

BA / B.SC Geography Syllabus under CBCS
Structure of Syllabus

<i>Semester</i>	<i>Paper</i>	<i>Title</i>
Semester I	I	Physical Geography
Semester II	II	Human Geography
Semester III	III	Economic Geography
Semester IV	IV	Geography of India
	V	Introduction to Remote Sensing & Geographical Information System

B.A /B.SC SEMISTER-I
SUBJECT: GEOGRAPHY
PAPER - I Physical Geography

Objectives

To learn about 1) Types of rocks, Earth Movements, Volcanoes, of Theory of Continental Drift, 2) Weathering and erosion processes, 3) Origin and composition of Atmosphere, 4) Types of precipitation 5) Land and water distribution.

Unit-I

Definition, Nature, scope of Physical Geography, Classification of rocks. Earth Movements; organic, epirogenic, earth quakes and volcanoes. Wegner 's theory of continental drift and plate tectonic theory.

Unit-II

Weathering: causes and its types. Mass – movements; causes, its types and impacts. Concept of cycle of erosion; cycle of erosion by W.M. Davis. Process of Wind, River, Underground water, Glaciers and Sea waves

Unit-III

Weather and Climate; Origin, composition and structure of atmosphere. Insolation, Horizontal and vertical distribution of temperature, inversion of temperature. Atmospheric pressure-measurement and distribution, pressure belts, planetary winds, Monsoon and Local winds

Unit-IV

Humidity- measurement and variables, evaporation, condensation, precipitation forms and types and distribution. Climate classification by Koppen.

Unit-V

Configuration of oceanic floors, Temperature and Salinity of ocean, Land and water distribution. Tides, waves and ocean currents.

Learning Outcomes

After completion of paper student will learn Physical factors of the Earth system like earthquakes, volcanoes, atmosphere, climate, weathering processes types of precipitation, distribution of land and water.

References:

1. Sharma H.S. Perspective in Geomorphology , Concept , New Delhi 1980.
2. Singh Savinder, Geomorphology, Prayag Publication, Allahabad 1998.
3. Singh Savinder, Physical Geography Prayag Publication, Allahabad, 1998.

4. Sparks B.W. Geomorphology, Jojngman, London ,1960.
5. Thornbury W.D. 1969 principles of Geomorphology, New York, John Wiley & Sons.
6. Barry, RG and Chorley R.J., Atmosphere, Weather and Climate, Routledge, 1998.
7. Critchfield, H., General Climatology, Prenticc-Hall of India, 2002.
8. King, C. Oceanography for Geographers, Edward Arnold, London, 1975.
9. Trewartha, GT: An Introduction to Climate, Mc-Graw Hill, New York, 1981.
10. Trewartha, G.T., The Earth's Problems Climates, University of Wisconsin Press, USA.

Practical: Study of Weather and Climate

Objectives

To learn about the weather, measuring of weather conditions, instruments, interpretation of weather reports and Weather Forecasting.

Weather Reports – Definition and applications

Use of Weather Instruments- Wet & Dry Bulb Thermometer, Barometer

Wind-Vane, Rain Gauge.

Study of Weather Symbols and Interpretation of Indian Daily Weather Reports of January & July.

Weather Forecasting.

Learning Outcome

After completion of the paper the student will learn about weather reports, instruments to study weather and climate, interpretation of weather reports and applications of weather forecasting.

Suggested readings:

1. Allen,P.D. :-Environment & Development
2. Gerasimov: Ecology & Geography
3. Kayastha, S.L. :-Fundamentals of Environmental Studies
4. Khushoo, T.N. :-Environment and Sustainable Development of India
5. Singh, J. :-VatavaranNiyojanaumSamvikas
6. Singh, Savindra :-Environmental Geography(Hindi & English)
7. Shrivastava, V.K. & Rao, B.P. :- Paryavaran Evam Paristhitiki

B.A /B.SC SEMISTER-II
SUBJECT: GEOGRAPHY
PAPER – II :HUMAN GEOGRAPHY

Objectives: *To learn about 1) Spatial distribution of race, 2) Human adaptation of environment, 3) Classification of Natural resources, 4) World population density, population growth 5) Rural settlements.*

Unit-I

Nature scope and Historical development of Human Geography.
Division of Mankind: Spatial distribution of race and tribes of India.

Unit-II

Human adaptation to the environment (i) Cold region — Eskimo (ii) Hot region- Bushman (iii) Plateau — Gonds (iv) Mountains — Gujjars.

Unit-II

Meaning, nature and components of resources; Classification of resources — renewal and non- renewable ; biotic and abiotic, recyclable and non recyclable.

Unit-IV

Distribution and density of world population, population growth, fertility and mortality patterns. Concept of over, under and optimum population; Population theories: Malthus.

Unit-V

Rural settlements: Meaning, classification and types. Urban settlements: Origin, classification. Population pressure, resource use and environment degradation;

Learning Outcome

After completion of the paper student will learn about the Human race spatial distribution, adaptation of environment, world population density, population growth and Rural settlements.

Suggested Readings:-

1. Alexander, John. W. : Economic Geography, Prentice Hall of India Ltd., New Delhi, 1988
2. Carr, M. Patterns: Process and Change in Human Geography, McMillan Education, London, 1987.
3. Chandna, R.C. : A Geography of Population : Concepts, Determinants and Patterns, Kalyani Publishers, New Delhi, 1986.
4. DeBlij, H. J.: Human Geography, Culture, Society and Space, John Wiley, New York. 1996.
5. Fellman, J.L. : Human Geography-Landscapes of Human Activities, Brown and Benchman Pub., USA, 1997.
6. McBride, P.J. Human Geography; Systems Patterns and Change, Nelson. UK and Canada, 1996.
7. Michael, Can: New Patterns : Process and Change in Human Geography, Nelson, 1996.

B.A/B.SC SEMISTER-III
SUBJECT: GEOGRAPHY
Paper-III – Economic Geography

Objectives: *To learn about 1) Classification of economic geography, 2) Agriculture Vonthunen Theory, Weber's Industrial theory, 3) Spatial distribution of food 4) Classification of Industries, 5) Trade and transport.*

Unit-I

Nature, scope and relationship of economic geography with economics and other branches of social sciences. Classification of economic activities.

Unit-II

Factors affecting location of economic activity with special reference to agriculture Vonthunen Theory. Weber's industrial theory.

Unit-III

Spatial distribution of food (rice and wheat), commercial (cotton and sugarcane) and plantation crops (tea, rubber and coffee). Ferrous and non-ferrous resources, distribution and production of coal, iron ore, petroleum and natural gas.

Unit-IV

Classification of Industries, world distribution and production of iron and steel and textile industry.

Unit-V

Transport, communication and trade: Land and air transport, recent trends in international trade.

Learning Outcome

After completion of the paper student will learn about the Economic Geography, classification, Agriculture theory and Industrial theory, Spatial distribution of food, classification of industries, Trade and transport.

Suggested Readings

1. Hartshorne TN and Alexander JW. 1988. Economic Geography, Prentice Hall, New Delhi.
2. Jones CF and Darkenwald GG. 1975. Economic Geography Mc. Millan Company, New York.
3. Thomas, RS 1962. The Geography of Economic Activities. McGraw Hill, New York.
4. Wheeler J et al. 1995. Economic Geography. John Wiley, New York

B.A/B.SC SEMISTER-IV
SUBJECT: GEOGRAPHY
PAPER - IV : GEOGRAPHY OF INDIA

Objectives: to learn 1)topography, soils, drainage system 2) Population density, human settlements, urbanization 3) Agriculture, energy and minerals resources 4) Industrial development 5)Trade and transport system in India.

Unit – I

India: Location, relief structure and drainage systems.Climate, Soils, natural vegetation.

Unit – II

Population: distribution, density, growth and composition.Migration, human settlement types and urbanization.

Unit – III

Land resources, irrigation, Green revolution and problems of Indian agriculture. Energy and mineral resources: coal, petroleum, hydroelectricity and nuclear energy, iron ore, manganese and mica.

Unit – IV

Industries- iron and steel, cotton textile, sugar and petrochemical industries; and industrial regions of India.

Unit – V

Modes of transport and communication, international trade changing pattern of export and import.

Learning outcome

After completion of the Paper, the student will learn about different physical, anthropogenic features, mineral wealth and features agriculture, industries and trade and transport systems in India

Suggested Readings:

1. Deshpande, C D: India – A Regional Interpretation, Northern Book Depot, New Delhi, 1992.
2. Singh, Gopal: Geography of India, Atma Ram and Sons,2006.
3. Shafi, M: Geography of South Asia, McMillian and company, Calcutta, 2000.
4. Singh, R L (ed): India: A Regional Geography, National Geographical Society, India, Varanasi,1971.
5. Spate, D H K and ATA Learmonth: Indian and Pakistan – Land, People and Economy, Methnen and Company, London, 1967.

Practical: Cartographic Techniques

Objectives

To learn about the concept, techniques and applications of Cartography.

Content

Map – Definition, Scale of map, applications.

Map Projections – classification, polar, zenithal, stereographic, Bonne's and Mercator's projections

Topographic Profiles

Toposheets – Interpretation, slope analysis

Interpretation of Weather maps (one summer, winter and monsoon seasons).

Learning Outcome

After completion of the paper, the student will learn about the importance of scale of a map, importance of map projections, preparation of map, reading and interpretation of a Toposheet and interpretation of Weather maps.

Suggested Readings

1. Anson, R., and Ormelling F. J.,(1994): *International Cartographic Association: Basic Cartographic*, Vol.Pregmen Press.
2. Singh, Gopal., (1998): *Map Work and Practical Geography (4th Edition)*, Vikas Publishing House, Ahmedabad.
3. Gupta, K.K. and Tyagi V.C.,(1992): *Working with Map*, Survey of India, DST, New Delhi.
4. Kraak, M.J., (2010):*Cartography: Visualization of Geospatial Data* (3rd edition), Pearson Education Ltd., London.
5. Misra, R.P.,(2014): *Fundamentals of Cartography* (Second Revised and Enlarged Edition), Concept Publishing, New Delhi.
6. Monkhouse, F. J. and Wilkinson, H. R.,(1973): *Maps and Diagrams*, Methuen, London.
7. Rhind, D. W. and Taylor D. R. F., (eds.) (1989): *Cartography: Past, Present and Future*, Elsevier, International Cartographic Association.
8. Robinson, A. H.,(2009): *Elements of Cartography* (6th Edition), John Wiley and Sons, New York.
9. Sarkar, A.,(2015):*Practical geography: A systematic approach*, Orient Black Swan Private Ltd., New Delhi
10. Sharma, J. P., (2010): *PrayogicBhugol(Hindi)*, Rastogi Publishers, Meerut.

B.A/B.SC SEMISTER-IV
SUBJECT: GEOGRAPHY
Paper-V – INTRODUCTION TO REMOTE SENSING &
GEOGRAPHICAL INFORMATION SYSTEM

Objectives: *To learn about the 1) Basics of Remote Sensing, 2) Basics of Aerial Photography, Advantages of Remote Sensing and Aerial Photography, 3) Basics of Geographical Information System, 4) GIS data types, GPS, 5) Remote Sensing and GIS integration.*

Unit-I

Introduction to Remote Sensing, Definition, Basis of remote sending. Electromagnetic spectrum, stages in remote sensing. Platforms of Remote Sensing, type of satellites. Types of Sensors

Unit-II

Introduction to Aerial Photographs: their advantages and types. Remote sensing in India Developments. Applications of Remote sensing techniques in Geographical aspects.

Unit-III

Introduction to Geographical Information System: Definition, Purpose, Advantages. History of GIS. Software and hardware requirements. Classification of Software and Hardware

Unit-IV

GIS data types: Spatial and attribute data-Raster and Vector data structure. GPS, Definition, GPS satellites and its applications.

Unit-V

Remote sensing and GIS integration. Application of GIS in various fields of geography.

Learning Outcome

After completion of the paper student will learn about the Remote Sensing, Aerial Photography, Geographical Information System (GIS), Global Positioning System (GPS) and their integration.

Suggested Readings

1. John R. Jensen 2009. Remote Sensing of the Environment; An Earth Resource Perspective, Pearson Education, (Indian Edition) New Delhi.
2. Kumar Meenakshi 2001. Remote Sensing, NCERT, New Delhi.
3. Lillesand and R.W.Kiefer, 2005. Remote Sensing and Image Interpretation, John Wiley and Sons.
4. Pritvish Nag, and M.Kudrat 1998. Digital Remote Sensing, Concept Publishing Company, New Delhi.

5. M.Anji Reddy 2009. Text book of Remote sensing and Geographical Information Systems, BS Publications, Hyderabad.
6. Telugu Academy 2011. B.A./B.Sc., SuduraGrahakaSastram-Bowgolika Samachara Vyavasta.
7. M.Anji Reddy 2008. Text book of Remote sensing and Geographical Information Systems, BS Publications, Hyderabad.
8. Telugu Academy 2011. B.A./B.Sc., SuduraGrahakaSastram-BowgolikaSamacharaVyavasta.
9. Burrough P.A. 1986. Principles of Geographic Information Systems for Land Resources Assessment. Oxform University Press, New York.
10. Fraser Taylor D.R. 1991. Geographic Information System. Pergamon Press, Oxford.
11. Star J. and Estes 1994. Geographical Information Systems: An Introduction. Prentice Hall, Englewood, Cliff, New Jersey.

Practical: Remote Sensing and GIS

Objectives: *To learn about the 1) Remote Sensing Principles, Platforms, 2) Aerial Photography Principles, 3) GIS data structures, 4) Image processing techniques, 5) Interpretation of Remote Sensing data and application of GIS.*

1. Remote Sensing and GIS: Definition and Components, Development, Platforms and Types,
2. Aerial Photography and Satellite Remote Sensing: Principles, Types and Geometry of Aerial Photograph; Principles of Remote Sensing, EMR Interaction with Atmosphere and Earth Surface; Satellites (Landsat and IRS) and Sensors.
3. GIS Data Structures: Types (spatial and Non-spatial), Raster and Vector Data Structure
4. Image Processing (Digital and Manual) and Data Analysis: Pre-processing (Radiometric and Geometric Correction), Enhancement (Filtering); Classification (Supervised and Un-supervised), Geo-Referencing; Editing and Output; Overlays
5. Interpretation and Application of Remote Sensing and GIS: Land use/ Land Cover, Urban Sprawl Analysis; Forests Monitoring

Learning Outcome

After completion of the paper student will learn about the Remote Sensing data, platforms, Aerial Photography, GIS data structures, Image Processing and Remote Sensing and Aerial Photography data interpretation.

Suggested Readings

1. Campbell J. B., 2007: *Introduction to Remote Sensing*, Guildford Press.
2. Jensen J. R., 2004: *Introductory Digital Image Processing: A Remote Sensing Perspective*, Prentice Hall.

3. Joseph, G. 2005: *Fundamentals of Remote Sensing*, United Press India.
4. Lillesand T. M., Kiefer R. W. and Chipman J. W., 2004: *Remote Sensing and Image Interpretation*, Wiley. (Wiley Student Edition).
5. Nag P. and Kudra, M., 1998: *Digital Remote Sensing*, Concept, New Delhi.
6. Rees W. G., 2001: *Physical Principles of Remote Sensing*, Cambridge University Press.
7. Singh R. B. and Murai S., 1998: *Space-informatics for Sustainable Development*, Oxford and IBH Pub.
8. Wolf P. R. and Dewitt B. A., 2000: *Elements of Photogrammetry: With Applications in GIS*, McGraw- Hill.
9. Sarkar, A. (2015) *Practical geography: A systematic approach*. Orient Black Swan Private Ltd., New Delhi
10. Chauniyal, D.D. (2010) *SudurSamvedanevamBhogolikSuchanaPranali*, Sharda Pustak Bhawan, Allahabad