UNIVERSITY OF KERALA

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

SCHEME AND SYLLABUS
(2014 ADMISSION ONWARDS)
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

(i) 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.

(ii) to attract outstanding students from all backgrounds.

(iii) 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.

(iv) to maintain the highest academic standards in undergraduate teaching

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

(vi) to equip the students in gathering spatial information, analyze, synthesize and to suggest solutions to geographical problems

Objectives:

By the end of the Programme, the students should have

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

(ii) Developed their analytical skills through a wide range of expertise in handling applications of geography by their training acquired through the field work and lab.
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Total: 120
*The number of students assigned to do the project work under the guidance of a teacher is fixed as 6 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 features 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.htm  
http://journal-cambridge.org

**UNIT –III**  
Endogenic and exogenic forces-Endogenic forces-Folds-Parts of fold-Types of fold-Symmetrical fold Asymetrical fold -Isocinal fold-Recumbent fold-Overthrust fold-Faults-Fault types-Normal-Reverse-Strike dip-Volcanoes-Earthquakes-Continental Drift-Plate Tectonics

REFERENCES  
www.golearangeo.wordpress.com  
epswww.unm.edu/eps  
eqses.geosc.psu.edu/faults.html  
www.coff.edu/ete/modules/plates  
www.ucm.berkeleyedu/geology/tectonics.html  
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/pod
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
www.oocities.org/geomwl

1. A.N. Strahler and A.N. Strahler; 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
8. Sharma. H.S; Perspectives in Geomorphology, Concept
9. Singh S; Geomorphology, Prayag Publications
GG 1221- FUNDAMENTALS OF GIS AND REMOTE SENSING

Credit 3
No. of Contact hrs. 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 (Multispectral Scanner, Hyperspectral Scanner, Thermal Scanners); 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:


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, air photos , satellite imageries, GPS; Attribute data sources- census, surveys, air 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

2. http://otec.uoregon.edu/data-wisdom.htm
ch03_s01
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
10. De By, Rolf A ‘Principles of Geographic Information Systems’ ITC Educational
Textbook Series 1, ITC, Netherlands, 2001

GG 1341 - CLIMATOLOGY & OCEANOGRAPHY

Credit 3
No. of Contact hrs. 54

UNIT I
Atmosphere – Composition – Structure - Weather and Climate - Insolation and Temperature -
Heat balance - Horizontal and vertical distribution of temperature - 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 and Precipitation – 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 –

UNIT V
Waves – Tides – Currents – Currents of Indian, Pacific and Atlantic Oceans – Coral reefs –
formation – types – Deposits in ocean floor – Marine resources.

References
1. An Introduction to Climate – Glenn. T. Trewartha Mc GrawHill
7. Oceanography – D. S. Lal, ShardaPustakBhawan Allahabad, 2009

GG 1441-HUMAN GEOGRAPHY
Credit 3
No. of Contact hrs– 54

UNIT I
Basic concepts: Space: Absolute, relative and relational spaces, Place and Nature, Scale, Location, Direction and Distance

Reading list:
UNIT II
Spatial Interaction and Spatial Behavior:
Basis of Interaction: Edward Ullman model; complementarity, transferability, and intervening opportunity.
Measuring Interaction: Distance decay, the gravity model, potential model
Human Spatial Behavior: Mobility, territoriality, space-time prism

Reading list:

UNIT III
Culture: Components of culture; Culture traits; culture complex; culture region; culture realm
Cultural ecology; Environments as controls; Human impacts;
Roots of culture; cultural divergence; origin of agriculture; Neolithic innovations;
Culture hearths; Egypt, Crete, Mesopotamia, Indus Valley, northern China, south-eastern Asia, sub-Saharan Africa, Americas
The structure of culture: ideological, technological and sociological sub-systems
The cultural change: Globalisation and global culture; Folk and Popular culture; Cultural minorities

Reading list:

UNIT IV
Language and religion:
Classification of languages: language families;
World Pattern of languages: language spread; language change; Dialects
Language, Territoriality, and Identity
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

Reading list:

UNIT V

Reading List

GG 1442 - PRACTICAL PAPER I

SCALES AND MAP PROJECTIONS

Credit - 2
No. of Contact hours: 72

UNIT I
Scales – Construction of plain scale, comparative scale, diagonal scale and time scale

UNIT II
Map Enlargement and Reduction 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 Orthographic (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
5. Gopal Singh: Map work and Practical Geography, Vikas Publishing House Pvt. Limited
6. MZA Khan: Text Book of Practical Geography, Concept Publishing House
10. www.colorado.edu/geography

GG 1541 - GEOGRAPHY OF INDIA

Credits : 4
No. of Contact hours : 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 rare earths – their distribution; Power resources – hydel, thermal and atomic – distribution of coal, petroleum and natural gas – sources of non-conventional energy; marine resources

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 – Locational factors of industries - An examination of relationship of locational factors of iron and steel, cotton textile, sugar and IT industries – Transport – Road, railway, inland waterways and airways – Major ports – India’s international trade

References:
1. Deshpande C D – India – A Regional Interpretation, Northern Book Centre, New Delhi. 1992
2. Farmer B H – An Introduction to South Asia, Methuen, London 1983
3. Learmonth ATA et.al (ed) – Man and Land of South Asia, Concept Publishers, New Delhi
5. Routray, J.K – Geography of Regional Disparity, Asian Institute of Technology, Bangkok, 1993
7. Singh R L (ed) : India – A Regional Geography, National Geographical Society, India, Varanasi, 1971

GG 1542: GEOGRAPHY OF KERALA

Credits: 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
4. Gazetteer of Kerala – Kerala Gazetteer, Govt. of Kerala
5. Geology of Kerala - Dr. K. Soman, Geological Society of India
7. District Hand books - Dept. of Public Relations, Govt. of Kerala

GG 1543: GEOGRAPHY OF RESOURCES

Credits: 3
No. of Contact hours: 54

UNIT I

Concepts of Resource Geography: Definition, Scope, Approaches - Concept and Classification, Types; Forest, Fish, Grassland and Livestock, Mineral, Energy Resources, Approaches of resource utilization; Environmental and Economic.

References:


**UNIT II**

**Resource Utilization and Conservation:** Problems of Distribution, Utilisation and Conservation of natural Resources, World Energy Crisis, Measures to overcome the Energy Crisis, Forrester-Meadows model on Limits to Growth, Management, Optimum and Sustainable Use of Natural Resources.

**References:**

**UNIT III**


**UNIT IV**

**Transport and Trade:** Economic Adjustments of Space by Reducing Distance Transport Systems, Flow Theory, Development of network of interchange, Network Analysis, Telecommunications; Determinants, 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:**
UNIT V

**Land Use Classification and Patterns:** Qualitative and Quantitative Systems of Classification, Land Use Surveys and Techniques, Land Capability and Suitability Surveys, Land Acquisition Problems in Developing Countries; Concept of EPZ and SEZ Development; Land Reforms in India

References:

**GG 1544: WORLD REGIONAL GEOGRAPHY**

No. of credits : 4
No. of contact hours : 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

6. Unstead J E – Systematic World Regional Geography

UNIT II

**World distribution of Mountains, Plains, Plateaus, Lakes and rivers** – their influence on man

References

3. Khanna KK, Gupta VK – Economic and Commercial Geography, Sultan Chand and Sons, Educational Publishers, New Delhi
5. Qazi SA, NavaidShabirQazi – 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

2. Christopher L Satter, Jospeh J Hobbs – essentials of World Regional Geography, Thompson Books
3. Lal DS – Climatology, ShardaPustakBhawan, Allahabad pp. 340-375
5. Khanna KK, Gupta VK – Economic and Commercial Geography, Sultan Chand and Sons, Educational Publishers, New Delhi
6. Robinson H – World Regional Geography

UNIT IV

Major Natural Regions of the World - Physical, Cultural and Economic aspects

Temperate and frigid regions– Temperate grasslands, Taiga, Tundra

References

2. Khanna KK, Gupta VK – Economic and Commercial Geography, Sultan Chand and Sons, Educational Publishers, New Delhi

UNIT V

Modification in environment due to human interference

- **Land degradation** – Definition, causes – Land degradation in Amazon basin
- **Impact of climate change** – Global warming in Artic, Antarctica, African Savannah, Tropical ever green forest
- **Impact of Globalization** on more economically developed and less economically developed countries
- Global pattern of **Food security** and insecurity
Modification in environment due to human interference

- **Land degradation** – Definition, causes – Land degradation in Amazon basin
- **Impact of climate change** – Global warming in Artic, Antarctica, African Savannah, Tropical ever green forest
- **Impact of Globalization** on more economically developed and less economically developed countries
- Global pattern of **Food security** and insecurity

References

1. David Redfern – Climate change, Philip Allan Updates 2010, Hodder Education, Hacheatte, UK, Oxfordshire
2. David Waught – Geography and Integrated Approach, Heleson Thomas Ltd, UK
3. Gautam Kumar – Climate change man and environment, Daya Publishing House, New Delhi
5. Savindra Singh – Environmental Geography, Kalyani Publishers

Internet Resources

1. bethgaylor.weebly.com/.../amazon_rainforest_deforestation-_geog_text...
2. https://sites.google.com/site/.../the-consequences-of-land-degradation
3. en.wikipedia.org/wiki/Land_degradation
4. www.who.int/globalchange/ecosystems/desert/en/
5. www.preservearticles.com/.../what-are-the-causes-of-land-degradation.ht...
6. climate.nasa.gov/effects
7. www.epa.gov/climatechange/science/causes.htm
9. www.independent.co.uk › News › Environment › Climate Change
10. wwf.panda.org › What We Do › Priority Places › Amazon › Problems
11. www.rainforestfoundationuk.org

OPEN COURSE

**GG 1551.1 GEOGRAPHY OF TOURISM**

**No. of Credits:** 2  
**No. of contact hrs.:** 54

**UNIT I**

Geography and tourism-map- types of maps-Elements of map reading-concept of leisure-Travel and tourism-Travel in ancient, medieval, and modern times.

**UNIT II**

Elements of tourism-Attraction-classification-Accessibility –Role of transport in tourism Accommodation- types-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-Tourist organizations-WTO, ITDC & KTDC –functions.

UNIT V
Tourism in Kerala-Major natural and cultural attractions

References

OPEN COURSE
GG 1551.2 PHYSICAL GEOGRAPHY

No. of Credits: 2
No. of contact hrs.: 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 and glaciers -Normal cycle of Erosion.
UNIT III


UNIT IV

Oceanography: Land and Sea distribution – Bottom Topography of oceans – temperature, salinity, currents, tides, coral reefs, ocean deposits, resources.

UNIT V

Elements of biogeography: ecosystems, food chain, food web – environment, habitat and plant- animal association; zoogeography; distribution of major animal groupings; elements of plant geography, distribution of forests and major communities

References


OPEN COURSE

GG 1551.3 GENERAL GEOGRAPHY

No. of Credits: 2
No. of contact hrs.: 54

UNIT 1

Chemical and Organic – Atmosphere – Composition, Structure, Distribution of Pressure belts, Types of Wind; Hydrosphere – Major Oceans, Profile of Ocean floor, Islands, Salinity, Coral reefs and Atolls, Ocean currents, Tides.

UNIT II


UNIT III


UNIT IV

Resources of World with special reference to India - Resource types – Agriculture: Rice, Wheat, Cotton, Tobacco, Sugarcane, Tea, Coffee, Forestry, Fisheries; Minerals – Iron ore, Bauxite, Manganese, Mica; Power resources – Coal, Petroleum, Thermal, Hydro, Nuclear; Industries – Cotton textiles, Sugar, Iron, Steel, Ship building, Automobiles, Engineering,

UNIT V

Geography of India– Location, Physiographic divisions, Drainage System, climate , Soil, Natural vegetation, Flora and Fauna - Population – Distribution, Growth, Composition, Racial groups, Languages, Religion, Urbanization – Kerala – Physiography, Drainage, climate, Major crops, minerals, industries, population and urbanization

References

5. Castree Noel, Demeritt David, Liverman Diana, Rhoads Bruce (Ed.) (2009) A Companion to Environmental Geography, Blackwell Publishing Ltd, Hong Kong
OPEN COURSE

GG 1551.4BIO-GEOGRAPHY

No. of Credits: 2
No. of contact hrs.: 54

UNIT I

Definition, Scope and significance of Biogeography – Basic Ecological principles: Darwin’s Theory of Evolution – Concepts of Biome, Ecotone and Community

UNIT II


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

2. Huggett, R.J., Fundamentals of Biogeography, Routledge, 2004
8. Tivy, J., Biogeography: A study of Plants in Ecosphere, Oliver an Boyd, 1992
11. Husain M., Biogeography, Anmol Publication, New Delhi, 1994

GG 1641: CARTOGRAPHY

No. of credits : 4
No. of contact hours : 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

UNIT III
Map design and layout – principles; Toponomy and map reproduction; Automated and computer cartography

UNIT IV
Special purpose maps – Planning and designing maps for a) Blind b) Children c) Neoliterates d) Business and Commercial Organizations

UNIT V
Cartographic Appreciation of Survey of India Topographic maps

References

GG 1642: ENVIRONMENTAL GEOGRAPHY

No. of credits : 4
No. of contact hours : 72

UNIT I


References

UNIT II

Concept of Ecosystem: its structure and classification; Functions of the Ecosystem: Food-chain, Food-web, Food-pyramid and Nutrient Cycles

References

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
UNIT IV

Environment and health – Environment and development; Environmental Movements (Chipko, Narmada BachaoAndolan), environmental Movements in Kerala (MadhavGadgil/KasturiRangan Reports, Aranmula Airport, Various Wetland Reclamations and localized anti-reclamation movements)

References


UNIT V

Environmental Management and Planning: laws, valuation and impact assessments, Concept of Sustainable Development

References

1. Noel Castree, David Demeritt, Diana Liverman, Bruce Rhoads, A Companion to Environmental Geography, Blackwell companions,2009

GG 1661 - AN INTRODUCTION TO DISASTER MANAGEMENT

No. of Credits: 2
No. of Contact hrs. 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


UNIT II
Disaster Management Cycle; Disaster Management Phases- Prevention and Preparedness, Mitigation, Response and Recovery; Community based disaster management - Roles and responsibilities of community, An over view of Disaster Management Act – Disaster
Management Strategies to be adopted by Panchayati raj institutions, local bodies, states and the centre.

References


**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


**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


**UNIT V**
Standard Operating Procedures (SOP) – Definition and the need for SOP’s. Gender and culture sensitive disaster management - purpose. Disaster management plan- components

References

[http://ndmindia.nic.in/SOP-NDM-2010.pdf](http://ndmindia.nic.in/SOP-NDM-2010.pdf)

1. Kurowa, Julio,  *Disaster Reduction: Living in harmony with nature* Quebecor World Peru S.A


GG 1643- PRACTICAL PAPER II  
REPRESENTATION AND INTERPRETATION OF GEOGRAPHIC DATA

No. of Credits: 4  
No. of contact hours: 108

UNIT I

Graphical Representation and analysis of Socio-economic data by means of Line graph – Simple, Multiple; Bar Graph – Simple, Compound/divided bar graph, Multiple Bar Diagram, Band Graph/Percentage Bar Graph, Rectangular diagram, Pie Diagram, Ring Diagram, Comparative circles, Sphere Diagram, Pictogram, Age-Sex Pyramid, Traffic Flow Diagram

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, Methuen and Company
2. R.L.Singh: Elements of Practical Geography, Kalyani Publishers
4. M H Siddiqui: Teaching of Geography, Chaman Enterprises
5. Graham T. Richardson: Illustrations – Everybody’s complete and practical handbook, The Humana Press Inc., NJ
6. www.skwirk.com/
8. Steven A. Ackerman, John A. Knox: Meteorology, Jones and Bartlett Learning
9. www.hpc.ncep.noaa.gov/
10. www.imd.gov.in/

GG 1644: PRACTICAL PAPER III
MAP READING AND ANALYSIS

No. of Credits: 4
No. of contact hours: 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, hanging 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 signs 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, Methuen and Company
2. R.L. Singh: Elements of Practical Geography, Kalyani Publishers
3. Gopal Singh: Map work and Practical Geography, Vikas publishing house pvt. Limited
4. K.K. Rampal: Mapping and compilation – methods and techniques, Concept and Publishing House
6. www.nwcg.gov/
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 climometer – 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. R. L. Singh: Elements of Practical Geography, Kalyani Publishers
2. Gopal Singh: Map work and Practical Geography, Vikas Publishing House Pvt. Limited
4. www.levelling.uhi.ac.uk/
5. https://archive.org/details/surveyingfieldwo00will
7. R. Subramanian: Surveying and Levelling, OUP India, 2013
8. www.academia.edu/.../CHAIN_AND_TAPE_SURVEY_G

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