

SYLLABUS

for

M.Sc. GEOGRAPHY (PREVIOUS & FINAL)
ANNUAL EXAMINATION 2018 ONWARDS



DEPARTMENT OF GEOGRAPHY
UNIVERSITY OF PESHAWAR

MSC PREVIOUS (GEOGRAPHY)

The M.Sc. Previous Class in Geography will have five theory papers, Paper I-V, each carrying 100 marks. These 100 marks will be split into: 80 marks for Theory, evaluated externally, and 20 marks allocated for work book which will be evaluated internally and added to the 80 marks afterwards. The Practical will carry 100 marks. Total marks for M.Sc. Previous will be 600.

The allocation of marks is as follows:

PAPER	TITLE	MARKS ALLOCATED		
		Theory	Workbook	Total
Paper-I	Geomorphology	80	20	100
Paper-II	Meteorology, Climatology & Oceanography	80	20	100
Paper-III	History and Development of Geographical Thought	80	20	100
Paper-IV	Settlement Geography	80	20	100
Paper-V	Economic Geography	80	20	100

PRACTICAL	TITLE	MARKS
I	Map Work	20 Marks
II	Cartographic Techniques in Geography and Computing (Theory + Practical)	45 Marks (25+20)
III	Instrumental Survey and Record	20 Marks
IV	Viva-Voce	15 Marks
	Total	100 Marks

CONTENT OF THE PAPERS

Paper-I: *Geomorphology*:

Objective: To make the student understand and recognize different types of landforms, the formation and modification and to explain the geomorphic processes and the agents responsible for these changes.

Contents

1. An introduction to the concept of continental drift and plate tectonics.
2. Factors of Landform Development:
 - (a) Geological Structure.
 - (b) Geomorphic Processes.
 - (c) Geological Time.
3. Weathering and Mass Wasting:
 - (a) Weathering types: Creation and modification of landforms by weathering.
 - (b) Mass wasting and its geomorphic significance.
4. Fluvial geomorphic Cycle:
 - (a) Valley Development: Classification Valleys.
 - (b) Drainage pattern and texture.
 - (c) An idealized fluvial cycle.
 - (d) Stream meandering and lateral erosion.
 - (e) Peneplain concept.
5. Complications of Fluvial Cycle:
 - (a) Interruption of the cycle.
 - (b) River Terraces and their significance.
6. Stream Deposition:
 - (a) Causes of stream deposition.
 - (b) Landforms resulting from deposition.
7. Desert Landforms:
 - (a) Creation and modification of landforms by winds.
 - (b) Arid erosion cycle.
8. Glaciers and their topographic effects:
 - (a) Types and regimes of glaciers.
 - (b) Major features resulting from glacial erosion.
 - (c) Depositional landforms of glaciers.
 - (d) Glacio-lacustrine and glacio-fluviatile features.
9. Soil Development:
 - (a) Factors of Soil formation.
 - (b) Soil profile.
 - (c) Texture and structure.
10. Techniques in Geomorphology Profiles, Aerial photo interpretation, Remote Sensing Techniques.
11. Geomorphological Study and Field Trips to the Following Areas:
 - a. Nizampur Valley: Free faces, alluvial fans, Bajada.
 - b. Potwar plateau: Loess deposits, Pleistocene Chronology, Peneplain.
 - c. Attock Area. River erosion, and deposition, terraces, flood plains.
 - d. Cherat Hills. Pleistocene sequence of the Peshawar valley. Study of escarpment, major deposits, soil studies, etc.
 - e. Malakand Mountains. Basin plain, weathering of granite, soil studies.
 - f. Nowshera Area. Limestone topography, flood plain of the Kabul River, Khattak piedmonts, Pleistocene deposits.

BOOKS RECOMMENDED:

1. THORNBURY, W.D. (1969): Principles of Geomorphology. John Willy & Sons. London /New York.
2. WOOLDRIDGE, S.W. & R.S. MORGAN (1959): An outline of geomorphology The Physical Basis of Geography. Longmans. London /New York.
3. DURY, G.H. (1960): The face of the earth. Penguin Books. London.
4. SPARK, B.W. (1986): Geomorphology. Longmans. London /New York.
5. CLARKE (1958): The study of soils. Oxford University Press.
6. KING, C.A.M. (1966): Techniques in Geomorphology. Edward London.
7. RUSSELS, E.J. (1959): The world of soils. Collins Books London.

Paper-II: *Meteorology, Climatology and Oceanography:*

Objective: This course is designed for the study of climatic elements, variations in weather and climate both spatially and temporarily. The major climatic regions of the world and human impacts on climatic are also treated as important topic of study. Moreover, in the second part of the subject the origin of oceans, their physical characteristics and geomorphology of the ocean floor is also taught to the students, so that they have up-to-date knowledge about the weather climate and Oceanography.

Part I *Meteorology and Climatology:*

Contents

1. Factors and elements of climate.
2. Composition and structure of atmosphere.
3. Horizontal and vertical distribution of temperature, Temperature changes, diurnal, seasonal, normal and adiabatic temperature changes.
4. The distribution of pressure and seasonal variations, variations due to continents and oceans.
5. Winds:
 - (a) Relation between pressure and winds.
 - (b) Planetary winds.
 - (c) General circulation of atmosphere.
6. Air masses and fronts: their origin, distribution and associated weather conditions.
7. Humidity and forms of condensation:
 - (a) Clouds
 - (b) Fog
 - (c) Dew
 - (d) Frost
 - (e) Hailstone
 - (f) Rainfall
 - (g) Snowfall
8. Classification of Climate / Climatic classification
9. Study of chief climatic types and their regional variations. General observations on the effects of climates on human development.
10. Climatic changes, Green house effect and Global warming, Ozone depletion.
11. Microclimate

Part II *Oceanography*

1. Origin of oceans and seas.
2. Floor of oceans - Characteristic features of the ocean basins.
3. Temperature, salinity distribution, cause and effects.
4. Ocean floor deposits, their characteristics and classification.
5. Ocean circulation: Waves, currents and tides, their nature, causes, effects and impact on environment.

BOOKS RECOMMENDED:

1. E.T.Stringerr (1989): Foundation of Climatology. Longman London/New York.
2. Miller, A. (1959): Climatology, Mathew & Co. London
3. Geddas, A.E.M. Blackie & Samson (1946): Meteorology, London
4. Trewartha, G. (1968): Introduction to climatology, New York
5. Haurwitz AND AUSTIN (1944): Climatology, McGraw-Hill London
6. Petterson (1958): Introduction to meteorology, McGraw-Hill London
7. Donn (1951): Meteorology, McGraw-Hill London
8. Gross (1972): Oceanography, McGraw-Hill London/New York.
9. Mcuveen (1992): Fundamentals of Weather and climate. Prentice Hall New Terssa
10. A.P. Diwan and D.K. Arora (1995): Origin of the Ocean (Anwole Publ)
11. Kendrew (1961): Climates of the continents. Longman London/New York.
12. Thurman, H.V. & Mexril L. (1996): Essentials of Oceanography. Menson, London.

PAPER-III: *History and Development of Geographical Thought:*

To disseminate the geographical thought development in the past, concepts in the field of historical geography and development thought. To develop the concept of unity and diversity in the subject, and the scope of geographical education.

Contents:

1. Nature of Geography: Definition and Scope
2. Pre-Classical Period: Ancient Geography, Geography in the Middle Ages, Muslim contributions, European contributions.
3. Modern Geography: Humboldt and Ritter, After Humboldt and Ritter, Geography from the middle of the 20th century, Dichotomies-Physical and Human, systematic and Regional.
4. Established Traditions: Earth Science, Area Study, Area Organization, Man-land, system Analysis, Cartographic.
5. Man-Environment Interaction Themes: Environmental determinism, Possibilism, probabilism, cognitive behaviouralism, Islamic Concept of man-environment relationship.
6. Development of Nomothetic Traditions: Facts, Concepts, Hypotheses and Paradigms, Ideographic vs. Nomothetic, Exceptionalism in Geography, Quantitative Revolution.
7. Philosophical Framework: Positivism in Geography, Critical Theory: Pragmatism, Marxism, Phenomenology,
8. Existentialism, Islamic Philosophy and Geography, Ideology, Realism, Environmental causation.
9. Introduction and Use of Modern tools, like computers, Remote Sensing, Geographical Information Systems, Global Positioning Systems and Geometrics in modern Geography.

BOOKS RECOMMENDED:

1. Dickinson, R.E. (1969): The Makers of Modern Geography. London, Routledge and Kegan Paul
2. Dickinson & Howarth, O.J.R (1933): The Making of Geography. Oxford, The Clarendon Press.
3. James, P.E. & James, C.F. (Eds.) (1954): American Geography. Inventory and Prospects, Syracuse, Syracuse University Press.

4. James, P.E & Mailim G.J. (1981): All Possible Worlds, John Wiley & Sons, New York
5. Hartshorne R. (1939): The Nature of Geography, A critical Survey of Current Thought in the light of the Past. Lancaster Association of American Geographers.
6. Ibid (1959): Perspective on the Nature of Geography Chicago Rand McNally.
7. Johnston, R.J. (1983): Geography and Geographers, London Edward Arnold.
8. Tim, U. (1992): The Place of Geography, London: Longman.
9. Murty, K.L. et al (1992): Research in Geography, New Delhi: Ashish Publishing.
10. Kenzer, M.S. (Ed.) (1989): On becoming a Professional Geographer Columbus, Merril Publishing Co.
11. Mitchel, B. (1989): Geography and Resources Analysis, New York: Longman
12. Unwin, D. (1989): Introductory Spatial Analysis, New York, Methuen.
13. Greogry, D. & Martin, R. et al (1988): Rethinking Human, Geography Society, Space and the Social Sciences, London: Macmillan
14. Clayton, K. & Johnson, J.H. (Ed.) (1988): Aspects of Geography, London: Macmillan.
15. Mayhew, S. (1986): Geography, Harmonds Worth: Penguin
16. Majid, Muhammad (1989): Evaluation of Geographic Thought, New Delhi

Paper-IV: *Settlement Geography:*

Learning objectives: To explain the process of human settlements formation and development.

To make student understand the process of urbanization and related problems and to equip them with adequate knowledge for the understanding of contemporary problems of human settlement.

Course outline

1. Introduction, Scope and Significance of Settlement Geography, Basic definition: Urban and Non Urban Areas
2. Typology of rural settlements: Characteristics of Rural Settlements, Analysis of Village site and situation, Location factors, Pattern of rural settlements: Dispersed settlements, nucleated and ribbon settlements contrasts in each between industrialized and developing countries
3. Forms and patterns of settlements, house types and their evolution in rural areas
4. Nearest Neighbourhood Analysis to determine pattern of spatial distribution
5. Commercial functions of rural settlements and their role as a market town
6. Infrastructure and services in rural settlements.
7. History of Urbanization: evolution of urban settlements in the world, the first urban revolution ca. 3500 BC
8. Modern Urbanization: Industrial Revolution: Global trends in Urbanization, Western and non-western urbanization. Major Urban Problems
9. Location of Urban Settlements with reference to Site and Situation
10. Towns and villages as Central Places: Christraller theory of Central Places and new trends and application of central place theory
11. Economic base, urban function and functional classification of cities
12. Techniques and methods of Urban land use mapping, internal structure of cities and, Generalization of urban land use patterns
13. Urban structure theories: Concentric Zone Theory, Inverse Concentric Zone Theory, Multiple Nuclei Theory, Mann's Model, Bazaar Based Model and Sector theory.
14. Social area analysis,

15. Urban development and renewal: slums and blighted areas.
16. Urban Hierarchy: City-size, distribution, Rank-size Rule, Primate City distribution.

Assignment

Analysis of settlements from Topographic sheets, Analysis of settlements as Central Places, Analysis of settlements as population foci, Analysis of urban areas, mapping techniques.

FIELD TRIPS AND EXERCISE TO STUDY LAND USE OF MAJOR CITIES IN PAKISTAN

Books Recommended

1. Chisholm, M. (1982), Rural Settlements and Land use, Hutchinson University Library, London.
2. Chisholm, M. (1968), Rural settlement and Land use: An Essay in Location. Hutchinson.
3. Grossman, D. (1991), Rural Process-Pattern Relationships: Nomadization, Sedentarization, and Settlement Fixation. Praeger Publishers
4. Hagget, P. (1979), Geography: A Modern Synthesis, Happer International
5. Hudson, F.S. (1970), A Geography of Settlement. Macdonald & Evans, London.
6. Knapp, B. (1986), Systematic Geography, Allen & Unwin, London.
7. Lewis, C.P. Mitchel-Fox & C. Dyer (2001), Village, Hamlet and Field: Changing Medieval Settlements in Central England. Windgather Press.
8. Mayer. H.M. & Kohn C.F, (1959), Readings in Urban Geography, University of Chicago Press.
9. Michail Pociane, (2002), Urban Geography. A global prospective, Rutledge 29 West Word 35th New York NY
10. Murphy, R.E. (1966), The American City: An Urban Geography. McGraw-Hill. New York.
11. Neuwirth, R. (2004), Shadow Cities: A Billion Squatters, A New Urban World, Rutledge
12. Rennie, J. & P. Short. (1992), Human Settlement (Illustrated Encyclopaedia of World Geography, Oxford University Press.
13. Robert, Brain K. (1996), Landscapes of Settlements: Prehistory to present. London Rutledge
14. Robinson, K. (Ed.) (1988), Cities of the World. World Regional Urban Development. Harper & Row, New York, London.
15. Toh Thian Ser (1998), Mega-cities, Labour, Communications. Institute of South Asian Studies, Singapore Stamp ford Press, Pvt. Ltd.
16. UNDP, (1996), Living in Asian Cities. ST/ESCAP/1660 United Nations, New York
17. United Nation Centre of Human Settlement (1996), An Urbanizing World: Global Report on Human Settlements. Oxford University Press.
18. Hornby, W. F., & Jones M. (1991), An Introduction to Settlement Geography. Studies in Human Geography, [Cambridge University Press](#)
19. Ghosh S. (1998), Introduction to Settlement Geography. Sangam Books Limited

Paper-V: *Economic Geography:*

Objective: To create an understanding of the World Economic Geography with the help of specific examples from various countries including Pakistan.

Contents

1. ECONOMIC GEOGRAPHY
 - a. Scope, Status and
2. HISTORICAL EVOLUTION OF THE WORLD ECONOMIC SYSTEM
 - a. Medieval Feudal Economies.
 - b. The Rise of Mercantilism.
 - c. Slave Trade.
 - d. The Industrial Revolution.
 - e. The Emergence of Colonialism.
 - f. Mechanisms of the Modern World Economic Systems.
3. ECONOMIC ACTIVITIES: PRIMARY SECONDARY TERTIARY & QUINARY
 - a. Gathering.
 - b. Hunting.
 - c. Herding.
 - d. Agriculture.
4. GENERAL ASPECTS OF AGRICULTURE AND ITS TYPES
 - a. Intensive Subsistence Agriculture
 - b. Commercial Agriculture: Dairying And Mixed Farming
 - c. Farming and Livestock Grazing.
 - d. Specialty Crops And Poultry
 - e. Commercial Agriculture In The Tropics
5. FISHING
 - a. Fish Production,
 - b. Leading Fishing areas.
 - c. International Trade.
 - d. Law of the Sea.
 - e. Future Prospects.
6. FORESTRY
 - a. Industrial Timbering,
 - b. Global belts.
 - c. Fuel wood scarcity.
 - d. International Trade. Prospects.
7. WATER POWER
 - a. Importance,
 - b. Physical and Economic Conditions Required for Hydro-power.
 - c. World Distribution of Water Power Resources.
8. MINING POWER MINERALS
 - a. Modes of Occurrence.
 - b. Coal Mining in Selected Countries - USA, Russian Federation, China, U.K. India. Petroleum Its Importance and uses.
 - c. The Origin and Nature of Petroleum.
 - d. Beginning of Modern Petroleum Industry.
 - e. Petroleum and International Affairs.
 - f. Oil Production Regions.

- g. World Trade in Petroleum.
 - h. The Future of Oil.
 - i. Natural Gas. Atomic Minerals
9. MINING - METALLIC MINERALS
- a. Definitions. Iron ore. Economic Importance of Iron.
 - b. World Distribution of Iron Ore Production. Iron ore Mining in Europe, North America, Russian Federation, Southern Hemisphere, China and India. World Trade in Iron ore.
 - c. Ferro-alloy Minerals.
 - d. Other Metallic Minerals.
10. NON METALLIC MINERALS
- a. Types Industrial Minerals.
 - b. Mineral Fertilizers.
 - c. Precious Stones.
 - d. Building Minerals.
11. MANUFACTURING INDUSTRY: TYPES, DISTRIBUTION AND LOCATIONAL THEORIES
- a. HEAVY INDUSTRY
 - i. Iron and Steel,
 - ii. Aluminum,
 - iii. Engineering,
 - iv. Shipbuilding,
 - v. Automobile, Air-Craft.
 - b. B. LIGHT INDUSTRY
 - i. The Textile Industries:
 - ii. Cotton Textile,
 - iii. Jute Textile,
 - iv. Woolen Textiles.
12. TRANSPORT AND COMMUNICATION
- a. Modes of Transport.
 - b. Road Transport.
 - c. Rail and Inland Waterways,
 - d. Ocean Shipping. Air Transport.
13. TRADE
- a. Basis and Types of Trade.
 - b. Economic Nationalism and Foreign Trade.
 - c. WTO Globalization and De-regulation.
 - d. International Trade and Politico-Economic Blocks.
 - e. International Trade-Commodities and Direction. Balance of Trade and Balance of Payment. Merits and Demerits of International Trade.

BOOKS RECOMMENDED:

1. Truman A. Hartshorn & Jhon W.Alexander (1992): Economic Geography. Printice-Hall of India. Pvt.
2. Sadhukhan, S.K. (1986): Economic Geography, An Appraisal of Resources. S. Chand and Company Ltd. New Delhi.
3. Thoman, Conklin & Yeats (1988): The Geography of Economic Activity. McGraw-Hill Book Company, New York, Inc
4. Khan, F.K. (1998): An introduction to Economic Geography. Saleem Publishing house, Karachi.

5. Peach W.N. & J.A.Constantin (1972): Zimmermans World Resources and Industries. Happer and Raw, Publishers, New York.
6. Smith, J.R., M.O.Phillips & T.S.Smith (1961): Industrial and Commercial Geography. Hott, Rinehart and Winston, New York.
7. Miller.E.W. (1962): A Geography of Manufacturing. Prentice Hall International Inc. London.
8. U.N.O. Statistical Year Books. Latest Editions.
9. Paul Knox & John Agnew (1994): The Geography of the World economy. Edward Arnold, London.
10. Luckas. M.R. (1991): Economic Activity. Longman group UK Limited. Williams. T.R. (1991): Economic Geography: Longman group, New York Stamp, L.D. & S Carter Gilmour (1960): A handbook of Commercial Geography. Longman London.
11. Howard G. Roepke (1967): Readings in Economic Geography. John Wiley and Sons, New York.
12. Rogen W.E. & N.A. Bengtson (1964): Fundamentals of Economic Geography. Prentice Hall.
13. Thomes, R.S. & R.J. Hagget (1980): Models in Geography. Harper and Row Publishers London.

PRACTICAL

MAP WORK, MAP INTERPRETATION AND RECORD

Learning Objectives: This course is designed to train the students in map making by imparting the background and in depth knowledge of cartography and surveying. Students will carry out practical exercises of map making.

Contents

I. MAP WORK

20

- Principles and methods of map making, Basic Geodesy; Use of Spherical, Ellipsoidal and Geoidal shapes in making, Coordinate System: Geographical and plane coordinates
- Exercises in Air Photo Interpretation
- A study of the Ordinance Survey map of Pakistan under the following heads:
 - (a) Grid Reference and Indexation, exercises on topo sheets
 - (b) Physical and Cultural feature. (Visit to map reproduction organization, e.g. Survey of Pakistan, Rawalpindi).
- Interpretation of daily Weather Charts of Pakistan, weather forecasting with weather charts.

II. CARTOGRAPHY TECHNIQUES IN GEOGRAPHY AND COMPUTING THEORY + PRACTICAL

45 (25+20)

- Map Projections: Types, Construction, Characteristics, choice of projections and uses.
- Types and construction of scales.
- Use of Global Positioning System (GPS). Working of the instrument and application
- Data collection with GPS from the field.
- Computing; Theory, Basic Architecture, Windows Word Processing e.g. MS Word, MS Excel, MS Power point and use of Internet.

III. INSTRUMENTAL SURVEY AND REOCRD

20

- Surveying using the following Instruments: Chain Tape, Plane Table and Prismatic Compass.
- Determination of Heights and Slopes with Abeny Level.
- Contouring by Indian Clinometer.
- Use of Dumpy Level and Theodolite/ Total Station.

IV. VIVA VOCE + RECORD

15

NOTE:- The students are required to record the exercises in Practical Notebook duly signed by the concerned teachers

BOOKS RECOMMENDED:

1. A.H. Jameson & M.T.M. Orms Elementary Surveying and Map, Latest edition
2. Chandra, A. M. (2015). "Plane Surveying", New Age International Publishers, 2002.
3. Davis, R. E., & Foote, F. S. (1940). *Surveying theory and practice* (No. 526.9 D263s 1940). McGraw-Hill.
4. Fairbairn, D. (2017). Creating a Body of Knowledge for cartography. In *28th International Cartographic Conference*. Newcastle University.
5. Ghilani, C. D., Wolf, P. R., & Raju, K. S. (2008). *Elementary surveying: an introduction to geomatics* (pp. 185-195). Upper Saddle River: Pearson Prentice Hall.
6. John Bygott: Surveying, Latest edition
7. Johnson, A. (2014). *Plane and geodetic surveying*. CRC Press.
8. Leick, A., Rapoport, L., & Tatarnikov, D. (2014). GPS satellite surveying, 4th edn Google Scholar.
9. Markoski, B. (2018). Representation of Land on Map. In *Basic Principles of Topography* (pp. 25-29). Springer, Cham.
10. Misra, R. P., & Ramesh, A. (1989). *Fundamentals of Cartography*. Concept Publishing Company.
11. R.E. Brinker and W.C. Taylor: Elementary Surveying
12. Robinson A.H (212). Elements of Cartography. John Wiley and sons, New York.
13. Roy, S. K. (2010). *Fundamentals of surveying*. PHI Learning Pvt. Ltd.
14. Sing R.L (2002). Elements of Practical Geography. Kalyani publishers, New Delhi.
15. Wolf, P. R., & Ghilani, C. D. (2002). *Elementary surveying: An introduction to geomatics* (Vol. 10). Upper Saddle River, NJ: Prentice Hall.

M.Sc FINAL (GEOGRAPHY)

The M.Sc. Final Classes will have Two Compulsory and Two Optional Theory Papers of 100 marks each and a practical carrying 200 marks. Out of the 100 marks in each Theory Paper 80 marks will be allocated to Theory Paper, evaluated externally and 20 marks to work book, evaluated internally, which will be added later on to the 80 marks at the end of the examination.

The papers and allocation of marks in each is given as:

COMPULSORY SUBJECTS

PAPER	TITLE	MARKS		ALLOCATION
		Theory	Work Book	Total
Paper-VI	Geography of Pakistan	80	20	100
Paper-VII	Political Geography or Dissertation	80 -	20 -	100 or 100

OPTIONAL PAPERS

Note: Students shall be offered any two of the following papers:

Paper-VIII	Techniques in Geomorphology	100
Paper-IX	Quaternary Geology/or	100
Paper-X	Regional Planning	100
Paper-XI	Urban Planning	100
Paper-XII	Agricultural Geography	100
Paper-XIII	Transportation Geography	100
Paper-XIV	Social Geography	100
Paper-XV	Rural Geography	100
Paper-XVI	Muslim World	100
Paper-XVII	Cultural Geography	100
Paper-XVIII	Population Geography	80+20
Paper-XIX	Environmental Geography	80+20
Paper-XX	Geography of Resources	100
Paper-XXI	Applied Geomorphology	100

NOTE: In each paper 20 marks, out of 100, are allocated for work book to be internally evaluated and added to the total.

No.	PRACTICAL (COMPULSORY)	Marks
I.	Project Reports	50
II.	Seminar	30
III.	Advance Cartography	25
IV.	Quantitative Techniques and Research Methods	30
V.	Modern Tools in Geography (GIS and Remote Sensing)	30
VI.	Record	15
VII.	Viva-Voce	20
	TOTAL	200

Content of the Papers:

Paper-VII *Geography of Pakistan:*

Objectives: i) To improve the understandings of the student about the regional Geography of the country, its resources and relation with other countries of the world.
ii) To give in-depth understanding of Geography of NWFP to equip the students with latest information about the province and its problems.

NOTE: This paper consists of two parts. Part I containing course on the whole of Pakistan and part II cover a thorough Study of NWFP. The ratio of Marks between the two parts shall be 3:2 respectively.

Contents

Part I. *Pakistan*

- I. The Making of Pakistan
 1. The Genesis of Pakistan
 2. The Borders of Pakistan and related problems.
- II. The Land:
 1. Physiography and physiographic regions
 2. Climate and climatic regions
 3. Vegetation and soils.
- III. The People and Economy:
 1. The People
 2. Population
 3. Agriculture and irrigation
 4. Power and Minerals Resources
 5. Industries
 6. Urbanization
 7. Communication and Trade.
- IV. Pakistan and the World:
 1. Pakistan and her neighbors.
 2. Pakistan and the Muslims Countries.
 3. Pakistan and the Great Powers.
 4. Pakistan and the 3rd World Countries
- V. Environmental, Socio-economic and Political Problems of Pakistan.

Part II: *N.W.F.P.*

A detailed study of the Province, with special reference to the following:

1. Physiography
2. Climate, vegetation and soils
3. People
4. Demography
5. Economy
6. Industrialization
7. Urbanization.
8. Problems and Prospects

BOOKS RECOMMENDED:

- 1 DAVIDSON, A. P & MUNIR AHMAD (2003): Privitization and the Crisis of Agricultural Extension: The Case of Pakistan (King's Soas Studies in Development Geography). Ashgate Publishing
- 2 ABDUL HAMEED (1972): Historical and descriptive geography of water development in West Pakistan: A case study of the Middle Indus Basin. San Francisco State College
- 3 DICHTER, D. (1967): A Geography of N-W.F.P. Oxford University Press.
- 4 JONSON B.L.C. (1969): South Asia: selective studies of the essential geography of India, Pakistan and Ceylon. Heinemann Educational
- 5 AHMAD, K.S. (1964): A Geography of Pakistan. Oxford University Press.
- 6 SAHIBZADA, M.A (1960): Land Use Survey of N-W.F.P. Part-I P & D Department Government of Pakistan.
- 7 TAYYEB, A. (1966): A Political Geography of Pakistan, Oxford University Press
- 8 SPATE, O.H.K., (1984): India and Pakistan Munshiram Mohoarlal Publications Pvt. Ltd
- 9 KHAN F.K. (1991): A Geography of Pakistan. Oxford University Press, Karachi.
- 10 BURKEY, J.S. (1991): Pakistan the continuing search for Nationhood. Western Press, Oxford, UK.
- 11 IMPERIAL GAZETTEER OF INDIA (1901): North West Frontier Province. Government of NWFP Printing Press Peshawar.

Paper-VIII: *Political Geography*

Objectives: i) To highlight the political phenomena in geographical context. ii) To explore the geographical aspect in the emergence and growth of states, frontier and boundaries iii) To analyze and highlight the problem of Spatial and contemporary Political/Administrative Institutions and development.

Contents

- I. Definitions, Introduction, scope and Status of Political Geography. Perceptions of Space, Territoriality and the Political World.
- II. The State: State, Nation, nation-State. The Emergence of States. Modern Theories about states. The Territory of the State. Frontiers and Boundaries. Core Areas and capitals. Unitary, Federal and Regional States. Anomalous Political Units. Power Analysis.
- III. Political Geography within the State: Internal functions of the state. Constituent parts of the state. Civil divisions and districts with special reference to the context of Pakistan. The Geography of Elections.
- IV. Geopolitics: Historical concepts in Geopolitics. Contemporary Geopolitics. The Geography of War and Peace. Imperialism, Colonialism, Decolonization. The aftermath of colonialism.
- V. Contemporary International Relations: International Law. International Trade. Land-locked States. Intergovernmental Organizations. The law of the sea. The Political Geography of the Sea. Politics of population, Migration and Food. The Role of Political Geographers in the Future Outer Space.

BOOKS RECOMMENDED:

1. MARTIN. J., R. JONES & M. WOODS (2004): Introduction to Political Geography: Space, Place and Politics Routledge. New York.

2. CHUCK, F.M. & I. GLASSNER (2003): Political Geography. John Wiley; New York (3 Edition)
3. KEVIN R. COX (2002): Political Geography: Territory, State, and Society. Blackwell Publishers
4. AGNEW, J.A. & J. AGNEW (2002): Making Political Geography (Human Geography in the Making) Arnold Publishers. New York/London.
5. PETER. T. & C. FLINT (1999): Political Geography: World, Economy, Nation, State and Locality. Prentice Hall; (4th Edition).
6. GLASSNER, M.I (1995): Political Geography, 2nd Edition John Wiley and Sons, New York. (2nd Edition)
7. DIKSHIT, R.D. (1995): Political Geography. The Discipline & its Dimensions. Tata McGraw-Hill Publishing Company Ltd., New Delhi.
8. HUSSAIN MAJID (1994): Political Geography. Annual Publications Pvt. Ltd. New Delhi 110002.
9. GLASSNER, M.I (1993): Political Geography. John Wiley & Sons. Inc. New York.
10. TAYLOR PETER JAM (1993): Political Geography. Longman Scientific and Technical, Longman Group U.K. Ltd., Essex.
11. MUIR RICHARD (1987): Modern Political Geography.
12. MUIR, R. (1975): Modern political geography. Halsted Press
13. PRESCOTT, J.R.V. (1972): Political Geography. Richard Clay (The Chancer Press) Ltd. Bungay, Suffolk, U.K.

Paper-VIII *Techniques in Geomorphology:*

Objectives: To impart technical knowledge in Geomorphological research and mapping.

Contents

1. The scope of geomorphology.
2. Methods of research and analysis.
3. Field techniques:
 - (a) Observation of forms and character:
 - (i) Slope form
 - (ii) Morphological mapping
 - (iii) Geomorphological field mapping
 - (b) Observation of surface deposits
 - (c) Observation of processes in action
 - (i) Fluvial, glacial, mass movement, wind action and earth movement.
4. Cartographic and morphometric analysis:
 - (a) Profiles.
 - (b) Generalized Contours.
 - (c) Slope Maps.
 - (d) Aerial Photography
 - (e) Glacial Features.
 - (f) Sediment Analysis:
 - (i) Size of Sediment.
 - (ii) Shape of Sediment.
 - (iii) Chemical analysis and dating methods.
 - (iv) Fabric Analysis.
 - (v) Lithological analysis.

BOOKS RECOMMENDED:

1. KING, C.A.M. (1996): Techniques in Geomorphology, London,
2. BRIGGS, D. (1977): Sources and Methods in Geography Sediments. London,
3. MILLER, A.A. (1953): The Skin of the Earth, London,
4. Leopold, L.B. Wolman, M.G. and Miller, J.P. (1964): Fluvial processed in Geomorphology. New York.
5. DAVIS, W.M. (1941): Landscape, Oxford
6. DAVIS, W.M. (1909): Geographical Essays, Boston
7. BROWN, E.H. (1960): The Relief and drainage of Waves, Cardiff.
8. KING, L.C. (1962): The Morphology of the East, Edinburgh
9. WOOLDRIDGE, S.M. & D.L. LINTON (1955): Structure, Surface and drainage in South East England, London,
10. BLENCH, T. (1957): Regime behavior of canals and rivers, London
11. BAGNOLL, R.A. (1954): The physics of blown sand and desert dunes, London.

Paper-IX. *Quaternary Geology*

Objectives: To familiarize the student with the changes occurred during the quaternary period during the past 3.0 million years in Pakistan and elsewhere.

PART-I

Contents

1. General features of the Quaternary Period.
2. Plio Pleistocene boundary.
3. The Pleistocene Period:
 - (a) Glaciation Geology: Glacial periods, glacial and non-glacial sediment.
 - (b) Periglacial features: Geographical distribution of periglacial zone, past and present periglacial deposits permafrost, seasonally frozen ground and the active layer, periglacial structures.
 - (c) Fluvial and interfluvial: General features, climatic floral and faunal characteristics.
4. Stratigraphical investigations and classification:
 - (a) Classical models i.e. Alpines, North Europe, British, Isles, East Africa, North America.
 - (b) The oceanic record.
 - (c) Dating methods - relative and chronometric.
 - (d) Fossil record, flora and fauna
 - (e) Sea level changes
 - (f) Correlation of Atlantic deep, sea core and glacial models.
5. Holocene:

General features, climatic changes, and climatic sequence, effects on flora and fauna, geomorphic processes.

PART - II

1. Glacial sequence of the mountain belt of Pakistan.
2. Geology and Geomorphology of the Soan Valley.

3. Soan Valley culture and distribution
4. General pattern of Stone age culture of Pakistan
5. Techniques of making and function of tools.

BOOKS RECOMMENDED:

1. ZHISHENG A.N. & Z. WEIJIAN (Eds.) (1997): Quaternary Geology: Proceedings of the 30th International Geological Congress (Proceedings of the 30th International Geological Congress). Brill Academic Publishers
2. DER VEEN VON C. J. & J. OERLEMANS (Eds.) (1987): Dynamics of the West Antarctic Ice Sheet: Proceedings of a Workshop Held in Utrecht, May 6-8, 1985 (Glaciology and Quaternary Geology). Kluwer Academic Publishers
3. ABER J.S., DAVID G. CROOT, & MARK M. FENTON (1989): Glaciotectonic Landforms and Structures (Glaciology and Quaternary Geology). Springer; (1st Edition)
4. RICHARD FOSTER FLINT (1971): Glacial and Quaternary Geology. John Wiley & Sons New York.
5. BOWEN, D.Q. (1977): Quaternary Geology: A Stratigraphic Framework for Multidisciplinary Work. Pergamon Press.
6. ALASTAIR G. DAWSON (1992): Ice Age Earth: Late Quaternary Geology and Climate (Physical Environment). Routledge
7. JOHN A. VAN COUVERING (2004): The Pleistocene Boundary and the Beginning of the Quaternary (World and Regional Geology). Cambridge University Press.

Paper-X: Regional Planning

Learning Objectives

To impart spatial planning related knowledge at various regional levels to the students about Pakistan and other developed countries of the world.

To comprehend the planning process and planning machinery of Pakistan.

1. Definition, Scope and status of Planning: Elements of planning, various types of planning activities.
2. Regional Concept: Region and its types. Identification and differentiation of Geographical, Administrative, Planning and Special Purpose regions.
3. Regional Systems and hierarchy: relationship between National Planning, Regional/Spatial/district and local level, planning machinery of Pakistan.
4. Planning information and Basic Surveys for planning: surveys for Physical, Land use, Demographic, Socio-Economic and other Surveys.
5. The Planning process: Planning as cyclic process, Planning organizations, Institution and Preparation of Spatial at National, Regional/district plans, their contents, stages of planning process.
6. Intra-Regional Planning: Location of industry, Central Place Theory and Growth pole theory, their applications in regional planning.
7. A comparative study of regional or spatial planning in Pakistan and other countries of the world specially France or UK.

Books Recommended

1. Bryson, J. M. (2018). *Strategic planning for public and nonprofit organizations: A guide to strengthening and sustaining organizational achievement*. John Wiley & Sons.

2. Conyers, D. (2012). *An introduction to social planning in the Third World*. John Wiley & Sons Incorporated. John Wiley, London.
3. Dunnett, N., & Hitchmough, J. (2014). *The dynamic landscape: design, ecology and management of naturalistic urban planting*. Taylor & Francis.
4. Faludi, A. (2013). *A reader in planning theory* (Vol. 5). Elsevier. Pergamon Press New York.
5. Field, B. (2018). *Forecasting techniques for urban and regional planning*. Routledge.
6. Glasson, J. (1978). *An introduction to regional planning: concepts, theory and practice*. London: Hutchinson, London.
7. GoKP (2013): Local Government Act, Government of Khyber Pakhtunkhwa, Peshawar.
8. GOP (2000): Devolution Plan in 2001. National Reconstruction Bureau Islamabad.
9. Hall, P., & Tewdwr-Jones, M. (2010). *Urban and regional planning*. Routledge. (6th Edition)
10. Hosack, W.M. (2010): Land Development Calculations: Interactive Tools and Techniques for Site Planning, Analysis and Design McGraw-Hill Professional.
11. Lichfield, N., Kettle, P., & Whitbread, M. (2016). *Evaluation in the Planning Process: The Urban and Regional Planning Series* (Vol. 10). Elsevier.

Paper-XI: *Urban Planning*

Objectives

This course is framed to train the students in urban planning and other related issues of unplanned urban growth and urbanization. Examples are given from Pakistan and elsewhere.

1. Scope and Status of Urban Planning, the development of Town Planning theory with particular reference to classic example of planned area and garden city movement of Ebenezer Howard, new town movement and policy of decentralization.
2. Basic principles of Urban Planning, necessity of town planning.
3. Basic surveys for Urban Planning, Land use, Traffic and Parking, Population and other surveys.
4. The Planning Process: Institutions, Preparation of the town and a neighborhood plan. Programming stages of preparation, Development controls and implementation plans.
5. Planning Techniques: Distribution and allocation of land for residential, industrial, recreation, open spaces and other facilities, concept of zoning.
6. Urban environment in Pakistan: Growth of Urbanization, Internal structure of Pakistani Cities. Study of urban residential patterns,
7. Urban areas deterioration: Slums and squatter formation, their causes and effects, Urban renewal process and policies.
8. Planned cities of Pakistan, the concept of master planning with special reference to Islamabad Master plan. New Towns and Satellite towns. Site and service Schemes.
9. Management of Urban affairs in Pakistan, current institutional set up with special reference to the local and district level institution, people participation problems and prospects

Books Recommended

1. Black, J. (2018). *Urban transport planning: Theory and practice*. Routledge.
2. Cervero, R. (2010). *The transit metropolis: a global inquiry*. Island press.
3. Council, L. C. (2015). *The planning of a new town*. Routledge. London.
4. Culpin, E. G. (2015). *The Garden city movement up-to-date*. Routledge, London.
5. Hall, P.G. & P. Hall (2002): *Cities of Tomorrow: An Intellectual History of Urban Planning and Design in the Twentieth Century* Blackwell Publishers
Hall, P. (2014). *Cities of tomorrow: an intellectual history of urban planning and design since 1880*. John Wiley & Sons. (5th Revised Edition)
6. Harrison, A. J. (2017). *Economics and land use planning*. Routledge.
7. Landry, C. (2012). *The creative city: A toolkit for urban innovators*. Routledge.
8. Levy, J. M. (2016). *Contemporary urban planning*. Taylor & Francis., (8th Edition).
9. New Civic Art: Elements of Town Planning
10. Potter, R. B., & Lloyd-Evans, S. (2014). *The city in the developing world*. Routledge.
11. Rangwala, S. C., Rangwala, K. S., & Rangwala, P. S. (2013). *Town planning*. Charotar publishing house.
12. Short, J. R. (2017). *An introduction to urban geography*. Routledge.
13. Sperling, B., & Sander, P. (2004). *Cities Ranked? & Rated: More than 400 Metropolitan Areas Evaluated in the US and Canada*. John Wiley & Sons.
14. Sugrue, T. J. (2014). *The Origins of the Urban Crisis: Race and Inequality in Postwar Detroit-Updated Edition* (Vol. 6). Princeton University Press.
15. WASTON, D. (2003): *Time-Saver Standards for Urban Design*. McGraw-Hill Professional.

Paper - XII: Agricultural Geography

Objectives: To train students in spatial variation in different agricultural practices in the world, the production environment and variations with examples from Pakistan and elsewhere.

Contents

1. Nature Scope and Status of Agricultural Geography.
2. The Origin and Development of Agriculture
3. Physical Factors Influencing Agriculture:
(a) Climate (b) Soils (c) Relief
4. Social Cultural and Economic Factors Influencing Agriculture:
(a) Development of peasant societies.
(b) Land Tenure - Land Reforms.
(c) Farm Size - Co-operative farming
(d) Marketing
(e) Transport
(f) Tariffs and Restrictions
(g) Farm Income and Type of Enterprise.
(h) Labor
(i) Mechanization
(j) Specialization of Areas.

- (k) Influence of Government Policies.
- 5. Agricultural Enterprises Systems and Types:
 - (a) Mixed agriculture in British Isles and New Zealand, Plantation Agricultural in Malaysia.
 - (b) State and collective farming in Eastern Europe with special reference to Russia
 - (c) Subsistence Agriculture.
- 6. Regional Analysis:
 - (a) The Agricultural Regions: Concept and Methodology.
 - (b) Land use and Land potentials.

BOOKS RECOMMENDED:

1. SAUER, J.D. (1993): Historical Geography of Crop Plants : A Select Roster. CRC-Press; 1st Edition
2. HART, J.F (1998): The Rural Landscape. Johns Hopkins University Press
3. MORGAN, W.B. (1971): Agricultural geography (The field of geography). Methuen.
4. STEILA, D. & T.E. POND (1989): Geography of Soils: Formation, Distribution, and Management. Rowman & Littlefield Publishers; Second Edition.
5. GRIGG, D.B. (1988):The agricultural systems of the world: An evolutionary approach (Cambridge geographical studies) Cambridge University Press.
6. ASTROTH, J. H. Jr. (1989): Understanding Peasant Agriculture : An Integrated Land-Use Model for the Punjab (University of Chicago Geography Research Papers) Committee on Geographical Studies
7. SYMONS, L. (September 1, 1979): Agricultural Geography. (Westview advanced economic geographies). Westview Press Rev Edition
8. ILBERY, B.W. (1986): Agricultural Geography: A Social and Economic Analysis . Oxford University Press.
9. LOWE, P., T. MARSDEN & S. WHATMORE (Eds.) (1995): Regulating Agriculture (Critical Perspectives on Rural Change). John Wiley & Sons; New Ed edition
10. MORGAN W.B. & R.J.C. MUNTON (1981): Agricultural Geography. Methuen and Co. Ltd.
11. LAXMI, S. (1991): Agricultural Geography. Scientific Publishers, New Delhi.

Paper-XIII: *Transportation Geography:*

Objectives: To train student in different aspects of transportation, its importance and relevance to development. To highlight the role of Geography in the development of transport.

Contents

1. Definition, Types, scope and status and importance for development.
2. Historical overview of Transportation and Communication System
3. Types of Transportation
4. Transport Networks.
 - (i) Network efficiency

- (ii) The Development of Networks:
- (iii) Models of Networks Development.
- (iv) Distortion and Deviation.
- (v) Networks at Climax.
- (vi) The use of graph theory to study transport Networks.
- 5. The Motion of Accessibility
- 6. Spatial Interaction and Transport Flows:
 - (i) Ways of studying spatial interaction
 - (ii) Study of volume of Interaction between areas.
 - (iii) The Gravity Model of spatial interaction.
 - (iv) Ullman Model.
 - (v) A mere General Statement of Curve filtration for spatial interaction.
- 7. Transportation Competition and Model choice.
 - (i) Economic Distance.
 - (ii) Transport Cost.
 - (iii) Non-Cost Factors.
- 8. Ports and Sea Transportation: New Trends in Container Traffic.
- 9. Air Transportation.
- 10. Transportation and Communication Systems in Pakistan and related problems.

BOOKS RECOMMENDED:

1. HARVEY J. M & S. LUNG SHAW (2001): Geographic Information Systems for Transportation: Principles and Applications (Spatial Information Systems. Oxford University Press.
2. BRE, M. (1963): A History of Land transportation; New York.
3. DELL, A. (1971): Railways and Geography, Hutchinson, London.
4. SEDY, K.R. (1948): The Geography of Air Transport, Chicago.
5. BELL, E.M.G. & I. YASUNORI (1997) Transportation Network Analysis. John Wiley & Sons; 1st Edition

Paper-XIV: Social Geography:

Objectives: To familiarize the students in spatial variations in social variables and material culture in different parts of the world, with examples from Pakistan and elsewhere.

Contents

Part: I

Concepts in Social Geography

1. Definition, Meaning and Nature of Social Geography.
2. Concepts of Space.
 - (i) Environment, Space and Ecology.
 - (ii) Sentiments, Symbolism, and Social Space.
3. Patterns and their significance in Social Geography
4. The Behavioral Approach.
5. Processes Determining Social Patterns:
 - (i) Internal Urban Mobility
 - (ii) Migration
 - (iii) Urbanization as a Social Process.
 - (iv) The Rural-Urban Continuum.
6. Planning:
 - (i) Concept of Planning
 - (ii) Public and Social Planning.

- (ii) People Participation in Planning Process with special reference to the devolution of power and establishment of community development institutions of CBOs and NGOs.

Part: II

Methodology in Social Geography

1. Architecture and Housing.
 - (i) Classification of shelters.
 - (ii) World-wide Survey of the architectural continuum.
 - (iii) Studies of housing in smaller areas with examples from different regions various areas of Pakistan.
2. Religion:
 - (i) Eastern Religions
 - (ii) Western Religions
 - (iii) Animism
 - (iv) Regions and Regionalization
3. Methodology.
4. Language:
 - (i) Spatial aspects of Languages.
 - (ii) Process of change in the spatial distribution of languages.
 - (iii) Dialect Geography
5. Education and Literacy:
 - (i) World Literacy
 - (ii) Educational Level within Pakistan.
6. Settlement:
 - (i) Definition and Classification
 - (ii) Location of Settlements.
 - (iii) Patterns of Settlements.
 - (iv) The Process of Settlement.
7. Technology:
 - (i) Definition.
 - (ii) Technology as a unifying factor.
 - (iii) The spatial Distribution of technology
 - (iv) The spread of technology and future implications.
8. Spatial Interaction:
 - (i) Transport and Communication.
 - (ii) Spatial Interaction: Volume.
9. Spatial Diffusion:
 - (i) Description of the spread of selected phenomena.
 - (ii) Diffusion Process.
 - (iii) Spatial Diffusions.

BOOKS RECOMMENDED:

1. JONES, EMRYS & JONES, EYLES (1979): An Introduction to Social Geography. Oxford University Press.
2. JONES, EMRYS (Ed.), (1975): Readings in Social Geography: Oxford University Press,.
3. KARIEL, H.G. & KARIAL, P.E., (1972): Explorations in Social Geography; Addison-Welsey Publishing Company, (U.S.A.).
4. PAHL, R.E. (1965): Trends in Social Geography. In CHORLEY, R.E. & HAGGET, P (Eds.), Frontiers in Geographical Teaching, Methuen, pp. 81-100.

Paper-XV: Rural Geography:

Objectives: To train the student in different aspects of rural life, its problems and rural development strategies.

Note: This course will be studied with special reference to Pakistan and with general reference to other parts of the world.

Contents

1. Definition, Nature and Scope.
2. Rural Communities:
 - (i) The Concept of Community and Social Capital.
 - (ii) Social Change and the rural community.
3. Rural Depopulation:
 - (i) Types of Depopulation.
 - (ii) Reasons of Depopulation
 - (iii) Size and direction.
 - (iv) The Selection and Migrants.
 - (v) The Decision to migrate.
 - (vi) The changing economic structure of rural settlements.
4. Structural Changes in Agriculture:
 - (i) Plot consolidation. (ii) Farm Enlargement.
 - (iii) Settlement Re-modeling. (iv) Land Reforms.
 - (v) Land use changes.
5. Patterns and Processes of Settlements:
 - (i) Form and Patterns.
 - (ii) Settlement Rationalization in Rural Areas.
6. Urbanization of the Rural Areas:
7. Passenger Transportation in Rural Areas.
8. Rural Development Program, and Strategies with special reference to Pakistan since 1947 up to date.

BOOKS RECOMMENDED:

1. Chambers, R. (1995): Rural Development : Putting the last first Prentice Hall
2. CLOUT, D. CLOUT (1972): Rural Geography An Introductory Survey: Pergamon Press,.
3. LOWIS, G.T. (1979): Rural Communities: David and Charles, London,.
4. GLIG, A.W (1978): Countryside Planning; Methuen & Co., Ltd., London,.
5. MUSHTAQ-UR-RAHMAN (1982): Pakistan's Rural Development - Policies and Problems; U.S.A.,.
6. SIDDIQI, A. JAMEEL (1980): A Review of Rural Development Programs (1857-1980)., University of Peshawar.
7. UHLIG, H. (Ed.) (1972): Basic material for the terminology of the agricultural landscape Vol. II Giessen Germany.
8. MANDAL R.B. (1988): System of Rural Settlement in developing countries. Concept Publication Company, New Delhi.

Paper-XVI: *Geography of the Muslim World:*

Objectives: To train the student in the geography of the Muslim world.

Contents

Part I. *General:*

1. Origin and Dispersal of Islam, identification of Muslim majority and minority area. Muslim World as a cultural region.
2. Relief and landform, major Physical divisions.
3. Major Climatic Types and their role on the human and cultural activities.
4. Spatial distribution of Resources and Economic Growth in the Muslim World. Principal Crops, Minerals and Industries.
5. Communication and Trade.
6. Human Resources of the Muslim World. Spatial relationship of population and Resources.
7. Urbanization and important cities.
8. Future of the Muslim World.

Part II. *Regional*

- | | |
|------------------------------|-----------------|
| 1. Afghanistan | 5. Saudi Arabia |
| 2. Indonesia | 6. Turkey |
| 3. Bangladesh | 7. Egypt |
| 4. Iran | 8. Nigeria |
| 9. Central Asian OIC States. | |

BOOKS RECOMMENDED:

1. U.N. Demographic yearbook Latest Edition.
2. I.E. FARUQI & L.L. FAROOQI (1986): The Cultural Atlas of Islam. Macmillan Publishing Company New York.
3. BROOK, J.O.M & J.W. WEBB (1968): A Geography of the Mankind. McGraw hill Books New York.
4. WAZIR AHMAD & K. CHOUDRI (1972): A Commonwealth of the Muslim States. Feroz Sons, Karachi.
5. STAMP, L.D. (1957): Africa: A Study in Tropical Development. John Wiley and Sons, London.
6. STAMP, L.D (1962): A Regional Economic Geography. Methuen, London.
7. SEPENCER, J.E. & THOMAS. W. (1971): Asia, East by South. John Wiley and Sons, London.

Paper-XVII: *Cultural Geography:*

Objectives: To study the way culture works as a tool in man-environment interaction as it varies from area to area.

Contents

1. Culture: Elements of culture, objectives, scope and status of cultural Geography.
2. Main themes of Cultural Geography: Culture and cultural areas, Cultural Landscape, Cultural History and Cultural Ecology, Cultural hearth.
3. Cultural Process: Origin and diffusion of Culture, cultural change.

4. Man, Nature and Culture
5. Culture through ages: Paleolithic, Neolithic, Bronze and Iron age.
6. Stages of Socio-economic Development
7. The study of the following as cultural phenomena: Religions, Settlements and House types.
8. Cultural Regions.

BOOKS RECOMMENDED:

1. WAGNER, L. & M. HIKESELL (Ed.) (1962): Readings in Cultural Geography.
2. SPENCER & THOMAS (1980): Introducing Cultural Geography.
3. BROEK, J.O.M. & J.W. WEBB (1968): A Geography of Mankind. McGraw Hills.
4. WALTER, P.A.F. (Latest edition). Race and Cultural Relations.
5. CARTRE, G.F. (1980): Man and the Land: a Cultural Geography. New York, Halt,
6. WHITE, L.A. (Latest edition). Evolution of Culture. New York. McGraw Hill.
7. JAMES, P.E. (1974): One World Divided, John Wiley and Sons, New York, London.

Paper XVIII Population Geography

Learning objective: Objective of the course is to make student understand: i) The Dynamics of population characteristics; ii) Relationship between Man and environment and resources; iii) Highlight the importance of demographic data in planning and decision-making.

Course outline

1. Scope and Status of Population Geography
2. Difference between demography and population geography
3. Methods of population data collection: Problems and its availability
4. Characteristics of population data
5. Physical Characteristics
6. Races and their distribution
7. Age structure and composition
8. Population ageing and its socio-economic and demographic effects
9. Ethnic group and their distribution
10. Nature and pattern of Disability
11. Measures of population distribution, crude and physiological density
12. Distribution of population and controlling factors.
13. Physical Climatic Social and historical
14. Social Characteristics
15. Linguistic attributes
16. Religious composition
17. Marital status and associated patterns
18. Economic Characteristics
19. Active labour force
20. Occupational characteristics
21. Industrial groups and their distribution
22. Theories of population

23. Population dynamics
24. World pattern of fertility, controlling factors
25. Pattern and characteristics of mortality and associated aspects
26. Urban Population concentration: Rank-size rule and primacy distribution
27. Migrations and movement of people; controlling factors
28. Causes of Internal migrations: Seasonal periodic and permanent migrations
29. International migrations causes and consequences
30. Major international migrations
31. Growth of Population
32. General trends in demographic development
33. Pattern of world population growth
34. Population and resources
35. Demographic transition
36. Critical review of the population policies

Assignments: Showing of population distribution on world map by dot and shade methods. Construction of population pyramids for developed and developing countries of the world for comparison.

Books Recommended

1. Bashford [A.](#) (2014) Global Population: History, Geopolitics, and Life on Earth Columbia University Press. New York London.
2. Castles S. Haas H. and Miller M. J. (2013) The Age of Migration, : International Population Movements in the Modern World. Fifth Edition. Rown and Little field New York London.
3. Clarke J.I. (latest edition), Population Geography. Prentice-Hall. New York London.
4. Jones, H. R. (1990) Population Geography. SAGE Publications. New Dehli
5. Lal K.M. (1988), Population Settlement Development and Planning, Allahbad, India.
6. Majid H. (1994), Population Geography, Anmol Publications. New Dehli
7. Larkin R. P, johnson-Webb k. & Otiso K. M (2013) [Population Geography: Problems, Concepts, and Prospects](#). Kendall Hunt Publishing; 10 edition. New York London.
8. Manning P. (2005) Migration in World History. Psychology Press, London
9. Newbold K. B. (. 2006) Six Billion Plus: World Population in the Twenty-first Century Rowman & Littlefield Publishers; Second Edition. New York London.
10. Newbold K. B. (2013) Population Geography: Tools and Issues Rown and Little field New York London.
11. Pacione M. (Ed.) (1986) Population Geography: Progress & Prospect. Croom Helm. London, New York
12. Peters G. L. and Larkin R.t P. (2010) [Population Geography](#). Kendall Hunt Publishing; 9th editions. New York London.
13. Polunin Nicholas (1998), Population and global security, Cambridge University Press
14. Trewartha G.T. (1969), A Geography of Population World Pattern. John Wiley & Sons .New York & London.
15. Weeks J. R. (. 2011) [Population: An Introduction to Concepts and Issues](#). Cengage Learning; 11 edition New York, London

16. William F.Hornby and Meluyn Jones (1980), An Introduction to Population Geography. University Press Cambridge
17. Witherick M. E. (1990) Population Geography Longman, London
18. Zelinsky W. (1996) A Prologue to Population Geography, Prentice-Hall. New York London.

PAPER-XIX *Environmental Geography:*

Learning objectives: To train the students in the field of environment and its relationship with factors which are apparently changing the present environment

Course outline

- Introduction to Environmental Geography:
 - Definition, Scope and Fundamental concepts of Environmental Geography
- Physical and Human Environment, Components of Physical Environment and their interrelationship.
- Man Environment Relationships
 - Environmental Impacts of Economic Activities
- Biosphere, Biomes and ecosystems. Terrestrial, aquatic and atmospheric biomes.
- Food web and food chains: Major Biogeochemical cycles (Carbon, Nitrogen and Hydrogen).
- Natural resources: Utilization and Management
- Environmental Degradation: Causes, Impacts and control mechanisms.
- Natural Hazards and disasters: Meaning and concepts, types, response and management of Environmental hazards and disasters.
- Environmental Planning and Management: National and international Co-Operation and Policy response
- Environmental Issues and Problems: Global, Regional and Local Level.

Assignments: Mapping of different hazards, resources and problems at Global Regional and Local levels

Recommended Books

1. Slocombe, S. (2004). Applying an Ecosystem Approach' in B. Mitchell: Resource and Environmental Management in Canada: Addressing Conflict and Uncertainty, 3rd edition, Oxford University press: Toronto , pages 420 - 441
2. Gleick, P. (2000). The Changing Water Paradigm: A look at twenty-first century water resources development, Water International 25(1), 127 – 138
3. Freedman, B. (1998). Environmental Science: A Canadian perspective, Scarborough Prentice Hall: Canada, pp. 182 – 199
4. Ludwig, D., Hilborn, R. and Walters, C. (1993). Uncertainty, resource exploitation, and conservation: Peter Science 260: 36.
5. Arms, Karen. (1991). Environmental Science, Asunders College Publishing: Philadelphia.
6. Bennet, Robert and Estall, Robert. 1991. Global Change and Challenge: Geography for the 1990s, Routledge: London.
7. Marsh, W.M, (2005). Environmental Geography, John Willy, U.S.A.
8. Khan M.Z. & Agarwal (2004): Environmental Geography. Prentice Hall, New Delhi.
9. Savindra,S. (1998). Environmental Geography, India.

10. GOP (1992) Pakistan National Conservation Strategy. Environment and Urban Affairs Division Islamabad.
11. Watt, K.E.F. (1992): Understanding the Environment. Allyn and Bacon. London.
12. Jack, G. (1990): Environmental Geography. Longman Ltd. UK.
13. Knapp, B. (1989): Challenge of the Natural Environment. Longman Group, New York.
14. Mottershead & S.J.Harrison (1984): Environmental System. An Introductory Text. Allen & Unwin, London.
15. David, D. (1983) Man-Environmental Process. George Allen & Unwin, London.

PAPER-XX: *Geography of Resources*

Objectives: To train the student in resource studies and resource management systems.

1. Introduction to the Study of Resources,
2. Concept and Approaches to Natural Resource Management
3. Resources and their appraisal.
4. Meaning and Nature of Resources,
5. Energy and Resources,
6. Resource, Aspects: Natural, Human and Cultural,
7. Nature and resource,
8. Man and resources,
9. Culture and Resource.
10. Resources, space and People,
11. Flora and Fauna, Renewable and non-renewable resources.
 - i. Agricultural,
 - ii. Industrial,
 - iii. Mineral,
 - iv. Land,
 - v. Water,
 - vi. Forest,
 - vii. Wildlife,

BOOKS RECOMMENDED:

1. JOHN, F. & A.S. PITKETHLY (1985): Resources Environment and Policy. PCP Poul Chupman Publishing limited, New York.
2. KHAN, A. (2001): Training Workshop Report on Natural Resource Management (NRM) prepared for SDPI, Islamabad.
3. NATIONAL ACADEMY OF SCIENCES (1969). Resources and Man, W.H. Free and Company San Francisco.
4. PATERSON, JH (1973 or latest Edition). Land, Work and Resources: An introduction to Economic Geography, Edward Arnold.
5. PEACH, W.N. & CONSTANTIN, JAMES. (1972 or latest edition): Zimmermann's World Resources and Industries. Harper and Row. New York.
6. RAYMOND, F.D. (1960): Environmental Conservation. John Wiley and Sons, New York.

PAPER-XXI *Applied Geomorphology:*

Objectives: This course is based on the application of geomorphological concepts. The main emphasis is to train the students in identification and recognition of geomorphic processes, their causes and impacts on human being.

Contents

1. Introduction to Applied Geomorphology
 - a. Scope and Importance
 - b. Geomorphology and Environment
 - c. Geomorphic Change and Man
2. Monitoring Geomorphological Changes in the Environment
3. Endogenetic Hazards
 - a. Earthquakes & Volcanicity: Cause, Morphotectonics and Earthquake, Prediction, Damages, Earthquake Hazards Zoning, Environmental Management and Earthquakes, Volcanoes
 - b. Hydrological Hazards
 - c. Rivers and Flood Plains, Flooding, Drainage Basin System, Sediment Load and Budgets, Drainage Basin/Watershed Management
 - d. Drought, Types and Resources, Hydrological Drought
 - e. Glacial and Pariglacial Environment, High-latitude and High altitude Problems. Glacial Hazards, Pariglacial Hazards, Aggradation and Degradation, Forest Hazards, Snow as a Hazard to the Urban System.
4. Environmental Hazards in the Land Surface
 - a. Soil Erosion by Water and Wind, Nature and Types of Soil Erosion, Raindrop Erosion, Run-off Erosion, Aeolean Erosion, Economic and Productivity Implication
 - b. Weathering of Rocks and Stones, Causes, Implication
 - c. Desertification, Causes and Implication
 - d. Mass Movement Hazards, Concept, Classification, Causes, Snow Avalanches and Associated Problems.
5. Mapping Geomorphology
 - a. Techniques of Geomorphological Mapping
 - b. Data Sources for Mapping
6. Geomorphology and Environmental Management
 - a. Geomorphology in Planning and Decision Making
 - b. National Conservation Strategy in the context of Geomorphology.

BOOKS RECOMMENDED:

1. Costa, J. E. & V. R. Baker (1981): Surficial Geology: Building with Earth. John Wiley and Sons, New York
2. SABH, M. I. EL & T. S. MURTY (Eds.) (1988): Natural and Man made Hazards. Academic Publisher Group.
3. COOKE, R. U. & J. C. DOORNKAMP (1990): Geomorphology in Environmental Management (New Edition). Clarendon Press Oxford.
4. AMALKAR, K.SEN & (1993): Desertification and its control in the Thar, Sahara and Sahel Regions. Scientific Publishers, Jodpur, India.
5. DONALD A. W. et al (1987): Planning for Drought: Reduction of Societal Vulnerability. West View Press, London.
6. FOSTER H. D (1980): Disaster Planning: The prevention of life and property. Springer Press Berlin.
7. GOP (1992) Pakistan National Conservation Strategy. Environment and Urban Affairs Division Islamabad.
8. BURTAN, et al (1978): The Environment as Hazard. Oxford University Press, London.

9. VERSAPPER H.T. (1983): Applied Geomorphology: Geomorphological Survey for Environmental Development. Elsevier, New York
10. WIJKMAN, ANDERS & TIMBERLAKE, LLOYED (1986): Natural Disasters: Act of God or Act of Man. Earth Scan, London.
11. COOKE, R.U. et al (1982): Urban Geomorphology in Dry Land. Oxford University Press, London.
12. KNAPP, B. (1989): Challenge of the Natural Environment. Longman, New York.
13. ALEXANDER D. (1993): Natural Disaster. UCL Press.
14. HART, M.G. (1986): Geomorphology Pure and Applied. George Allen & Unwin, London.

PRACTICAL (COMPULSORY)

Objectives: To train students so that they could independently conduct the basic research, report writing and presentation of research in the faculty. To train the students in cartographic techniques and map making to impart knowledge on the cartographic representation of the spatial and temporal data.

Contents

I. Project Report:

Report on any geographical topic related to physical or human geography such as: Land use/Regional/Geomorphological Survey, Socio-economic, Housing Population, Infrastructure and essential services. Human Geography.

II. Seminar:

All the student have to prepare a Seminar under the guidance of a staff advisor and present it before the faculty and students of the department.

III. Advanced Cartographic Techniques:

1. Principles of Map making.
2. Graphs/Diagrams:
Line graphs, Ergographs, Columnar diagrams, Wind rose diagram, Rainfall dispersion diagram, Climographs, Star diagram, Arrows. Divided rectangles, Divided circles.
3. Non quantitative Maps.
Chronochromatic techniques, delimitation of hinterland.
4. Quantitative maps - Choropleth Maps, Isopleth Maps.
5. Quantitative symbols - Dot, Circle, Square, Sphere, Cubes Divided circle.
6. Comparative Age and Sex pyramids for major cities and towns of Pakistan.
7. Flow line Maps.
8. Introduction to Computer Cartography and use of Software like Power Point and MS Excel for drawing of simple diagrams and graphs.

BOOKS RECOMMENDED:

1. ERWIN RAISZ (1962): Principles of Cartography. McGraw-Hill Book Company. New York
2. ROBINSON (1963): Elements of Cartography. John Wiley & Sons London
3. MONK HOUSE (1971): Maps and Diagrams Routledge; 3rd, Revised Edition.

IV. Quantitative Techniques and Research Methods:

Objective:

To train students in the collection, analysis, interpretation and presentation of quantitative spatial data and to enable them to organize and conduct independent research.

A Quantitative Techniques

1. Use of Statistics in Geography: Nature of geographical data and Measurement Scales.
2. Summary Techniques: Measures of central tendency, dispersion, and variability.

3. Time Series: Graphs, Growth and decline, Index numbers, Logarithmic scales, Trends and fluctuations, Components of time Series, Methods of drawing Trends Lines for linear and exponential series.
4. Methods of Correlation: Linear, Non-Linear, Multiple, the Product Moment correlation, Spearman's Rank correlation, Correlation Matrix.
5. Tests Hypothesis and Significance: Chi Square, "T" test, "F" test, Analysis of variance.
6. Research Issues: Relevance, Assumption, Significance, Hypotheses formation, Designing research.
7. Research Methods: Data Collection, Sampling units and design, Major types and techniques of data organization and Analysis.
8. Computer Analysis: Classification by grouping similar observations, Multivariate analysis. The construction of multifactor taxonomy by use of Computer software.
9. Regression Analysis: Scattergram, Methods of constructing regression lines and mapping residuals, Interpolation, Prediction and Explanation.
10. Introduction to Lotus and SPSS: PC for quantitative analysis.

BOOKS RECOMMENDED:

1. Chapman J. and McGraw J.R. et al (1993) An Introduction to Statistical Problems Solving in Geography Oxford: WCB
2. Haring, L.L. and et al (1992) Introduction to Scientific Geographic Research Oxford: ECB
3. Hammond, R. and McCullagh, P.S. (1986) Quantitative Techniques in Geography Oxford: Clarendon Press
6. Clark, W.A. V. and Hosking, P.L. (1986) Statistical Methods for Geographers New York: John Wiley.
7. Mahmood A. (1986) Statistical Methods in Geographical Studies New Delhi: Rajesh Publications
8. Johnston, R.J. (1980) Multivariate Statistical Analysis in Geography
9. Silk, J. (1979) Statistical Concepts in Geography London: George Allan & Union
- Theakstone, W.H and Harrison, C. (1976) The Analysis of Geographical Data London, Heinemann
10. SPSS User Guide SPSS Inc. (Latest Edition).
11. Lotus User Guide (Latest Edition).

B Research Methods

1. Introduction and nature of research, approaches and design: Ethnographic survey, experimental, case studies, cross sectional and longitudinal style of research
2. Basic elements of scientific research Methods: Hypothesis testing, variable/parameters.
3. Methods of data collection: Questionnaire design, Data classification and types i.e. categorical, ordinal and interval.
4. Introduction to Sampling Design, sampling methods and frame, data type, use of statistics, in research and its significance in research and hypothesis testing.
5. Thesis writing, Literature search, use of internet and E-communication and conferences, Bibliography.

BOOKS RECOMMENDED:

1. LYNE, TUCKER et al. (1990): Research Methods and Statistical Analysis. IPS Nottingham University UK.
2. HOWARD, K. & SHARP, J.A. (1983): The Management of a Student Research Project. Gower Publishing Company, UK.
3. KEELINGER, FRED N. (1986): Foundation of Behavioral Research. New York, CAB Publications.
4. BANNET, N. (1973): Research Design. Milton Keynes, the Open University, UK.

V Modern Tools in Geography (GIS and Remote Sensing)**A Geographic Information Systems (GIS)**

1. An Introduction to Geographic Information System (GIS), General Principles and Overview, Application e.g. Agriculture, Land Use Planning, Forestry and Wildlife Management, Archaeology, Geology, Socio-Economic and Municipal, Application, Environmental Management and Monitoring, Change Detection, Global Scale Application.
2. GIS data sources, Digitization of data/output, management, manipulation, analysis, modeling output and organization, New way of looking GIS data and GIS technology overcoming Institutional barriers, Need for trained individuals, liability and political nature of GIS.
3. Use of Global Positioning System (GPS). Working of the instrument and application
4. GIS Practical Exercises on Software such as ILWIS/ACR VIEW/MAP INFO/CIET MAP

BOOKS RECOMMENDED:

1. ARONOFF, STAN (1989) or latest edition): Geographic Information System: A management perspective. WDL Publications Ottawa Ontario.
2. MAGUIRE, J.D., GOODCHILD, M.F. & RHIND, D.W. (Eds.) (1991): Geographical Information Systems. Vol. 1. Longman.
3. MAGUIRE, J.D. (1989): Computer in Geography. Longman.
4. BURROUGH, P.A. (1986): Principles of Geographical Information Systems for Land Resource Assessment. Clarendon Press Oxford.
5. MASSER, I. & BLAKEMORE, M. (1991): Handling Geographical Information: Methodology and Potential Applications. Longman.
6. Pakistan Journal of Geography, relevant issues.

B Remote Sensing:

- 1) Introduction to Remote Sensing
- 2) History and development
- 3) Concepts and Foundation of Remote Sensing
- 4) Satellite Remote Sensing
 - a) Types of Satellite
 - b) Image products

- 5) Image Analysis
 - a) Techniques for visual interpretation
 - b) Instruments Setup for Visual Interpretation
 - c) Quantitative Analysis of Images
6. Applied Remote Sensing in a Perspective
 - a) Visual Interpretation of Satellite Images
7. Remote Sensing in Environmental Monitoring
 - a) General Aspects
 - b) Classification of Soil Erosion
 - c) Erosion Hazard Assessment

Land Use and Land Cover Mapping for Conservation and Land Use Planning
8. Case Studies
 - a) Northern Area of Pakistan
 - b) North Western Area of Aromal
 - c) Area around Islamabad
 - d) Mirpur/Mangla Dam
 - e) Northern Part of Peshawar Valley

BOOKS RECOMMENDED:

- 1 LILLESAND, HOMAS M. & R.W. KIEFER, (1994): Remote Sensing and Image Interpretation: John Wiley Sons, Inc. New York.
- 2 REES, W.G. (1990): Physical Principles of Remote Sensing.
- 3 BONHON-CARTER, G.F. (1989): Geographic Information System of Geo-

VI RECORD

VII VIVA-VOCE