

Syllabus 2012-13
B.A. / B.Sc. (Hons) I Year

Paper -I GEOMORPHOLOGY
(GG – 103)

Paper: 40
Sessional:10
Total: 50

- UNIT 1.** The nature and scope of physical Geography main divisions of geography: Physical geography and Human geography. The place of geomorphology in the discipline of geography, The solar system and origin of the earth - an introduction to the various theories: Laplace, Chamberlin and Moulton, Big bang theory.
- UNIT 2.** The constitution of the earth's interior. Isostasy, origin of continents and ocean basins, a critical examination of Wegener's Theory of continental Drift and the concept of Plate Tectonics.
- UNIT 3.** Earth movements - Orogenetic and epirogenetic and the structures resulting from them, earthquakes and volcanoes. Mountain building with special reference to fold mountains (Kober and A. Holmes, hypothesis) Rocks - their origin, classification and characteristics. Weathering and erosion.
- UNIT 4.** Geomorphic agents and processes: The work of running water, the development of river valley and associated landforms, the work of glaciers, wind and Karst landscape.
- UNIT 5.** Concept of normal cycle of erosion, views of Davis and Penck. Geomorphological knowledge and its relevance to settlements, surface transport, agricultural land use and mining.

BOOKS RECOMMENDED:

1. Thornbury, W.D. , Principles of Geomorphology, John Willey & Sons Inc.
2. Woolridge, S.W. , Morgan, R.S. , An Outline of Geomorphology, Longman, London.
3. Strahler, A.n. & Strahler A.R. , Elements of physical Geography, John Willey & Sons.
4. Singh Savinder. , Physical Geography, Prayag publications, Allahabad, 1993.
5. Sparks, B.W. , Geomorphology, Longman, London.
6. Das Gupta, A. , Principles of Physical Geography.
7. Minsul, Roger. , The Changing Nature of Geography, London, 1970.
8. Thornbury, W.D. , Principles of Geomorphology, John Wiley and sons, Inc. Latest Edition.
9. Sury, G.H. , The face of the Earth, Penguins, 1980.
10. Spark, B.W. , The Geographer as Scientist, Thomas Wilson and sons. , Ltd. , London, 1956.
11. Khan, Nizamuddin, An Introduction to Physical Geography, Concept Publishing Company, New Delhi, 2001.
12. Husain, Majid., Fundamentals of Physical Geography, Rawat Pub., Jaipur, 2001.

Syllabus 2012-13

B.A. / B.Sc. (Hons) I Year

Paper -II: CLIMATOLOGY AND OCEANOGRAPHY
(GG – 104)

Paper: 40
Sessional: 10
Total: 50

- UNIT 1.** Weather and climate: Definition and significance of climatology, elements of climate, composition and structure of the atmosphere, insolation, heating and cooling of the atmosphere, heat budget, latitudinal heat balance.
- UNIT 2.** Atmospheric temperature, horizontal and vertical distribution of temperature, inversion of temperature. Atmospheric pressure: Vertical and horizontal distribution of pressure, planetary, periodic and local winds. Atmospheric moisture, forms of precipitation and types of rainfall. Origin of monsoons and its relation with jet stream.
- UNIT 3.** Air masses and fronts: Concepts, classification and properties, atmospheric disturbances, tropical and temperate cyclones and anticyclones, origin and associated weather phenomena, climatic classification, basis of Koppen's classification, types and characteristics, atmospheric pollution, general causes, consequences and measures of control.
- UNIT 4.** Definition of Oceanography, surface configuration of ocean floor - continental shelf, continental slope, deep-sea plain and oceanic deep. Sub-marine relief of Indian Ocean. Salinity and temperature, vertical and horizontal distribution, causes and effects, salinity of Indian Ocean.
- UNIT 5.** Circulation of Oceanic Water: Waves, tides and currents, currents of Atlantic, Pacific and Indian Ocean. Marine deposit, types and distribution. Coral reefs, origin and types of Flora and Fauna of Ocean.

BOOKS RECOMMENDED:

1. Trewartha, G.T. , & Horn, L.A. , Introduction to climate, International Studies, 1990.
2. Critchfield, H. , General Climatology, New York, Latest Edition.
3. Iydolph, Paul, E. , The Climate of the Earth, Roman and Allanheld, Totows, N.J. , 1995.
4. Malter, J.R. , Climatology, McGraw-Hill, New York.
5. Patterson. , S. , Introduction to Meteorology, McGraw-Hill Book Co. , London.
6. Stringer, E.T. , Foundation of Climatology, Delhi, 1992.
7. Trurman, H.B. , Introductory Oceanography, Charles Webber Merrill Publishing Co. , 1984.
8. Gerald, S. , General Oceanography - An Introduction John Wiley & Sons, New York, 1080.
9. Weisberg, J. , and Howard, Parish. , Introductory Oceanography McGraw-Hill book Co. , New York 1976.
10. Khan, Nizamuddin, An Introduction to Physical Geography, Concept Publishing Company, New Delhi, 2001
11. Hussain, Majid., Fundamentals of Physical Geography, Rawat Pub., Jaipur, 2001.

Syllabus 2012-13
B.A. / B.Sc. (Hons) I Year

Practical: CARTOGRAPHY I & SURVEYING
(GG1 – P1)

Max. Marks: 50

1. Maps and Scales

The nature and scope of Cartography, Classification and significance of maps. Definition and significance of scale. Conversion from R.F. to statement, scale and vice-versa.

Scales: Simple, diagonal, and comparative.

2. Representation of Relief and Topographical Sheets

Methods of showing relief: Hachures, hill shading, contours. Representation of important landform features and slopes contours alongwith their cross-section.

Study and interpretation of two topographical maps of India: One concerning a mountainous area and another covering a plain area.

3. Representation of Climate and Weather Maps:

Representation of temperature, pressure and rainfall data. Isotherms, Isobars and Isohytes. Study and interpretation of two weather maps of India.

4. Surveying

- (1) Plane Table Survey: General principles of plane table survey, Radiation, Intersection.
- (11) Prismatic Compass Survey: Open and closed traverse.

BOOKS RECOMMENDED:

- 1. Singh, R.L. , Elements of Practical Geography.
- 2. Sing, R. , Singh, L.R. , Mapwork and Practical Geography.
- 3. Raisz, E. , General Cartography.
- 4. Bygott, J. , Mapwork and Practical Geography.
- 5. Monkhouse, F.J. , Maps and Diagrams.
- 6. Singh, R.L. , & Datt, P.K. , Elements of Practical Geography. Latest Edition.
- 7. Misra, R.P. , & Ramesh, A., Fundamentals of Cartography.
- 8. Carnett, A. , Geographical Interpretation of Topographical Maps.
- 9. Alvi, Zamiruddin, A Textbook of Surveying.
- 10. Ishtiaque, M. , A Textbook of Practical Geography.

Syllabus 2012-13
B.A. / B.Sc. (Hons) II Year

Paper I GEOGRAPHY OF RESOURCES
(GG – 205)

Paper: 40
Sessional: 10
Total: 50

- UNIT 1.** Geography of resources: nature, scope and significance. Resources meaning and classification, technology and resources. Resource distribution and economic development.
- UNIT 2.** Natural Resources: Distribution, production and problems of conservation of major natural resources. Soil Resources: Soils formation and characteristics; Soil types and distribution with special reference to their significance for agriculture Forest Resources: Types of forests, major forest products (rubber and timber). Forests and ecological balance.
- UNIT 3.** Mineral and Energy Resources: Distribution, production and problem of conservation of major mineral resources (iron and copper) . Energy Resources: Conventional resources: Coal, Petroleum, hydro-power, Non-conventional resources: Solar, wind, Geothermal and nuclear. World energy crisis.
- UNIT 4.** Water Resources: The hydrological cycle, sources of fresh water; water needs and problems; water conservation and future prospects. Fish distribution and production in the world.
- UNIT 5.** Human Resources: Characteristics of population distribution, density and growth. The dilemma of limited resource and increasing population; Concept of optimum, over and under population. Population-Resource regions of the world.

BOOKS RECOMMENDED:-

1. Alexander, J.W., Economic Geography, New Delhi, latest edition.
2. Chandna, R.C., A Geography of population concepts determinants and patterns, New Delhi, 1986.
3. Stephen, G.H., Wright, W.K. & Teclaff, E.N. (Eds.) A World Geography of Forest Resources, New York.
4. Jelinsky, W., A Prologue to Population Geography, Prentice Hall, 1966.
5. Janavi, U.A., Economic Geography, Concept publishing company, New Delhi, 1985.
6. Zimmerman, E.K., World Resources, Harper Brothers, New York.
7. Hussain, M. Human Geography (Second Edition), Rawat Publication, Jaipur, 1999

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B.A. / B.Sc. (Hons) II Year

Paper II GEOGRAPHY OF RESOURCE UTILIZATION
(GG – 206)

Paper: 40
Sessional:10
Total: 50

- UNIT 1.** Concept of resources. Approaches of resource management and utilization; stages of socio-economic development; Indicators of economic and social development; spatial dimensions of technology and resource utilization; Spatial analysis of quality of population and resource utilization.
- UNIT 2.** Agriculture: Crops and their association with different natural and human conditions. Distribution of cereal crops - wheat, rice, and maize. Non-cereal crops-cotton, sugarcane and tea. Agriculture development and environmental problems.
- UNIT 3.** Industries: Industry and its association with different natural and human resources, distribution and production of the following major industries iron and steel, cotton textile, chemical. Forest based industries: Paper and pulp- Industrial development and environmental problems.
- UNIT 4.** Water: Demand and use in agriculture, industries and domestic uses. Problems of water resource management: Floods, Salinity and alkalinity, water-logging, water pollution. Water use and environmental considerations.
- UNIT 5.** Functional classification of economic activities - primary, secondary and tertiary sector and their major characteristics. Trends and their world distribution.
Trade: Meaning and significance, factors or causes of trade, Internal and International trades, recent trends in International trade.

BOOKS RECOMMENDED:-

1. Alexander, J.W., Economic Geography, New Delhi, latest addition.
2. Boesch, H., A Geography of World Economy, New York, 1964.
3. Jones, C.F., & Darkenwald, G.G., Economic Geography, New York, latest edition.
4. Miller, E., Geography of Manufacturing, Prentice Hall, New Jersey.
5. Zimmerman, E.W., World Resources and Industries, Harper Brothers, New York.
6. Stephen, G.II. , Wright, J.K. , & Tecloff, E.N. (Eds.) A World Geography of Forest Resources, Ronald Press Co. , New Delhi.
7. Clawson, M. (Ed.) Natural Resources and International Development, New York.
8. Thomas, R.S. , The Geography of Economic Activity-An Introductory World Survey, Mc-Graw-Hill Book Company, Inc. , New York, 1962.
9. Berry, B.J.L. et al. , Resources for a Growing Population. In the geography of Economic System.

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B.A. / B.Sc. (Hons) II Year

Practical: CARTOGRAPHY - II & LEVELLING
(GG2 – P2)

Max. Marks: 50

- Cartography II: Types of cartographic symbols and their uses: Point, line, area. Representation of population (distribution, density, growth, age-sex composition, literacy), agricultural (land utilization, crop distribution, irrigated area) and transport data
- (a) Point symbols (dots, circles and spheres)
 - (b) Line symbols (isopleths and flow lines)
 - (c) Area symbols (Choropleth)
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- Leveling: 1) Dumpy Level - Importance of Dumpy level and its uses. Plotting longitudinal section by rise and fall methods.
- 11) Sextant - Use of sextant. Calculation of horizontal and vertical distance.

BOOKS RECOMMENDED:-

1. Singh, R.L., Elements of Practical Geography.
2. Singh, R. , & Singh, L.R. , Mapwork and Practical Geography.
3. Bygott, J. , Mapwork and Practical Geography.
4. Monkhouse, F.J. , Maps and Diagrams.
5. Misra, R.P. , & Ramesh, A. , Fundamentals of Cartography, Mac Millan, New Delhi, 1986.
6. Mahmood, Aslam, Statistical Techniques in Geographical Studies, Rajesh publishers, New Delhi.
7. Ishtiaque, M. , A Textbook of Practical Geography.

Syllabus 2012-13
B.A. / B.Sc. (Hons.) III Year

Paper - I EVOLUTION OF GEOGRAPHICAL THOUGHT
(GG – 301)

Paper: 40
Sessional:10
Total: 50

- UNIT 1.** General characteristics of geography in ancient period. Contribution of Herodotus, Strabo, Eratosthenes and Ptolemy in the development of geographical thought.
- UNIT 2.** General characteristics of geographical thought during Arab period. Dark - age translation work of Arabs. Contribution of important philosophers - Al - Masaudi, Al - Biruni and Ibn- Khaldun.
- UNIT 3.** Founders of modern geographical thought. Contribution of Humboldt, Ritter and Ratzel. Contribution of French and British schools of geography with special reference to Vidal-De-la- Blache and Mackinder.
- UNIT 4.** Concepts in geography, Environmental determinism, possibilism and stop and go determinism. Development of dualism and dichotomies in geography - physical vs. human, regional vs. systematic.
- UNIT 5.** Development of geographical thought after second world war. Quantitative revolution, behavioral geography, radical geography, welfare geography and human ecology.

BOOKS RECOMMENDED:

1. Hussain, M., Evolution of Geographical thought. Delhi.
2. Ali, S.M., Arab Geography. Aligarh.
3. Ali, S.M.Z., Arab's Contribution to the Geography during 9th and 10th centuries, A.D. Aligarh.
4. Dixit, R.D. Geographical Thought ' A contextual history of Ideas, Delhi.
5. James, R.E., All possible world: A history of Geographical Ideas, New York.
6. Dickinson, R.E. The Makers of modern Geography London.
7. Hartshorne, R, Perspective on the nature of Geography, Chicago.
8. Adhikari, S., Fundamentals of geographical thought, Allahabad.

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B.A. /B.Sc. (Hons.) III Year

Paper II: MAJOR WORLD ENVIRONMENT
(GG – 302)

Paper: 40
Sessional: 10
Total: 50

- UNIT 1.** Concept of Environment, Perspective on man-environment relationships, symbiosis between man and environment. Basis of classification of major world environments.
- UNIT 2.** Equatorial Environment: Physical and human environment. Monsoon Environment: Physical and human environment, Hot-desert Environment: Physical and human environment
- UNIT 3.** Tropical and Temperate Grasslands and their comparison in context of their Physical and human environment. Mediterranean Environment: Physical and human environment.
- UNIT 4.** West European Environment: Physical and human environment, Tundra and Taiga Environments with respect to their Physical and human environment.
- UNIT 5.** Pollution: air, water and soil with reference to their causes and effects and remedial measures, deforestation and environmental degradation, environmental management.

BOOKS RECOMMENDED:

1. Heinzalman and Smith. World regional Geography, New Delhi, Second Edition, 1965.
2. Arvill, R., Man and Environment: Crisis and strategy of Choice, Penguin, Harmondsworth, 1967.
3. Thomas, W.L. (ed.) Man's role in changing the face of the Earth, Chicago, 1956
4. Ahmad, Qazi Said-ud-din. Major Natural Regions, S Chand & Co. (Pvt) Ltd. New Delhi.
5. Singh, Savindra, Environmental Geography, Prayag Pustak Bhawan Allahabad, 1997

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B.A. / B.Sc. (Hons.) III Year

Paper - III PHYSICAL GEOGRAPHY OF INDIA
(GG – 303)

Paper : 40
Sessional: 10
Total: 50

- UNIT 1.** Geological history of India: A brief review. Structure, composition and economic importance with special reference to Dharwar, Deccan trap and Gondwana system. Bases of physiographic division of India. Extra peninsula, peninsula and Indo-Gangetic plain-their study in relation to evolutions, structure and relief.
- UNIT 2.** Drainage and water resources. Evolution of extra peninsular drainage and its major river system like Ganga and Brahmaputra. Concept of Indo-Brahma or Sivalik in the evolution of extra peninsular drainage. Characteristics of peninsular drainage and its major river system like Krishna and Godawari. Difference between peninsular and extra peninsular drainage systems. Importance of water resource national water policy water grid system of India.
- UNIT 3.** Climate - characteristics of Indian climate: Origin and development of Monsoon and its mechanism. Classical and modern views regarding the origin of Indian Monsoon. Influence of relief in the distribution of rainfall. El-Nino and its effect on Indian weather. Identification of floods prone areas and draught prone areas. Regionalisation of Indian climate with special reference to Koppen and Thornthwaite's classifications.
- UNIT 4.** Natural vegetation - Factors affecting the growth and distribution of natural vegetation. Types of forests and its distribution, characteristics and economic importance. Deforestation and its consequences. Conservation and management of forests. National Forest Policy. Social forestry and its significance.
- UNIT 5.** Soil structure, texture, reaction and profile. Factors determining the types of soil, distribution and characteristics. Major areas affected by soil erosion, soil erosion and conservation. Problems of soils and its measures of reclamation.

BOOKS RECOMMENDED:

1. Spate, O.H.K., & Learmonth, A.T.A., India and Pakistan Land, people and Economy, London.
2. Wadia, D.N., Geology of India, London.
3. Das, P.K., The Monsoon, New Delhi
4. Krishnan, M.S., Geology of India and Burma
5. The Gazetteer of India Vol.1
6. Ray Chaudhary, S.P., Land and soil, New Delhi
7. Puri, G.S., Indian forest Ecology, New

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Paper IV SOCIAL & ECONOMIC GEOGRAPHY OF INDIA
(GG – 304)

Paper: 40
Sessional: 10
Total: 50

- UNIT 1.** The people: Distribution and growth of population, regional variation in population growth, population policy and impact of family planning. Population structure, sex ratio, language. Implication of concentration of urban population.
- UNIT 2.** The agrarian base: agro-climate regions, the green revolution inputs and infrastructure, achievements and draw-backs. Distribution and production of rice, wheat, cotton and tea.
- UNIT 3.** The energy base: Energy scenario in India-uneven spatial distribution, impending power crisis. Sources of energy –Coal, petroleum, non-conventional energy, production, problems and prospects.
- UNIT 4.** The Industrial base: Industrial development in the planning era. The problems of regional disparity. Localization factors and spatial pattern of major industries, iron and steel industry and cotton textile industry.
- UNIT 5.** Trade and transportation: Transport system-railways, roads, inland water transport and their role in economic development of the country, International trade: policies, problems and prospects.

BOOKS RECOMMENDED:

1. Census of India, Economic and socio-cultural Dimensions, Government of India, New Delhi.
2. Davis Kingslay, Population of India and Pakistan, Princeton.
3. Riskey, H., The people of India, Delhi.
4. Mukherjee, P.K., Economic and Commercial Geography of India.
5. Das Gupta, R., Economic Geography of India and Pakistan.
6. Memoria, C.B., Agricultural problems of India.
7. Johnson, B.L.C., India: Resources and Development.
8. Ray, S.K., Indian Economy New Delhi.
9. Datt, R., Sundharan K.P.M. Indian Economy, New Delhi
10. Misra & Puri, Indian Economy, New Delhi.
11. Sharma & Coutinho, Economic and Commercial Geography of India.

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Paper V (2) GEOGRAPHY OF NORTH AMERICA
(GG – 306)

Paper :40
Sessional:10
Total: 50

- UNIT I :** North America in the context of world. Relief - Physical division, climate - general characteristics, climatic regions, vegetation, people - spatial distribution of population.
- UNIT 2 :** Agriculture: Distribution and production of chief crops - wheat and wheat region, cotton belt, corn belt. Agricultural regions of North America and chief characteristics of each region.
- UNIT 3 :** Mineral wealth and Energy resources: Iron and petroleum. Industries: factors of localization, production and problems of iron and steel, cotton textile and Industrial regions.
- UNIT 4:** Regional study of California under the following heads: Relief - Physical divisions, climatic characteristics. Economy - General characteristics of agriculture and industry.
- UNIT 5:** Regional Study of New England under the following heads: Relief - physical division, climatic characteristics. Economy - general characteristics of agriculture, and industry.

BOOKS RECOMMENDED:

1. Pounds, M.J.C., North America
2. Miller & Parpin, Geography of North America.
3. Meand, W.R., United states and Canada.
4. Hudson, F.S., North America.
5. Watson, W., North America.
6. Bindsall, S.S, Regional Landscapes of United States of North America and Canada.
7. Patterson, J.H., North America.
8. Monkhouse, F.J., & Claim, H.R., North America.
9. Hudson, F.S., North America.
10. Smith, J. Russall & Phillips, M.O., North America.
11. Watson, J.W., North America.
12. Orkention, John., Canada: A Geographical Interpretation.
13. Majid Hussain., Regional Geography, 1994, Anmol Pubs., Pvt., N. Delhi.
14. Barker, W.H., Regional Geographies, 1938, London Press, London.
15. Wheeler, J.H., Regional Geography of the World, 1955, New York.
16. Garland, J.H., A Reg. Geography: North America, 1955, John Wiley & Sons., New York.
17. Stamp, L.D., A Regional Geography: America, 1961, Longman, London.

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B.A. / B.Sc. (Hons.) III Year

Paper V (3) GEOGRAPHY OF AUSTRALIA & NEW ZEALAND
(GG – 307)

Paper: 40
Sessional: 10
Total: 50

- UNIT 1.** Australia in the context of world. Land: Relief, drainage, climate, soils, People: Peopling of the continent, distribution, density and growth, urbanization.
- UNIT 2.** Economy: Agriculture, main characteristics and problems of Australian Agriculture. Distribution and production of major crops: Wheat and sugarcane. Place of livestock - sheep, dairy and meat cattle .
- UNIT 3.** Mineral and power resources: Iron ore, coal, gold, copper. Industries - their location , distribution and production.
- UNIT 4.** Major Regions of Australia: New South Wales and Queensland: Land, people and economy.
- UNIT 5.** New Zealand in the context of world, Land: relief, drainge climate, soils. People: distribution, density and growth of population. Economy: Agriculture and pastoralism.

BOOKS RECOMMENDED:

1. Dury, G.H., Logan, M.I. (Eds.) Studies in Australian Geography, Melbourne, 1968.
2. Spate, O.H.K., Australia, New York, 1969.
3. Cairns, G.O. & Others,. Australia, New York 1962.
4. Jeans, D.N. (Ed.) Australia: A Geography, London & Henley.
5. Wood, G.L.(Ed.) Australia, Its Resources and Development, New York,1951.
6. Wood, G.L. , The Pacific Basin.
7. Laborde, E.D. (Ed.), Australia, New Zealand and the Pacific, 1952.
8. Taylor, G., Australia, 1966.
9. Rees, H., Australia, 1964

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B.A. / B.Sc. (Hons.) III Year

Paper-VI (1) AGRICULTURE & RURAL DEVELOPMENT
(GG – 308)

Paper: 40
Sessional: 10
Total: 50

- UNIT 1.** Conceptual basis of Rural Development: Concept of Development, measures of development, rural development in India: Pre-Independence and post-independence efforts.
- UNIT 2.** Dimensions of rural economy-physical and human resources, their spatial pattern and inter-relationship. Origin and development of agriculture, nature, scope and significance of agricultural geography. Agriculture and rural development.
- UNIT 3.** Agriculture and rural infra-structural facilities and amenities, new agricultural technology, irrigation, rural education, rural transportation, rural marketing.
- UNIT 4.** Issues of agriculture and rural development in India: Rural poverty and under development, land reforms, land tenure systems, rural labour, rural employment.
- UNIT 5.** Critical review of rural development strategies in India: IRDP, Community Development programme, Small Farmers Development Programme, Implications for balanced development.

BOOKS RECOMMENDED:

1. Hussain, M., Agricultural Geography, New Delhi, 1979.
2. Symons, I., Agricultural Geography, London, 1964.
3. Leong & Morgan, Human and Economic Geography, Hong Kong,
4. Deman, N.L., Agriculture and Rural Development in India.
5. Clont, S.D., Rural Geography.
6. Murthy, W.L. & Narayana, K.V., Rural Economy of India, Delhi.
7. Tewari, R.T., & Sinha, R.C., Rural Development in India, New Delhi, 1988.
8. Alexander, T.W., Economic Geography, Prentice Hall, Englewood cliffs, N.J. (Latest Edition).
9. Gregory, Howard, F., Geography of Agriculture: Themes in Research, Prentice Hall Englewood cliffs, N.J., 1970.
10. Singh A.L. and Fazal. S., Agriculture and Rural Development, B.R. Publishers, New Delhi- 1998

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Paper VI (2) POPULATION & SETTLEMENT GEOGRAPHY
(GG – 309)

Paper : 40
Sessional : 10
Total : 50

- UNIT 1.** Nature and scope of Population Geography, Broad patterns of population distribution and density in the world; growth of population - problems and policies of population growth in developing countries.
- UNIT 2.** Population, resource and economic development: Concept of over population, under population and optimum population; population resource regions of the world. Theory of demographic transition.
- UNIT 3.** Migration and its demographic significance, types of migration: Internal – rural-urban and seasonal, International - causes and effects, Theories of Migration-Revenstein Theory of Migration of Population.
- UNIT 4.** India's population - Distribution, growth and density of population; population growth and socio-economic development, population and food resources, problems and policies.
- UNIT 5.** Settlement: Rural settlement - site, process and evolution; types and patterns; house types, origin, size and structure of Indian villages.

BOOKS RECOMMENDED:

1. Clarke, J.I., Population Geography, Pergamon Press, Oxford, 1972.
2. Trewartha, G.T., A Geography of Population, World patterns, John Wiley & Sons, Inc., New York.
3. Khan, J.H. Scio-Economic & Structural Analysis of Internal Migration, New Delhi 2010.
4. Trewatha, G.T., The Less Developed Realm - A Population Geography, McGraw Hill, New York, 1972.
5. Chandna, R.C., A Geography of Population: Concepts, Determinants and patterns, Kalyani publishers, New Delhi, 1986.
6. Singh, R.L., et., al. Readings in Rural Settlement Geography, Varanasi 1972.
7. Chisholm, M., Rural Settlements and Landuse, London, 1970.
8. Hudson, F.S., A Geography of Settlements, McDonald and Evans., N.D., 1976.
9. Wanmali, S., Service Centers in Rural India, B.R. Publication, Delhi, 1983.

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B.A. / B.Sc. (Hons.) III Year

Paper VI (3) URBAN & REGIONAL DEVELOPMENT
(GG – 310)

Paper: 40
Sessional: 10
Total: 50

- UNIT 1.** Meaning and Scope of Urban Geography; Functional Classification of Cities – Harris and Nelson’s Methods, Internal structure of cities (Concentric Zone Theory, Sectoral Theory, Multiple Nuclei Theory), CBD and its characteristics.
- UNIT 2.** Urbanization - Process of Urbanization, urbanization trends and patterns: Urbanization process in India; Indian urban problems and policies.
- UNIT 3.** Urban Settlement System – Primate City concept, Hierarchy of Urban Settlements; Rural – Urban Fringe; Christaller’s Central Place Theory and its application in planning for Regional Development.
- UNIT 4.** Cities – Region, Regionalism, Types of Region; Methods of Regionalization; Hierarchy of region; Methods of Regionalization, Umland and its delimitation.
- UNIT 5.** Concept of Development; Indicators of Regional Development; Regional Imbalances – Causes, consequences and remedial measures; Scheme of Planning Regions of India.

BOOKS RECOMMENDED:-

1. Carter, Herold, The study of urban Geography, Edward Arnold, London , 1972.
2. Turner, Roy (ed), India’s urban future, Oxford University Press, Bombay 1962.
3. Dickinson, R.E., City region and regionalism, Paul, Trench, Trubner & Co. Lond , 1947
4. Mayer, H.M. & Kohn, C.F., Readings in urban Geography, Chicago printing press, Chicago.
5. R.C. Putham etc, Geography of urban places.
6. Ashish, Bose, Studies in India’s urban, 1961 – 1971.
7. Friedann, J & Alonson, W. Regional development and planning.
8. Mitra, A., Levels of regional development in India.
9. Sengupta, P., & Sadasyuk, G.U., Economic regionalization of India: Problems & Approaches.
10. Munir, A., Agricultural Productivity and regional development, Delhi, 1992.
11. Sayeed, A. Kahn, Hierarchy of service center in Trans – Ghaghara plain.

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Paper V (1) GEOGRAPHY OF ASIA (Excluding India)
(GG – 311)

Paper: 40
Sessional:10
Total: 50

- UNIT 1.** Asia in the context of world.
Land: Relief, major river systems, climate, natural vegetation, soils.
- UNIT 2.** Economy: Agriculture: main types of Asian agriculture, distribution and production of crops, wheat, rice, millets and sugarcane, tea, cotton. Place of livestock in Asian agriculture and the problems of Asian agriculture and their possible solutions. Distribution and production of fisheries.
- UNIT 3.** Mineral and Energy resources: coal and petroleum. Industries. Distribution factors of localisation. Production and problems: Iron and Steel, textiles, sugar.
- UNIT 4.** Regional study of China under the following heads: Land, people and economy-general characteristics of agriculture and industry.
- UNIT 5.** Regional study of Japan under the following heads: Land, people and economy-general characteristics of agriculture and industry.

BOOKS RECOMMENDED:

1. Stamp, L.D., Asia.
2. Robinson, H., Monsoon Asia.
3. Trewartha, C.T., Japan-A physical, cultural and regional geog.
4. Carus, Japan - Its resources and industries.
5. Cressey, G.N., Asia, Land and people.
6. Ishida, N., Geography of Japan
7. Buxtor, China, land and people
8. Tregear, T.A., Geography of China
9. Rawson, R.R., Monsoon Lands of Asia.
10. Spencer, Joseph and Thomas, Williams, L., Asia-East by South: A Cultural Geography.
11. Fisher, Charles, A., South-east Asia.
12. Chiao-nim Hoieb., China, Ageless land and countless people.
13. Singh, R.L. (Ed.), India: A Regional Geogaphy.
14. Molb., A., East Asia.
15. Farmer, B.H., An Introduction to South Asia.
16. Johnson, B.I.C., South Asia.
17. Ackerman, N.A., Japan's Natural Resources and their relation to Japan's Economic Future.

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Practical I: ASTRONOMY & MAP PROJECTION
(GG3 – P1)

Max Marks:50

1, Astronomy

General explanation of the objects of field of astronomy. Earth's relation with other heavenly bodies: Stars, planets, satellites, Seasons: aphelion, Perihelion, Solstices, Equinoxes, latitudes, longitudes, altitudes, declination, azimuth, celestial horizon, great circles and small circles, zenith, nadir, hour angle, right ascensions.

Time: Types, local and standard times, longitude and time, International Date Line

2, Map Projection

General principles, classification, identification, transformation and choice of projections, Construction, properties, limitations and uses of the following projections:

Cylindrical : Simple, Equal Area, Mercator's.

a. Conical Projections

Conical: One standard conical, two standard
Conical, Bonne's Polyconic

b. Zenithal and Conventional Projections

Zenithal : Gnomonic, Stereographic, Orthographic.
Equidistant, Equal Area (polar case only).

Conventional : Sinusoidal, Mollweide's (Normal case only).

BOOKS RECOMMENDED:-

1. Kellewey, George, P., Map Projections
2. Steers, J.A., Map Projections
3. Singh, R.L., Elements of Practical Geography
4. Gernet, William, Map Projection
5. James, A.H., & Ormsay, M.T.M. Mathematical Geography
6. Singh, L.R., Map work and Practical Geography

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Practical II : STATISTICAL TECHNIQUES
(GG3 – P2)

MAX. MARKS: 50

1, Measurements.

Nature and sources of geographic data, Types of sampling problems and kinds of measurement: nominal, ordinal, ratio and tabulation of data.

2, Graphical Representations.

Frequency Distribution: Histogram, frequency polygon, frequency curve, cumulative frequency curve.

3, Measurement of Central Tendency and Dispersion

Arithmetic mean, median, mode, quartiles and percentiles, range, mean deviation, quartile deviation, Co-efficient of quartile deviation, standard deviation, Co-efficient of variation.

4, Application

Application of mean, median, quartile and standard deviation in mapping of, population, agriculture and industrial data.

BOOKS RECOMMENDED:-

1. Mahmood, Aslam., Statistical Methods in Geographical studies.
2. Alvi Zamiruddin., Statistical Geography.
3. Ebden, D., Statistics in Geography (Practical Approach).
4. Gregory, S., Statistical Methods and the Geographer.
5. King, L.J., Statistical Analysis in Geography
6. Simpson, G. & Kafka, F., Analysis in Geography.
7. Mathematics for Physical Geographers.

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Practical III: AIR PHOTO INTERPRETATION AND
REMOTE SENSING
(GG3 – P3)

Max Marks : 50

1, Air photo Interpretation

History and development of aerial photogrammetry. Application of their techniques in Geography. Aerial photograph and its index marks

2, Their Types and Interpretation

Types and utility of aerial photographs. Chief elements of aerial photo interpretation: Size, shape, ton, texture, pattern and location association.

3, Remote Sensing Concepts

Introduction to remote sensing, basic concepts in remote sensing, Importance, development and application of remote sensing in geographical studies.

4, Remote Sensing Platforms and Image Interpretation

Remote sensing platform and sensors, Active, Passive and micro-wave remote sensing. Aircraft and satellite remote sensing. Visual and digital image interpretation.

BOOKS RECOMMENDED:-

1. Michael, R.H., Remote Sensing: Methods and Applications.
2. Swain & Davis., Remote sensing: The quantitative Approach.
3. Currian., Practical of Remote Sensing.
4. Sabin., Remote Sensing.
5. Attends, Georgie., Applied Remote Sensing, CPLO.
6. Barrett & Curtis., Introduction to Environmental Remote Sensing.
7. Dickinson., Maps and photographs.
8. Barrett & Curtis., Remote Sensing of Terrestrial Environment.

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COMPREHENSIVE VIVA-VOCE
(GG3 – VV)

MAX MARKS: 50

A comprehensive viva-voce will be held from all the courses of the undergraduate level.