PROGRAMME & COURSE OUTCOME OF DEPARTMENT OF GEOGRAPHY

Programme Offered: B. Sc. Geography

Program Outcome: The general outcome that the Department of Geography in the college expects from those who majors in the discipline is to be accomplished in disciplinary theories, methodologies, and content and its practicality in real world situation. The following learning goals and objectives are anticipated from graduation at the end of the programme:

1. Students should be able to acquire an understanding of and appreciation for the relationship between geography and culture. Articulate the theories, philosophies, and concepts in the discipline of geography, including unifying themes of spatial patterns and structures, the interrelationship between people and places, and the interactions between nature and society.

2. A general understanding of geographic processes, the global distribution of landforms and ecosystems, and the role of the physical environment on human populations there by creating an inbuilt environmental awareness progressively.

3. Students are able to read, interpret, and generate maps and other geographic representations as well as extract, analyze, and present such information from a spatial point of view.

4. Students acquire an understanding of and appreciation for the role that geography can play in sustainable life management

5. Students get an understanding of current global population pattern, factors influencing the distribution and mobility of human populations including settlement and economic activities and networks and their impacts on the physical environment.

6. Students are able to correlate past with the present using various geographic so as to plan for the future.

7. Students are capable to estimate the contradictory agenda of society's various stakeholders and the need to reconcile environmental, economic and socio-cultural concerns.

8. Students enhance their personality through learning human geography

9. Students are able to synthesize geographic knowledge and apply innovative research strategies to solve problems in resource conservation, environmental degradation, and sustainable development within the community, region and the world.

10. Students can identify and assess how geographic concepts apply in the place of work and in day to day life to solve real-world problems.

Specific Outcomes: Geography mainly concerns with the changes in spatial characteristic of a phenomenon in a temporal perspective. The B.Sc. programme in geography is adapted to meet specific educational and professional goals in mind of students. It focuses on spatial studies both qualitative as well as quantitative, with much emphasize on human-environment relationship. After completing the course, the students will be adequately prepared to pursue masters in the fields as well as for professional careers in geography and allied disciplines like Spatial technology what the world witness today.

Course	Objectives
Principles of Geomorphology	● Appreciate earth's tectonic and structural evolution ● Comprehend the knowledge about earth's interior ● Develop an idea about concept of plate tectonics, and resultant landforms ● Identify various endogenic & exogenic forces of earth
Fundamentals of GIS & Remote Sensing	Perform basic ways of maps generation through GIS and ways to generate the data collected through satellites
Climatology & Oceanography	● Link atmospheric and climatic elements with other science disciplines ● Develop an idea about cyclones ● Investigate the mechanism of monsoon
Human Geography	● Correlate various elements of human environment with their real world practices and events ● Analyze the problems of physical as well as cultural environments of both rural and urban areas
Maps & Scales: Practical 1	● Learn to draw the projections of many cartography diagram and apply this is in different statistical data ● Able to select the appropriate scale & technique for graphical presentation of a maps and data ● learn graphically about the enlargement and reduction of maps
Geography of India	● Identify various land formation, climate and natural vegetation ● Evaluate the economic resources of India ● Examine economic & social distribution of population of the country

	• Develop an idea about agricultural and industrial regionalisation of India
Geography of Kerala	• Identify various land formation, climate and natural vegetation of the state • Evaluate the economic and human resources of the state • Examine economic & social development of population
Geography of Resources	• Identify spatial distribution of various resources in the world • Recognize various resource depletion causes and potential threats • Find out possible practical solutions for 4R's concept
World Regional Geography	Correlate natural and cultural regions of the world
Cartography	• Develop an idea on the development of maps and chart chronologically • Acquire knowledge on different types of thematic mapping techniques • Identify the stages of development of a raw data to a final map
Environmental Geography	• Develop an idea about human-nature relationships • Build an idea about ecosystem and its various cycles • Observe various environmental issues of the world • Evaluate environmental programmes and policies of the government
An Introduction to Disaster Management	• Gain knowledge about approaches to hazard study • Develop ideas on factors, consequences and management of various natural disasters • Acquire knowledge about human induced disaster and policies to reduce the events
Weather & Climatic Data Analysis: Practical 2	• Develop an idea about different types of thematic mapping techniques • Interpret weather charts and bulletins of IMD and other meteorological departments

Map Interpretation: Practical 3	Gain knowledge about topographical maps and apply this knowledge in ground surface
Surveying: Practical 4	Conduct different types of surveying instruments like Indian clinometers, prismatic compass, dumpy level etc.
Project	● Conduct a social/environmental survey project in relation to their discipline so as to measuring the status of development of a particular section/area in relation to environment Find out the possible measures to solve those problems that arise due to several human interventions as part of such developments

Besides, the department conducts tourism geography as open course for other departments to make them understand the human and environmental characteristics and relations. The course helps the learners to evaluate the natural resources and classes of tourism. Also the learner will be able to explain the significance of strategy and planning in tourism to make it sustainable.

UNIVERSITY OF KERALA

FIRST DEGREE PROGRAMME IN GEOGRAPHY UNDER CHOICE BASED CREDIT AND SEMESTER SYSTEM (CBCSS)

SCHEME AND SYLLABUS

(2018 ADMISSION ONWARDS)

UNIVERSITY OF KERALA

FIRST DEGREE PROGRAMME IN GEOGRAPHY

CHOICE BASED CREDIT AND SEMESTER SYSTEM
EFFECTIVE FROM 2018 ADMISSIONS

Aims and Objectives of the Programme

In this programme, we aim to provide a solid foundation in all aspects of Geography and to show a broad spectrum of modern trends in geography and to develop experimental, synthetic and application skills of students. The Syllabi are framed in such a way that it bridges the gap between the Plus Two and Post Graduate levels of Geography by providing a more complete and logical framework in almost all areas of the subject.

The Programme also aims:

(1) To provide education in Geography of the highest quality at the undergraduate level and produce graduates of the caliber sought by Industries and Public Service as well as Academic Teachers and Researchers of the future.

(2) To attract outstanding students from all backgrounds.

(3) To provide an intellectually stimulating environment in which the students have the opportunity to develop their skills and enthusiasms to the best of their potential.

(4) To maintain the highest academic standards in undergraduate teaching.

(5) To impart the skills required to gather information from resources and use them.

(6) To equip the students in gathering spatial information, analyse, synthesize and to suggest solutions to Geographical problems.

Objectives :

By the end of the Programme, the students should have

(1) Attained a common level in elementary and basic principles of Geography and laid a strong foundation in earth related sciences for their future courses.

(2) Developed their analytical skills through wide range of expertise in handling applications of geography by their training acquired through the field work and lab.

KERALA UNIVERSITY

PROGRAMME STRUCTURE FOR FIRST DEGREE IN GEOGRAPHY UNDER CHOICE BASED CREDIT AND SEMESTER SYSTEM

Course Code	Course Title	Instructional Hours/Week L P	Credit	Exam Hours	Marks		Total Credit
					Internal	External	
SEMESTER I							
EN 1111	English	**5**	**4**	**3**	**25%**	**75%**	**17**
1111	Addl. Language	**4**	**3**				
EN 1121	Foundation Course	**4**	**2**				
GG 1141	**Principles of Geomorphology**	**2 2**	**4**				
GL 1131	**Complementary Course I (GEOLOGY)**	**2 2**	**2**				
ST 1131.3	**Complementary Course II (STATISTICS)**	**2 2**	**2**				
		25	**17**				
SEMESTER II							
EN 1211	English - I	**4**	**3**	**3**	**25%**	**75%**	**17**
EN 1212	English - II	**5**	**4**				
1211	Addl. Language	**4**	**3**				
GG 1221	**Fundamental of GIS & Remote Sensing**	**2 2**	**3**				
GL 1231	**Complementary Course I (GEOLOGY)**	**2 2**	**2**				
ST 1231.3	**Complementary Course II (STATISTICS)**	**2 2**	**2**				
		25	**17**				
SEMESTER III							
EN 1311	English	**5**	**4**	**3**	**25%**	**75%**	**17**
1311	Addl. Language	**5**	**4**				
GG 1341	**Climatology & Oceanography**	**3**	**3**				
GG 1340	**Practical I**	**2**	*****				
GL 1331	**Complementary Course I (GEOLOGY**	**3 2**	**3**				
ST 1331.3	**Complementary Course II (STATISTICS)**	**3 2**	**3**				
		25	**17**				

SEMESTER IV							
EN 1411	English	**5**	**4**	**3**	**25%**	**75%**	**28**
1411	Addl. Language	**5**	**4**				
GG 1441	**Human Geography**	**3**	**3**				
GG 1442	**Practical I**	**2**	**3**				
GL 1431	**Complementary Course I (GEOLOGY**	**3 2**	**3**				
GL 1432	**Complementary Course I Practical (GEOLOGY)**	**2**	**4**				
ST 1431.3	**Complementary Course II (STATISTICS)**	**3**	**3**				
ST 1432.3	**Complementary Course II Practical (STATISTICS)**	**2**	**4**				
		25	**28**				
SEMESTER V							
GG 1541	**Geography of India**	**4**	**4**	**3**	**25%**	**75%**	**16**
GG 1542	**Geography of Kerala**	**3**	**3**				
GG 1543	**Geography of Resources**	**3**	**3**				
GG 1544	**World Regional Geography**	**4**	**4**				
GG 1551.1 GG 1551.2 GG 1551.3 GG 1551.4	**OPEN COURSE Geography of Tourism Physical Geography General Geography Bio Geography**	**3**	**2**				
GG 1540	**Practical II**	**6**	*****				
	Project *	**2**	*****				
		25	**16**				

SEMESTER VI							
GG 1641	**Cartography**	**4**	**4**	**3**	**25%**	**75%**	**25**
GG 1642	**Environmental Geography**	**4**	**4**				
GG 1661	**An Introduction to Disaster Management**	**3**	**2**				
GG 1643	Practical II		**4**				
GG 1644	Practical III	**6**	**4**				
GG 1645	Practical IV	**5**	**3**				
GG 1646	**Project***	**3**	**4**				
		25	**25**				**120**

*****The number of students assigned to do the Project Work under the guidance of a Teacher is fixed as Six; since the Project Work in Geography involves Field Work.

GG 1141 – PRINCIPLES OF GEOMORPHOLOGY

Credit - 4
No. of Contact Classes - 72

UNIT – I
Origin of the Earth - Theories – Gaseous Hypothesis – Nebular Hypothesis - Planetesimal Hypothesis - Tidal Hypothesis - Binary Star Theory - Interstellar Dust Hypothesis - Shape and size of the earth - Latitudes and Longitudes - Seasons and Time.

References
http://www.britanica.com
http://www.aboutcivil.org/geological origin of earth-theories-hypothesis.html
http://www.worldatlas.com/atlas/image.html
http://www.time and date.com/calendar/aboutseasons.html
Willem J Luyten - A Review of Theories of Origin of Earth - Popular Astronomy

UNIT - II
Distribution of Land and Water - Tetrahydral Hypothesis - Major Relief feature of the Earth – Mountains – Plains – Plateaus – Lakes - Structure and Composition of the Earth – Isostasy.

References
http://www.oceanatlas.com
http://www.skwirk.com
http://education.nationalgeographic.com
www.trincoll.edu/isostasy.html
http://journal-cambridge.org

UNIT - III
Endogenic and Exogenic Forces - Endogenic Forces – Folds - Parts of fold - Types of fold -Symmetrical fold - Asymetrical fold - Isoclinal fold - Recumbent fold - Overthrust fold – Faults -Fault types – Normal – Reverse – Strike – dip – Volcanoes – Earthquakes - Continental Drift - Plate Tectonics.

References
www.golearngeo.wordpress.com
www.unm.edu/eps
www.eqses.geosc.psu.edu/faults.html
www.cotf.edu/ete/modules/plates
www.ucm.berkeleyedu/geology/techtonics.html
www.earthquakespectra.org

UNIT - IV

Exogenic Forces – Weathering – Factors – Types – Soils - Soil formation - Soil Characteristics - Soil Profile - Soil Classification.

References

www.uxi.ciu.edu/weathering
forces.si.edu/soils
www.nrcsusta.gov/wps/por
www.landfood.ubc.ca/soil

UNIT-V

Gradation - Agents of Gradation - Erosional and Depositional landforms formed due to the work of Running Water - Underground Water – Wind – Glaciers - Sea Waves - Concept of Normal Cycle of Erosion.

References

1. Strahler A N and Strahler A N; Modern Physical Geography
2. Jeffrey H; The Earth-its origin and physical composition.
3. Fairbridge R W; Encyclopedia of Geomorphology
4. Monkhouse F J; Principles of Physical Geography
5. Sparks B W; Geomorphology
6. Woolridge and R S. Morgan; Physical basis of Geography
7. Dayal P; Textbook of Geomorphology, Rajesh Publications.
8. Sharma H S; Perspectives in Geomorphology, Concept
9. Singh S; Geomorphology, Prayag Publications
10. www.oocities.org/geomw1

GG 1221 – FUNDAMENTALS OF GIS AND REMOTE SENSING

Credit - 3
No. of Contact Classes - 72

UNIT I
Remote Sensing : Definition and components; Energy sources - Types, Active and Passive Remote Sensing; Electromagnetic Radiation - Characteristics, Electromagnetic Spectrum, Spectral Bands used in Remote Sensing, Atmospheric Windows; Atmospheric interactions; Interaction with earth surface features - Spectral Signature, Spectral Reflectance Profile - Definition and Profiles for vegetation, soil and water; Platforms - Definition and types; Sensors – Types of scanners - Multispectral Scanner, Hyperspectral Scanner, Thermal Scanner – Scanning - Across track and Along track scanning.

UNIT II
Data Products : Aerial Photos and Satellite Imageries; Resolution - Types, Definition and Significance; Aerial Photos – Types and Characteristics, A brief outline of Orthophotos and Stereoscopy; Satellites - Types based on Orbit/Path and altitude and their significance, GPS; Satellite Imageries - Digital, Analog, Path Row and Scale.

UNIT III
Elements of Visual Image interpretation (for aerial photos and satellite imageries) : A brief account of Satellite Remote Sensing Programmes of India, United States and France. Advantages of Satellite Remote Sensing and Aerial Surveys.

References for unit I, II and III

1. Thomas Lilles and Ralph W Kiefer, (any edition), Remote Sensing and Image Interpretation, John Wiley and Sons, New York.
2. http://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/earthsciences/pdf/resource/tutor/fundam/pdf/fundamentals_e.pdf
3. http://www.nrcan.gc.ca/earth-sciences/geomatics/satellite-imagery-airphotos/satellite-imagery-products/educational-resources/9309
4. http://www.cdioinstitute.org/papers/Day1/AERIAL%20PHOTOGRAPHY_Abraham_Thomas.pdf

UNIT IV
Data, Information and Knowledge : Definition and Relationship; Information System - Definition and Components; GIS - Definition and Components; Data in GIS - Spatial and Attribute; Characteristics of Spatial Data - Co-ordinates, Projection, Datum; Spatial data sources - Field Survey, Aerial Photos, Satellite Imagery, GPS; Attribute Data Sources - Census, Surveys, Aerial Photos, Satellite Imagery; Data format - Raster and Vector- their structure, advantages and disadvantages.

UNIT V

Data Input in GIS : Key board entry, scanning, digitization (manual and automatic), Raster to Vector Conversion, Electronic Data Transfer; Data errors in Spatial and Attribute Data Entry; Error Rectification Methods for Spatial and Attribute Data in Raster and Vector Format; Measurement of length, perimeter and area for both Raster and Vector.

References for Unit IV and V

1. Haywood, Ian, Cornelius, Sarah & Carver, Steve (any edition), 'An Introduction to Geographical Information Systems', Prentice Hall, Pearson Education, U.K
2. http://otec.uoregon.edu/data-wisdom.htm
3. http://www.pasda.psu.edu/tutorials/gisbasics.asp
4. http://catalog.flatworldknowledge.com/bookhub/reader/3798?e=campbell_1.0- ch03_s01
5. Canada Center for Remote Sensing, 'Fundamentals of Remote Sensing, Canada
6. Konecny Gottified, 'Geoinformation: Remote Sensing, Photogrammetry and Geographic Information Systems', Taylor and Francis, London, 2003
7. The GIS Glossary, Environmental System Research Institute, Canada, 1996
8. Longley, Paul A et al. 'Geographic Information Systems and Science, John Wiley, England, 2005
9. Francis Harvey, 'A Primer of GIS: Fundamentals of Geographic and Cartographic Concepts', The Guildford Press New York, 2008
10. De By, Rolf A 'Principles of Geographic Information Systems' ITC Educational Textbook Series 1, ITC, Netherlands, 2001

GG1341 – CLIMATOLOGY & OCEANOGRAPHY

Credit - 3
No. of Contact Classes - 54

UNIT I
Atmosphere – Significance - Composition – Structure – Weather and Climate – Insolation and Temperature – Horizontal and vertical distribution of temperation – Global Warming – Causes and effects.

UNIT II
Atmospheric pressure – Measurement – Major pressure belts – General circulation of the atmosphere – Planetary winds – Monsoon – Local winds.

UNIT III
Humidity – Condensation – Forms – Fog and Cloud – Types – Precipitation – Types – Air masses – Types – Fronts – Cyclones – Tropical Cyclones – Temperate Cyclones – Anticyclones.

UNIT IV
Oceans – Relief of ocean floor – Bottom relief of Atlantic, Pacific and Indian Oceans – Temperature – Distribution – Salinity – Factors and Distribution.

UNIT V
Waves – Tides – Currents – Currents of Indian, Pacific and Atlantic Oceans – Coral Reefs – Formation – Types.

References

1. An Introduction to Climate – Glenn T Trewartha Mc GrawHill
2. General Climatology – Howard J Critchfield, Phi Learning Pvt Ltd, 1983
3. Atmosphere, Weather and Climate Barry and Chorley, Routledge, London, 2003
4. Physical basis of Geography – Wooldridge and Morgan Longman Green
5. Modern Physical Geography – Arthur N. Strahler and All H. Strahler Wiley
6. Physical Geography, Majid Husain, Rawat Publications Jaipur, 2003
7. Physical Geography, D. S. Lal - Sharda Pustak Bhawan, Allahabad.
8. Oceanography – D. S. Lal, Sharda Pustak Bhawan, Allahabad, 2009
9. Edward Linacre & Bart Geerts – Climate and Weather Explained, Routledge, London, 2003
10. Gabler R E, Petersen J F, Trapasso L M and Sack D – Physical Geography, Brooks/Cole, Belmont, USA, 2009
11. Craghan M – Physical Geography : A Self Teaching Guide, John Wiley & Sons, Canada, 2003.
12. www.imd.gov.in/

GG1441 – HUMAN GEOGRAPHY

Credit 3
No. of Contact hours – 54

UNIT I

Nature and Scope of Human Geography; Environments as Controls, Human Impacts, Determinism, Possibilism, Neo-Determinism - Contributions of Alexander Von Humboldt, Carl Ritter, Friedrich Ratzel and Vidal de la Blache.

Basic Concepts: Space: Absolute, Relative and Relational Spaces, Place, Scale, Location, Direction and Distance

References

1. Fellmann J, Getis A &Getis J (2007) Chapter 3 of *Human Geography: Landscapes of Human Activities*. New York, USA: McGraw-Hill.
2. Knox P L & Marston S A (2007) *Places and Regions in Global Context: Human Geography*. Upper Saddle River, New Jersey: Prentice Hall.
3. Hussain Majid (2011), Human Geography, Jaipur, Rawat Publications

UNIT II

Spatial Interaction and Spatial Behavior: Basis of Interaction: Edward Ullman Model - Complementarities, Transferability, and Intervening Opportunity.

Measuring Interaction: Distance Decay Model, Gravity Model, Potential Model.

Spatial Interaction and the Accumulation of Information: Information Flows, Information and Perception, *Perception* of Environment.

Human Population – Distribution and Density- Factors affecting them; Malthusian Theory, Optimum Population, Demographic Transition Model, Migration and Types of migration

References

1. Fellmann J, Getis A & Getis J (2007) Chapter 3 of *Human Geography: Landscapes of Human Activities*. New York, USA: McGraw-Hill.
2. Knox P L & Marston S A (2007) *Places and Regions in Global Context: Human Geography*. Upper Saddle River, New Jersey: Prentice Hall.
3. Hussain Majid (2011), Human Geography, Jaipur, Rawat Publications.

UNIT III

Culture: Components of Culture; Culture Traits; Culture Complex; Culture Region; Culture Realm Cultural Ecology; the Structure of Culture: Ideological, Technological and Sociological Sub-systems.

References

1. Fellmann J, Getis A & Getis J (2007) Chapter 2 of *Human Geography: Landscapes of Human Activities*. New York, USA: McGraw-Hill.
2. Erin H Fouberg, Alexander B Murphy, Harm J de Blij. (2011)*Human Geography: People, Place and Culture*, 10th Edition, Wiley.

UNIT IV

Language and Religion: Classification of Languages: Language Families, World Pattern of Languages: Language Spread; Language Change; Dialects, Religion and Culture: Classification of Religion; Universalizing Religions, Ethnic Religions, Traditional Religions World Pattern of Religions; Major Religions of the World; Judaism, Christianity, Islam, Hinduism, Buddhism, Secularism

References

1. Fellmann J, Getis A & Getis J (2007) Chapter 5 of *Human Geography: Landscapes of Human Activities*. New York, USA: McGraw-Hill.
2. Erin H Fouberg, Alexander B Murphy, Harm J de Blij. (2011) *Human Geography: People, Place and Culture*, 10th Edition, Wiley.

UNIT V

Human Settlements – Rural – Types and Patterns and Functions – Urban – Urbanization – Pattern and Functions – Urban Morphology- Burgess Model, Hoyts model, Urban Problems.

References

1. Mandal R B, (2001) Introduction to Rural Settlements, Concept Publishing Company, New Delhi, Second Edition.
2. Haggett Peter, (1979) Geography A Modern Synthesis, Harper International, London.

GG1442 – PRACTICAL PAPER I
SCALES AND MAP PROJECTIONS

Credit - 2
No. of Contact Classes - 72

UNIT I
Scales – Construction of Plain Scale, Comparative Scale, Diagonal Scale and Time Scale.

UNIT II
Map Reduction and Enlargement Methods.

UNIT III
Datum - Coordinate systems – geographic and projected – Geo-Referencing using GPS.

UNIT IV
Introduction to Map Projections – Principles – Classification.

UNIT V
Graphical Construction, properties, uses and limitations of the following projections (2 exercises each).

- Zenithal – Equidistant and Equal Area – Gnomonic, Stereographic and Orhographic (Polar Case only)
- Conical – Simple Conical Projection with one standard parallel, Conical Projection with two standard parallels, Bonne's Projection, Polyconic Projection – Sinusoidal Projection- International Projection (Theory only).
- Cylindrical – Natural Cylindrical Projection, Simple Cylindrical Projection, Cylindrical Equal Area Projection
- Conventional Projection – Sinusoidal and Molleweide's Projection.

References

1. Monkhouse and Wilkinson: Maps and Diagrams, Methuen and Company.
2. Thomas Newton Andrews: A complete and comprehensive course of Scale Drawing, University of California.
3. Kellaway George P: Map Projections, Bibliobazar, 2011.
4. Singh R L: Elements of Practical Geography, Kalyani Publishers.
5. Gopal Singh: Map work and Practical Geography, Vikas Publishing House Pvt. Ltd.

6. MZA Khan: Text Book of Practical Geography, Concept Publishing House.
7. Lev M. Bugayevskiy and John Snyder: Map Projections – A Reference Manual, Taylor and Francis.
8. Eric W. Garfarend and Friedrich W. Krumm: Map Projections – Cartographic Information Systems, Springer.
9. http://nationalatlas.gov/ Articles
10. www.colorado.edu/geography

GG 1541 - GEOGRAPHY OF INDIA

Credit - 4
No. of Contact Classes - 72

UNIT I
India in the context of Southeast and South Asia; a Land of Diversities; unity within diversities – Physical features – Major Physiographic Divisions – Drainage Systems – Indian Monsoon; Regional and seasonal variation of climate – rainfall – famines and floods –climatic divisions – Soil types – their characteristics and distribution – vegetation types

UNIT II
Characteristics and problems of Indian Agriculture – Geographical requirements, distribution and production of major crops – Rice, Wheat, Millets, Cotton, Sugarcane, Tea, Coffee and Oil seeds – Irrigation in India – need types – Multipurpose River Valley Projects – Mega Power Projects

UNIT III
Minerals – iron ore, manganese, bauxite, mica and copper – their distribution; Power resources – Hydel, Thermal and Atomic – distribution of Coal, Petroleum and Natural Gas – Sources of Non-conventional Energy;

UNIT IV
Distribution of population – density, growth of population; – Analytical study of social and demographic characteristics of population - population problems and planning

UNIT V
Major Industrial regions in India – Location factors of industries - An examination of relationship of location factors of Iron and Steel, Cotton Textile, Sugar and IT industries –Transport – Road, Railway, Inland Waterways and Airways – Major Ports

References :

1. Deshpande C D : India – A Regional Interpretation, Northern Book Centre, New Delhi, 1992.
2. Farmer B H:– An Introduction to South Asia, Metheun, London 1983.
3. Learmonth ATA et.al (ed) : Man and Land of South Asia, Concept Publishers, New Delhi.
4. Mitra A : Levels of Regional Development India, Census of India, Vol. I, Part I-A(i) and (ii) New Delhi, 1967.
5. Routray, J.K : Geography of Regional Disparity, Asian Institute of Technology, Bangkok, 1993.
6. Shafi M : Geography of South Asia, McMillan & Co, Calcutta, 2000.
7. Singh R L (ed) : India – A Regional Geography, National Geographical Society, India, Varanasi, 1971.

8. Spate OHK and Learmonth ATA : India and Pakistan – Land, People and Economy, Methuen & Co. London 1967.
9. Valdiya K S : Dynamic Himalaya, University Press, Hyderabad, 1998.
10. Wadia D N : Geology of India, McMillan & Co. London 1967.
11. Khullar D R – India - A Comprehensive Geography, Kalyani Publishers, New Delhi, 2006.
12. www.ibm.nic.in
13. www.data.gov.in
14. www.censusindia.gov.in
15. www.mospi.nic.in

GG 1542 - GEOGRAPHY OF KERALA

Credit - 3
No. of Contact hours – 54

UNIT I

Location - Relief features - Geology, Soil – Drainage - Wealth and climate - Annual rainfall Seasonal Rainfall - Variability of rainfall – Features and effects of Monsoon – Biodiversity – Forests - Wild Animals - Wildlife Sanctuaries and National Parks.

UNIT II

Agriculture - Cereal and other Crops - their Area Under Cultivation - Plantation Crops - Horticulture Problems and Prospects of Agriculture.

UNIT III

Mineral Resources – Occurrence - Distribution; Rare Earths and their distribution; Power Resources – Hydroelectric Projects - Capacity and Production – Thermal Power Generation; Marine Resources – Fisheries; Fishing Villages – Importance of Fishing in the Economy of Kerala.

UNIT IV

Industries in Kerala: - Major Industries - Cottage and Small Scale Industries – Tourism Industry – Potentialities – Major Tourist Centers.

UNIT V

Distribution and Growth of Population, Density, Literacy, Sex-ratio : Trend of Urbanization – Major Urbanization Problems; Roads, Railways, Waterways and Airways.

Reference

1. Geography of Kerala – Dr. George Kurian.
2. Economy of Kerala – Karunakaran and Sankaranarayanan.
3. Resource Atlas of Kerala – Centre for Earth Science Studies
4. Gazetteer of Kerala – Kerala Gazetteer, Govt. of Kerala
5. Geology of Kerala - Dr. K. Soman, Geological Society of India
6. Water Atlas of Kerala – CWRDM, Kozhikkode
7. District Hand books- Dept. of Public Relations, Govt. of Kerala
8. www.envis.ker.nic.in/

GG 1543 - GEOGRAPHY OF RESOURCES

Credit - 3
No. of Contact Classes - 54

UNIT I
Concepts of Resource Geography: Definition, Scope, Approaches – Concept and Classification.

References

1. Clark, Gordon L, Feldman Maryann P, Gertler, Meric S (2013) (eds.). The Oxford Handbook of Economic Geography, Oxford, Oxford University Press.
2. Robert.W. Kates, Ian Buston (ed), 1986. Geography, Resources and Environment, Volume I: Selected writings of Gilbert F White, University of Chicago Press.
3. Knowles R Wareing J (2000). Economic and Social Geography made simple, New Delhi, Rupa and Company.
4. Prithwish Roy (2009), Economic Geography: A study of resources, New Central Book Agency (P) Ltd.

UNIT II
Natural Resources: Classification, Types: Forests, Fisheries, Dairying activity; Minerals – Iron ore, Bauxite; Energy resources – Coal, Petroleum and Natural gas, Hydroelectric Power, Nuclear; World energy crisis, Measures to overcome energy crisis.

References

1. Guha J S and Chattoraj P R (2002). A new approach to Economic Geography. A study of resources, Kolkata, The world Press, Pvt. Ltd.
2. H M Saxena (2013), Economic Geography Rawat Publications.

UNIT III
Agricultural Resources: Distribution and production of Rice, Wheat, Sugarcane, Cotton, Tea and Coffee. Von Thunens Theory of Agricultural location, World food and nutrition problems.

References

1. Dr. Alka Gautam, 2015, Geography of resources, Exploitation, Conservation and Management.

UNIT IV
Major Industries; Iron and Steel, Cotton and Textiles, Petro-Chemical and Sugar, Concept of Multinational and Transnational Companies, Software, Technology Parks and Cyber-cities –Trade Strategies, Pattern and Current flows of International Trade, Ricardian theory, Major Trading Blocks of the World, Employment Structure, Export and Import (Exim), Trade Balance, Role of

GATT and Subsequently WTO with special reference to International Trade with Developing World – Concept of Quaternary and Quinary Activities.

References

1. Leong G C and Morgan G C (1982). Human and Economic Geography, Singapore: Oxford University Press.

UNIT V

Conservation of Natural Resources: Forest, Soil, Water, Energy Resources – Concept of Sustainable Development.

Reference

1. Bugchi Sen, Saharmistha and Smith, Helen Lawton (2006) Economic Geography: Past, present and future, Oxon, United Kingdom): Routledge.
2. Hainik D M (1997). Principles and applications of Economic Geography: Economy, Policy, Environment, New York: John Wiley and Sons. Inc.

GG 1544 - WORLD REGIONAL GEOGRAPHY

Credits - 4
No. of Contact Classes - 72

UNIT I

Concept of a region - Types – Naively given region, Instituted regions, Formal region – *natural region, socio cultural region*, Functional regions, Planning regions - Methods of regionalization **-** Identification of formal regions, identification of functional regions.

References

1. Darshan Singh Manku (2002) – A regional Geography of the World, Kalyani Publishers.
2. David L Clawson (1995) – World Regional Geography, A Developmental Approach, Prentice Hall.
3. Johnson, Haarmann, Clawson (2010) World Regional Geography, Prentice Hall.
4. Mahesh Chand Puri - Regional Planning in India, Allied Publishers, New Delhi pp.1- 11
5. Misra R P – Regional Planning, Concepts, Techniques, Policy and Case Studies, Concept Publishing Co. Ltd, Delhi.
6. Unstead J E – Systematic World Regional Geography.

UNIT II

World Distribution of Mountains, Plains, Plateaus, Lakes and rivers – their influence on man.

References

1. Majid Hussain – Fundamentals of Physical Geography, Rawat Publications, New Delhi pp.152-171.
2. Goh Cheng Leong – Certificate Physical and Human Geography, Oxford University Press New Delhi, pp. 12-19.
3. Khanna K K, Gupta VK – Economic and Commercial Geography, Sultan Chand and Sons, Educational Publishers, New Delhi.
4. Renu Bala – Text book of Geography, Ankit Publishing House, New Delhi.
5. Qazi S A, Navaid Shabir Qazi – Geography of the World, APH Publishing Corporation, New Delhi.

UNIT III

Major Natural Regions of the World - Physical, Cultural and Economic aspects *Tropical and sub-tropical* – Equatorial rainforest, Tropical Savannah, Hot deserts, Mediterranean.

References

1. Alka Gautam (2007) – World Geography, Sharda Pustak Bhawan, Allahabad.

2. Christopher L Satter, Jospeh J Hobbs – Essentials of World Regional Geography, Thompson Books.
3. Lal DS – Climatology, Sharda Pustak Bhawan, Allahabad pp. 340-375.
4. Majid Husain (2008) – World Geography, Rawat Publications, New Delhi.
5. Khanna K K, Gupta VK – Economic and Commercial Geography, Sultan Chand and Sons, Educational Publishers, New Delhi.
6. Robinson H – World Regional Geography.
7. Tikkha, Bali, Sekhon (2007) – World Regional Geography, New Academic Publishing Co., Jalandhar

UNIT IV

Major Natural Regions of the World - Physical, Cultural and Economic aspects *Temperate and frigid regions*– Temperate grasslands, Taiga, Tundra.

References

1. Alka Gautam (2007) – World Geography, Sharda Pustak Bhawan, Allahabad.
2. Khanna K K, Gupta VK – Economic and Commercial Geography, Sultan Chand and Sons, Educational Publishers, New Delhi.
3. Majid Husain (2008) – World Geography, Rawat Publications, New Delhi.
4. Tikkha, Bali, Sekhon (2007) – World Regional Geography, New Academic Publishing Co., Jalandhar.

UNIT V

A Regional Study of two selected South Asian nations – Sri Lanka and Nepal.

References

1. Alka Gautam (2007) – World Geography, Sharda Pustak Bhawan, Allahabad.

OPEN COURSE
GG 1551.1 - GEOGRAPHY OF TOURISM

Credit - 2
No. of Contact Classes - 54

UNIT I
Tourism: Definition – Types of Tourism – Maps – Types of Maps – Elements of Map Reading - Title, Scales, Directions, Symbols, Legends - Geography and tourism. .

UNIT II
Elements of tourism – Attraction – Classification - Accessibility – Role of Transport in Tourism Accommodation – Types of Accommodation - Travel Motivations.

UNIT III
Tourism Restrictions - Passport, Visa, Credit card and Foreign exchange. Socio economic and cultural impacts of tourism.

UNIT IV
Role of travel agencies in tourism - Concept of package tour-publicity - Tourism Organizations - WTO, ITDC & KTDC –functions.

UNIT V
Tourism in Kerala - Major natural and cultural attractions.

References

1. Alan A Lew, Mitchell Hall, Alan A Williams, A Companion to Tourism-edited by, Black well Publishing Ltd , 2004.
2. Ratandeep Singh, Dynamics of Modern Tourism-, Kanishka Publications, New Delhi 1998.
3. Singh R L, Fundamentals of Practical Geography, Sharda Pustak Bhavan Allahabad, 2006.
4. Singh Ratan Deep, Infrastructure of Tourism in India, Kanishka Publications, New Delhi, 1998.
5. Bhatia A K, .International Tourism – Fundamentals and Practices, Sterling Publishing House.
6. Negi J M, Tourism and Travel - Concepts and Principles, Gitanjali Publishing House, New Delhi, 1990.
7. Cook A, Laura Roy A, Yale J Marqua Joseph J, Tourism - The Business of Travel Prentice Hall-2007.
8. http://www.keralatourism.org/about-us.php
9. http://www.keralatourism.gov.in/

10. Singh R L, Elements of Practical Geography, Kalyani Publishers, New Delhi.

OPEN COURSE
GG 1551.2 - PHYSICAL GEOGRAPHY

Credit - 2
No. of Contact Classes - 54

UNIT I
General Geography: Geographical locations – Latitude - Longitude and Time Zone - Solar System and Planets.

UNIT II
Landforms: Major relief features - External and Internal forces and agents - features formed by running water - wind - glaciers.

UNIT III
Climatology: Atmosphere, Insolation – Temperature, Pressure – Wind– Humidity – Forms of Condensation and Precipitation – types and distribution of rainfall – Cyclones.

UNIT IV
Oceanography: Land and Sea distribution – Bottom Topography of Oceans – Temperature – Salinity - Currents - Tides - Coral Reefs.

UNIT V
Environmental Geography- nature and scope – types – concept of ecosystems – structure – classification – function.

References

1. Dayal P, (1990) A Text book of Geomorphology, Shukia Book Depot, Patna, India
2. Lal D S, (1996) Climatology, Allahabad, Chaitanya Publishing House.
3. Strahler A N, and Strahler A N, (2001) Modern Physical Geography (Fourth Edition), New York; John Wiley and Sons, Inc.
4. Thornbury W D, (1954) Principles of Geomorphology, John Wiley and sons, Inc., New York.
5. Worcester P G, (1948) A Textbook of Geomorphology, Von Nostrand Reinhold, Company, New York.
6. Robinson H, Biogeography, ELBS & MacDonald and Evans, London.

OPEN COURSE
GG 1551.3 - GENERAL GEOGRAPHY

Credit - 2
No. of Contact Classes - 54

UNIT I

Physical Geography - Universe and Solar System – Galaxies, Stars, Planetary System, Eclipses, Motions of the Earth, Latitude and Longitude, Time Zones, Greenwich Mean Time, Standard time, Solstice, Equinoxes; Earth Structure - Composition of Crust – Rocks and Minerals; Earth Movements – Endogenic forces, Exogenic forces – Volcano, Earthquake - Continental Drift, Plate Tectonics theories: General Landforms – Mountains, Plateaus and Plains – types and their distribution: Weathering – Physical, Chemical and Organic: Atmosphere – Composition, Structure, Distribution of Pressure belts, Types of Wind; Hydrosphere – Major Oceans, Profile of Ocean floor, Islands, Salinity.

UNIT II

Human Geography – World population, distribution, growth – factors affecting them – Races -Migration, Settlement – Rural, Urban - Urbanization –Tourism – Globalization – Different levels of development of nations – sustainable development.

UNIT III

Environmental Geography – Man and Environment Relationship – Ecosystem – Structure, Classification, Biomes - Food Web - Food Pyramid - Nutrient Cycles – Bio-Diversity - Natural Hazards – Environmental Degradation – Man's modification of the Biosphere – Environmental Problems – Pollution – Environmental Conservation.

UNIT IV

Resources of World with special reference to India - Resource types – Agriculture (Rice and Wheat) – Forestry – Fisheries – Minerals – Power resources – Major Industries.

UNIT V

Geography of India: Location, Physiographic divisions, Drainage System, climate , Soil, Natural vegetation, Flora and Fauna - Population - Racial Groups, Languages, Religion, Urbanization: Kerala – Physiography, Drainage, Climate, Major Crops, Minerals, Industries, Population and Urbanization.

References

1. Dayal P (1990) A Text book of Geomorphology, Shukia Book Depot, Patna, India.
2. Lal D S (1996) – Climatology, Chaitanya Publishing House, Allahabad

3. Strahler A H and Strahler A N (2001) Modern Physical Geography, John Wiley and Sons, Inc, New York.
4. Khullar D R, India: A Comprehensive Geography, Kalyani Publishers, New Delhi, 2006.
5. Castree Noel, Demeritt David, Liverman Diana, Rhoads Bruce (Ed.) (2009) A Companion to Environmental Geography, Blackwell Publishing Ltd, Hong Kong.
6. Linacre Edward and Geerts Bart (2003) Climate and Weather Explained, Routledge London.
7. Leong G C and Morgan G C (1982). Human and Economic Geography. Singapore: Oxford University Press.
8. Knowles R and Wareing J (2000). Economic and Social Geography Made Simple. New Delhi: Rupa and Company.

OPEN COURSE
GG 1551.4 - BIO-GEOGRAPHY

Credit - 2
No. of Contact Classes - 54

UNIT I

Definition, Scope and Significance of Bio-geography – Basic Ecological principles: Darwin's Theory of Evolution – Concepts of Biome, Ecotone and Community.

UNIT II

Origin of Fauna and Flora – Plant and animal evolution through Geological times – Distribution of Plant life on Earth and its relation to Soil types, Climates and Human Practices.

UNIT III

Problems of Extinction of Plant and Animal Life – Habitat Degradation and their Conservation – Process of Desertification – its Consequences and its Management Principles - Industrial Effluent and its effect on Fresh Water Biology Management Practices (Special Reference to India).

UNIT IV

Major Terrestrial Biomes: Study of Biomes with reference to Regional Climate – Vegetation – Structure - Ecological Succession - Species Richness - Geographical Affinities – Soils - Faunal Adaptations - Mapping at a Global Level (Applicable for both Unit IV and Unit V).

1. Tropical Rain Forests,
2. Tropical Grasslands
3. Deserts
4. Temperate Grasslands

UNIT V

1. Broad-Leaved Evergreen Forest
2. Mountains
3. Taiga
4. Tundra

References

1. Cox C D and Moore P D, Biogeography: An Ecological and Evolutionary Approach 5th edn., Blackwell, 1993
2. Huggett R J, Fundamentals of Biogeography, Routledge, 2004
3. Llies J, Introduction to Zoogeography, McMillan, London, 1974.
4. Khoshoo T N and Sharma M (ed.), Indian Geo-sphere-Biosphere Har-Anand Publication, Delhi, 1991.

5. Lapedes D N (ed.), Encyclopedia of Environmental Science, McGraw Hill, 1974.
6. Mathur H S, Essentials of Biogeography, Anuj Printers, Jaipur, 1998 Pears N., Basis Biogeography 2nd edition, Longman, London, 1985.
7. Simmon I G, Biogeography, Natural and Cultural, Longman, London, 1974.
8. Tivy J, Biogeography: A study of Plants in Ecosphere, Oliver and Boyd, 1992.
9. Ian N Healey, C. Barry Cox, Peter D. Moore, Biogeography: An Ecological and Evolutionary approach, Blackwell, Oxford, 1972.
10. Pielou E C, Biogeography, John Wiley, New York, 1973.
11. Hussain M, Biogeography, Anmol Publications, New Delhi, 1994.
12. Robinson H, Biogeography, ELBS & MacDonald and Evans, London, 1972.

GG 1641 - CARTOGRAPHY

Credit - 4
No. of Contact Classes - 72

UNIT I
Nature and Scope of Cartography: History of Cartography; Ancient Period, late Medieval Period – Early Modern Period – Recent Period; Meaning of Maps, Classification of Maps, Artistic learning and scientific bases of Cartography – Cartography as a Science of Human Communication – Branches of Cartography

UNIT II
Process of Map Making: Map Compilation: Enlargement and Reduction of Maps, Generalisation, Procedure for Compilation – Thematic and Complex Mapping – Types and problems

UNIT III
Map Design and Layout: Principles of Map Design – Constraints in Map Design – Symbolization – Format of a Map – Lettering and Toponomy: Lettering: Style, Form, Size – Mechanics of Lettering.

UNIT IV
Map Reproduction: Automated and Computer Cartography – Special Purpose Maps: Planning and Designing Maps for a) Blind b)Children c)Neo-literates d) Business and Commercial Organizations.

UNIT V
Cartographic Appreciation of Survey of India Topographical Maps.

References
1. Misra R P and Ramesh A, (1989) Fundamentals of Cartography. Concept Publishing Company, New Delhi.
2. Robinson A H et al, (1995) Elements of Cartography, Wiley.
3. Jan Kraak, Menno and Ormeling Ferjan (2003) Cartography: Visualization of Geospatial Data, Prentice Hall.
4. Deetz, Charles Henry (2005) Cartography, University Press of Pacific.

GG1642 – ENVIRONMENTAL GEOGRAPHY

Credit - 4
No. of Contact Classes - 72

UNIT I
Nature and Scope of Environmental Geography – Types of Environment – Components of Environment – Biotic – Abiotic; Human – Environment Relationship – Recent Trends.

References
1. Bodkin E : Environmental Studies, Charles E Merril Pub. Co., Columbus, Ohio, 1982
2. Nobel and Wright : Environmental Science, Prentice Hall, New York, 1996

UNIT II
Concept of Ecosystem: its structure and classification; Functions of the Ecosystem: Food-Chain, Food-Web, Food-Pyramid and Nutrient Cycles.

References
1 Odum E P : Fundamentals of Ecology, W B Saunders, Philadelphia, 1971
2 Manners I R and Mikesell M W (eds), Perspectives on Environment, Commission on College Geography, Publ no.13, Washington D C, 1974.

UNIT III
Disruptions in Ecosystem: Natural (Floods, Droughts, Quakes, Tsunamis, and Volcanic Eruptions) and Human-caused Environmental Problems (Erosion, Degradation, Pollution, and Climate Change): Human modifications: Consequences of Agriculture (Green Revolution), Mining and Industrial Development.

References
1 Russworm L H and Sommerville E (eds.): Man's Natural Environment – A systems Approach, Duxbury, Massachusetts, 1985.
2 Singh R L, Environmental Geography, Heritage Publishers, 1990.

UNIT IV
Environment and Health – Environment and Development: Environmental Movements (Chipko, Narmada Bachao Andolan), Environmental Movements in Kerala (Madhav Gadgil/Kasturi Rangan Reports).

References

1. Agarwal A and Sen S: The Citizen's Fifth Report, Centre for Science and Environment, New Delhi 1999.
2. Chandna R C : Environmental Awareness, Kalyani Publishers, New Delhi, 1998.
3. Sharma H S : Rathambhore Sanctuary – Dilemma of Eco-Development, Concept.

UNIT V
Environmental Management and Planning – Concept of Sustainable Development.

Reference
1. Noel Casteree, David Demeritt, Diana Liverman, Bruce Rhoads, A Companion to Environmental Geography, Blackwell Companions, 2009.
2. Baker, Susan: Sustainable Development, Routledge, 2006.

GG 1661 - AN INTRODUCTION TO DISASTER MANAGEMENT

Credits - 2
No. of Contact Classes - 54

UNIT I
Disaster Management - Meaning and Definition; Definitions of Disaster – Hazard – Risks - Vulnerability and Resilience and their relationship; Classification of Disasters – Human induced and Natural; Causes of Disasters - Impacts of Disasters. Factors affecting Vulnerability – Economic – Political - Environmental and Social.

References
1. www.ifrc.org/en/what-we-do/disaster-management/
2. Coppola, Damon (2011), Introduction to International Disaster Management, Elsevier ISBN: 978-0-12-382174-4
3. Abbott, Patrick Leon (2008), Natural Disasters , McGraw-Hill, ISBN-13**:** 978-0072428650

UNIT II
Disaster Management Cycle; Disaster Management Phases - Prevention and Preparedness – Mitigation - Response and Recovery; Community Based Disaster Management - Roles and Responsibilities of Community.

References
1. http://www.mnmk.ro/documents/2008/2008-6.pdf
2. Carresi A L, et al (2013) Disaster Management: International Lessons in Risk Reduction, Response and Recovery, Routledge, U.K.
3. http://www.ndma.gov.in/images/ndma-pdf/DM_act2005.pdf

UNIT III
Hazard and Vulnerability Profile of India; Disaster prone or vulnerable areas in India with emphasis to Cyclones, Earthquakes and Floods; Structural and Non-structural measures for Disaster Risk Reduction in Earthquake and Cyclone Prone Areas.

References
1. http://www.ndma.gov.in/en/vulnerability-profile.html
2. http://www.ndma.gov.in/en/media-ublicawareness/disaster/naturaldisaster/earthquakes.html
3. http://www.ndma.gov.in/en/media-public-awareness/disaster/naturaldisaster/floods.html
4. http://www.ndma.gov.in/en/media-public-awareness/disaster/natural-disaster/cyclones.html

UNIT IV

Disasters and Development - Impact of Development Projects such as Dams, Embankments, Changes in Land-use and setting up of New Industries. Impacts of Disasters: on Health - Mental Health – Social - Economy and Environment. Understanding differential Impacts on people based on Caste, Class, Gender, Age, Location, Disability and Religion. Indigenous Knowledge and Disaster Prevention.

References

1. Carresi A L, et al (2013) Disaster Management: International Lessons in Risk Reduction, Response and Recovery, Routledge U.K.

UNIT V

Need for Gender and Culture sensitive disaster management. Disaster management plan - components

References

1. http://ndmindia.nic.in/SOP-NDM-2010.pdf
2. Kurowa, Julio, Disaster Reduction: Living in harmony with nature Quebec or World, Peru, S. A.
3. Emdad Hague C, Mitigation of natural hazards and disasters: International perspectives, Springer, 2005.
4. Shaw Rajib and Krishnamurthy R R (2009) Disaster Management: Global Challenges and Local Solutions, Universities Press.
5. Kapoor Mukesh, (2009) Disaster Management, Universities Press.
6. Diwan Parang, (2010) A Manual on Disaster Management, University Press.

GG1643 – PRACTICAL PAPER II

REPRESENTATION AND INTERPRETATION OF GEOGRAPHIC DATA

Credit - 4
No. of Contact Classes - 108

UNIT I
Geographical Representation and Analysis of Socio-economic Data by means of Line graph – Simple, Multiple : Bar Graph – simple, Sub-divided/Compound, Multiple Bar Diagram, Percentage Bar Graph, Band Graph, Rectangular Diagram, Pie Diagram, Ring Diagram, Comparative Circles, Graduated Sphere Diagram, Pictogram, Age-Sex Pyramid, Traffic Flow SuDiagram.

UNIT II
Representation of Temperature, Pressure, Wind and Rainfall data by means of Line and Bar Graph – Isotherms – Isobars – Isohyets, Construction and significance of Taylor's Climograph – Hythergraph – Windrose Diagram.

UNIT III
Study of various meteorological signs and symbols.

UNIT IV
Station model.

UNIT V
Study and interpretation of Indian Daily Weather Reports of different seasons.

References

1. Monkhouse and Wilkinson : Maps and Diagrams, Metheun and Company.
2. Singh R L : Elements of Practical Geography, Kalyani Publishers.
3. Gopal Singh : Map work and Practical Geography, Vikas Publishing House Pvt. Ltd.
4. Siddiqui M H : Teaching of Geography, Chaman enterprises.
5. Graham T. Richardson : Illustrations – Everybody's Complete and practical handbook, The Humana Press Inc., N J
6. www.skwirk.com/
7. www.qsa/qld.edu.au/
8. Steven A Ackerman, John A Knox : Meteorology, Jones and Bartlett Learning
9. www.hpe.neep.noaa.gov/
10. www.imd.gov.in/

GG1644 – PRACTICAL PAPER III
MAP READING AND ANALYSIS

Credit - 4
No. of Contact Classes - 54

UNIT I
Maps and their Classification.

UNIT II
Representation of Relief in Maps – Spot Heights, Hachures, Hill Shading, Layer Tints and Contours – representation of important landform features by Contours – Uniform/Conical Hill, Uniform Depression, Concave Slope, Convex Slope, Uniform Slope, Terraced Slope, V-shaped Valley, Gorge, U-shaped Valley, Handing Valley, Knoll, Ridge and Saddle, Escarpment, Spur, Re-entrant, Sea-cliff, Waterfall, Cirque, Plateau, Dissected Plateau.

UNIT III
Concept of Slope and Gradient, Intervisibility.

UNIT IV
Study of Indian Topographic Maps – Lay out and numbering, conventional singns and symbols, grid references, Interpretation of Topographic Maps (1:250,000/1:50,000/1:25,000 – *one* each) – Marginal Information, Relief, Drainage, Natural Vegetation, Settlements, Occupation, Irrigation, Transport and Communication.

References

1. Monkhouse and Wilkinson: Maps and Diagrams, Metheun and Company.
2. Singh R L: Elements of Practical Geography, Kalyani Publishers
3. Gopal Singh: Map work and Practical Geography, Vikas Publishing house Pvt. Ltd.
4. Rampal K K: Mapping and Compilation – Methods and Techniques, Concept and Publishing House.
5. Rollin D. Salisbury: Interpretation of Topographic Maps, Nabu Press, 2012
6. www.nwcg.gov/
7. http://geology.isu.edu/
8. http://www.nrm.qld.gov.au/
9. Ian F Mahaney: Topographic Maps, Power Kids Press
10. Nelson Petrie: Analysis and Interpretation of Topographic Maps, Orient Blackswan Pvt. Ltd.

GG1645 – PRACTICAL PAPER IV
SURVEYING AND LEVELLING

Credit - 3
No. of Contact Classes - 90

UNIT I
Principles of Surveying – equipment for land survey – their advantages and disadvantages.

UNIT II
Surveying by means of

1. Chain and Tape –preparation of plans and calculation of area.
2. Prismatic Compass – preparation of simple transects by open and closed traverse
3. Plane Table – Radiation and Intersection methods.
4. Indian Clinometer – use of Clinometers with plane table.
5. Dumpy Level – drawing of profiles.

UNIT III
Field Work/Study Tour to places of geographic importance with the duration of not exceeding seven days.

References

1. Singh R L: Elements of Practical Geography, Kalyani Publishers.
2. Gopal Singh: Map work and Practical Geography, Vikas Publishing House Pvt. Ltd.
3. http://www.whycos.org/
4. www.levelling.uhi.ac.uk/
5. https://archive.org/details/surveyingfieldwo00will
6. Bhavikatti S S: Surveying and Levelling, Vol. I, IK International Publishing House Pvt. Ltd., New Delhi, 2009
7. Subramanian R: Surveying and Levelling, OUP India, 2013
8. www.academia.edu/.../CHAIN AND TAPE SURVEY G
9. http://nptel.ac.in/
10. www.bajr.org/Documents/BasicSurvey.pdf

Note : Out of the total 80 marks, 10 marks are earmarked for Study tour/Field Work report.