of Localization, Index of Concentration, Lorenz Curve and Index of Dissimilarity (Contiguity Measurement))].
- vii. **Analysis of Time Series:** Introduction and Classification, Estimation of Trends (Curve Fitting and Methods of Least Square)

References

1. Ebdon, David (1985), *Statistics in Geography*. Oxford: Basil Blackwell Ltd.
2. Gilbert, N. (1981), *Statistics*. San Francisco: Saunders College Publishing House.
3. Gupta, S. C. (1972), *Fundamentals of Statistics*. New Delhi: Himalayan Publishing House.

4. Hammond, H. and McCullagh, P. S. (1974), *Quantitative Techniques in Geography: an Introduction*. Oxford: Clarendon Press.
5. Spiegel, M. R. and R. W. Boxer (1972), *Theory and problems of statistics*. New York: McGraw-Hill International Book Co.
6. Taylor, P. J. (1972), *Quantitative Methods in Geography: an Introduction to Spatial Analysis*. Atlanta: Houghton Muffin Co.
7. Theakstone, W. H. and C. Harrison (1974), *The analysis of Geographical Data*. London: Heinemann Educational Books.
8. Unwin, D. (1981), *Introductory Spatial Analysis*. London: Methuen.
9. Yeates, M. (1974), *An Introduction to Quantitative Analysis in Human Geography*. Ontario: McGraw Hill Book Co.

(c) Field Study

Objectives

The main objective of this section is to enable the students to apply observation and participatory techniques for investigation of geographic issues. After participation of the field study the student will be able to prepare field survey report on a geographical problem.

Unit

- i. Introduction and Importance of Field Survey
- ii. Orientation for Field Survey: **Issues Related to Problem Identification; Objectives; Methodology (Data Collection, Sources and Methods (Census and Sampling Techniques); Data Processing; Report Writing.**

Note: The department shall select field survey area. Cost for students and guide teachers will be borne by the University. Expenses will include daily and travel allowances stationary and first aid. Duration of the field survey will be not less than 15 days.

All the Second Year Geography Students must compulsorily participate in the field study selected by the Department and submit a report based on the field survey.

References

1. Higgins, A. I. (1960), *Elementary Surveying*. London: Longman Green and Co. Ltd.
2. Lemon, B. J. and Cleaves, P. G. (1987), *Techniques and Fieldwork in Geography*. London: Bell and Hyman
3. Singh, R. L. (2004), *Elements of Practical Geography*. New Delhi: Kalyani Publishers.
4. Whyte, W. S. (1969), *Basic Metric Surveying*. London: Butterworth and Co. Ltd.

(a) Regional Geography of Nepal

Geog 303

Full

Marks 50

Part: II

Year: II

Objective

The main objective of the course is to familiarize students with national and regional issues of Nepal with a geographic perspective. After the completion of the course the students will be able to i) understand and analyze the concepts and methods of regional geography, ii) apply the specific knowledge of systematic geography in the study of a region and iii) critically examine the regional problems of Nepal.

Unit

- i. **Regional Concept:** Definition, Components, Types and Hierarchy of Regions; Basis and Problem of Regionalization of Nepal; Regions of Nepal (Ecological Zones, Development Regions and Politico-administrative Units).
- ii. **Environmental Resource and Its Management:** Climate and Water, Soil, Minerals, Forest and Scenic Resources; Natural Resource Management.
- iii. **Agriculture:** Characteristics, Cropping Pattern and Agricultural Productivity, Problems and Policies.
- iv. **Human Resources and Policy Issues:** i) Growth, Distribution and Migration; ii) Population Policy and Human Development Indices.
- v. **Settlement Patterns and Urbanization:** Nature and Types of Rural Settlements; Urban Settlements (Growth, Process, Trend); Rural-urban Linkage and Problems.
- vi. **Industries:** Cottage Industry and Handicrafts; Manufacturing Industries (Growth, Types of Major Industries); Distribution, Problems and Prospects and Recent Policy.
- vii. **Transportation:** Role and Modes, Problems, Policies.

viii. **Tourism:** Tourism Resources, Characteristics, Types, Tourism Frontiers, Impact of Tourism and Tourism Development Prospects.

ix. **Development challenges:** (e.g., Infrastructure, Socio-political, Economic).

References

1. CBS (2003), *Population Monograph of Nepal*. Kathmandu: CBS.
2. Central Department of Geography, *Geographical Journal of Nepal (various issues)*. Kathmandu, Department of Geography, Tribhuvan University.
3. Gurung, Harka (1989), *Dimensions of Development*. Kathmandu: Mrs. Saroj Gurung.
4. Gurung, Harka (1989), *Nature and Culture: Random Reflections*. Kathmandu: Mrs. Saroj Gurung.
5. H. M. G. (2002), *Tenth Plan (2002-2007)*. Kathmandu: National Planning Commission.
6. H. M. G. (2006), *Population Perspective Plan of Nepal*. Kathmandu: Population Commission, Nepal.
7. Hagen, Tony (1961), *Nepal: the Kingdom in the Himalayas*. ...
8. Hew, Jones (1990), *Population Geography*. London: Paul Cahpman.
9. HMG, Ministry of Population and Environment (2002), *Nepal Population Report, 2002*. Kathmandu: Ministry of Population and Environment
10. Karan, P. P. (1960), *Nepal: a Cultural and Physical Geography*.
11. Karan, Pradyumna P. and Ishii, Hiroshi (1996), *Nepal: Himalayan Kingdom in Transition*. Delhi: Bookwell.
12. NGS, *Himalayan Review (various issues)*. Kathmandu: Nepal Geographical Society.
13. Pande, Ram Kumar (1987), *Altitude Geography of Nepal*. Kathmandu: Centre for Altitude Geography
14. Pradhan, Puskar P. (2004), *Rural Urban Relations: with Particular Reference of Nepal*. Kathmandu: Rural Urban Partnership Programme, MLD/UNDP.
15. Shrestha, C. B. (1981), *Cultural Geography of Nepal*. Bhaktapur: K. K. Shrestha and K. L. Joshi.
16. Shrestha, Sharan Hari (2004), *Economic Geography of Nepal*. Kathmandu: Educational Publishing House

17. Upadhyaya, Bhagawati (1994), *Industrial Geography of Nepal*. Kathmandu: Ratna Pustak Bhandar.

(g) Rural Development

Geography: 304

Full Marks: 50

Paper: IV

Year: III

Objectives

The objective of this course is to make the students familiar with the basic concepts, theories and approaches of rural development with reference to Nepal.

Unit

- i. **Concept of Rural Development:** Concept and Meaning, Types of Planning (Physical, Economic, and Social); Rural Settings (Dispersed Settlements, and Agglomerated Settlements); Changing Concepts of Development; Growth and Development; Needs of Rural Development.

- ii. **Theories and Approaches to Rural Development:** Theories (Labour Surplus Theory (Lewis), Spatial Theories (Growth Pole, Diffusion Model and Rural Urban Integration), Modernization Theory, Rural-Urban Migration Model (Todaro)); Approaches (Basic Needs Approach, Integrated Rural Development Approach, Participatory Planning Approach, Community Development Approach, Planning (Process) Approach (Top-Down and Bottom-up).

- iii. **Indicators of Development:** Quantitative Indicators and Qualitative Indicators

- iv. **Rural Poverty Concept:** Meaning of Poverty (Absolute Poverty and Relative Poverty); Causes of Poverty (Access to Common Physical Resources); Ownership of Physical Assets (Access to service infrastructure (Education Facility, Road and Transportation, Market, and Financial Institutions); Poverty Situation in Nepal.

- v. **Project Cycle in Rural Development**

- vi. **Role of Institutions/Organizations in Rural Development:** Types of Local Institutions (GOs/NGOs/INGOs/CBOs); Local Institutional Development for (Natural

Resource Management, Rural Infrastructure (roads, electricity, bridges, irrigation), Agriculture, Enterprises, and Health Facility)

vii. **Community Area Development Plan:** Social Mapping; Land Use Planning (Agriculture land, Forest/Pasture Land, Water, and Settlement etc. based on Maps); Analysis.

viii. **Periodic Plans in Nepal:** History and Meaning; Goals, Objectives and Major Programmes

References

- Gurung, Sant B. and Roy Pradipto (eds.) (1987). *Planning with People: Decentralization in Nepal*. New Delhi: Orient Longman Ltd.
- Nepal, Pashupati (2006). *Rural Development: Theories, Approaches and Methods* (in Nepali). Kathmandu: Pairawi Prakashan.
- NPC. Different Plan Documents.
- Pradhan, Pushkar K. (2003). *Manual for Urban Rural Linkage and Rural Development Analysis*. Kathmandu: New Hira Books Enterprises.
- _____ and Routray, Jayant K. (1992). *Market Centers and Rural Development: A Study in Chitwan District, Nepal*. Bangkok: Asian Institute of Technology.
- Todaro, M.P. (1997). *Economic Development* (Sixth Edition). Addition Wesley Longman Ltd.
- Uphoff, Norman (1986). *Local Institutional Developemnt: An Anlytical Source Book with Cases*. USA: Kumarian Press.

(b) Settlement Geography

Geog. 303

Full Marks: 50

Paper: III

Year: II

Objectives

The main objective of the course is to familiarize the students with the issues of settlements from a geographic perspective. The course mainly focuses on the concepts, approaches, development, types, distribution, functions, morphology, interaction and problems of settlement. At the end of the course, the students will be able to evaluate the overall characteristics of settlement and its problems.

Unit

- i. **Introduction to Settlement Geography:** Concept; Scope; Approaches.
- ii. **Evolution of Settlements:** Origin; Historical Growth.
- iii. **Classification of Settlements:** Population size (Isolated Dwelling, Hamlet, Small Village, Large Village, Small Town, Large Town, City, Conurbation/ Metropolis, Megalopolis); Functions (Primary, Secondary, Tertiary; Central and Non-central Functions).
- iv. **Settlement System:** Concept of Hierarchy: Rank Size rule; law of primate city; theories of distribution and location of settlement (W. Christaller and A. Losch).
- v. *Rural Settlement: Location and Morphological Characteristics of Rural Settlement (Locational Factors; Type and Pattern; Shape and Forms of Rural Buildings (Physical and Socio-economic Factors); Building materials (Source and Types).*
- vi. *Rural Development Planning: Major Issues of Rural Development Planning (Rural Depopulation, Rural-urban Migration, Deforestation, Environmental Degradation); Aspects of Rural Planning*

(Mechanization and Modernization of Farming Activities, Provision of Services of Market Centers, Employment Opportunities, Provision of Infrastructure and Recreational Facilities).

- vii. **Urban Settlement:** Definition, Types, Process and Trend of Urbanization.
- viii. **Urban Function and Its Interaction:** Basic and Non-basic Functions; Urban Fields (Definition, Criteria of Measuring Urban Fields (Accessibility, Retailing, Newspaper, Education, Health etc.); Functional Relationship (Agricultural, Industrial, Trade, Social and Commuting).
- ix. **Urban Morphology and Urban Land Use:** City structure, Urban Land Use Models (Concentric Zone, Sector and Multiple Nuclei).
- x. **Urban Problems and Urban Planning:** Introduction; Urban Sprawl; Environmental Degradation (Air Pollution, Water Pollution, Noise Pollution, Problem of Solid Waste Disposal); Economic and Social Problems (City Delinquency, Slumps and Squatters, Unemployment and Vulnerability); Urban Planning (Land Use Zoning, Infrastructure Development and Legal Provision).
- xi. **Urban Periphery:** Suburb (Introduction, Reasons of Suburb Growth, Characteristics of Suburb; Rural Urban Fringe).

References

1. Bradford, M. G. and Kent, W. A., *Human Geography*. Oxford University.
2. Carter, Harold (1995), *The Study Of Urban Geography*. London: Edward Arnold.
3. Ghosh, Sumita (1998), *An Introduction To Settlement Geography*. Delhi: Orient Longman Ltd.
4. Gibbs, Jack P., *Urban Research Method*. Toronto: Van Nostrand.
5. Hagen, Tony (2058 B. S.), *Nepal KO Chinari*. Lalitpur: Himal Association.
6. Hammond, C. Whyne (1985), *Elements Of Human Geography*. London: George Allen.
7. Horn by William F. and Jones, Melvyn (1991), *An Introduction To Settlement Geography*. London: Cambridge Press.
8. Hudson, F. S. (1981), *Geography Of Settlements*. Plymouth: Macdonald and Evans.
9. Husain, Majid (1994), *Human Geography*. New Delhi: Rawat Publication.

10. Johnson, J. H. (1972), *Urban Geography*. Oxford: Pergaman Press.
11. Knowles, R. And Wareing. (1988), *Economic And Social Geography*. New Delhi: Rupa Publication.
12. Mandal, R. B. (1999), *Urban Geography: A Text Book*. New Delhi: Concept Publishing Co.
13. Mayer, H. M. and Kohn, C. F. (1985), *Readings In Urban Geography*. Allahabad: Central Department.
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15. Singh, R. Y. (1998), *Geography of Settlements*. New Delhi: Rawat Publication.
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