

Syllabus 2018-2019
M. A. / M. Sc. (Previous) I Semester

GGM1001: GEOMORPHOLOGY

Credit	:04
Sessional	:30
End Term Exam.	:70
Total	:100

UNIT 1. Fundamental Concepts in Geomorphology:

- Geological structures and landforms
- Principles of uniformitarianism
- Cycle of Erosion - concepts of Davis and Penck

UNIT II. Earth Movements

- Isostasy – Doctrine of Isostasy; Views of Airy and Pratt
- Continental Drift Theory – concept of Wegener
- Plate Tectonics – concept and related views
- Mountain Building Theories – concepts of Kober, Daly and Holmes.

UNIT III. Exogenic Processes

- Weathering and soil formation
- Dynamics of fluvial process and resulting landforms
- Dynamics of glacial process and resulting landforms.
- Dynamics of Aeolian process and resulting landforms.

UNIT IV. Applied Geomorphology

- Terrain classification and its applications
- Oil exploitation
- Engineering projects
- Drainage network analysis – Stream orders, Sinuosity index and Drainage density

BOOKS RECOMMENDED:

1. Alam Clowes & Comfort., Processes and Landforms.
2. Bloom, A.L., Geomorphology-A systematic Analysis of late Cenozoic landforms.
3. Cotton, Geomorphology.
4. Dowie., Isostasy.
5. Jolly., Surface History of the Earth.
6. Ollier, C.D., Weathering.
7. Sparks, B.W., Geomorphology.
8. Steers, J.A., Unstable Earth.
9. Strahler, A.H. & Strahler, A.H., Elements of Physical Geography.
10. Thornbury, W.D., Principles of Geomorphology.
11. Von Engel., Geomorphology.
12. Wooldridge, S.W., & Morgan, R.S., An Outline of Geomorphology.

Syllabus 2018-2019
M. A. / M. Sc. (Previous) I Semester

GGM1002 :CLIMATOLOGY

Credit	:04
Sessional	:30
End Term Exam.	:70
Total	:100

- UNIT 1.** Nature and scope of climatology and its relationship with meteorology. The atmosphere: Structure and composition, insolation, heat-balance of the earth. Distribution of temperature: Temporal, vertical and horizontal, Green House effect.
- UNIT 2.** Atmospheric Equilibrium: Stability and instability, potential temperature and evapo-transpiration. Distribution of atmospheric pressure and winds: Jet streams - their origin, types and distribution, monsoon winds.
- UNIT 3.** Climatic Phenomena: Air masses and fronts, origin, growth, classification. Frontogenesis, types and weather associated with fronts. Cyclones, and anticyclones, Global warming.
- UNIT 4.** Climatic Classifications: Koppen's Thornthwaites - A critical appraisal of each classification, Climates of the World: Tropical, Temperate, Desert. Interpretation and generation of climatic information, soils, agricultural activities.

BOOKS RECOMMENDED:

1. Barry & Perry., Synoptic Climatology.
2. Blair, T.A., Climatology-General and Regional.
3. Chorley, R.J. & Barry, R.G., Atmospheric Weather and climate.
4. Donn, W.L., Meteorology.
5. Jackson, I.J., Climate, Water and Agriculture in the Tropics, 1977.
6. Kendrew, W.G., Climates of the Continents.
7. Lal, D.S., Climatology.
8. Mather, J.R., Climatology: Fundamental and Applications, 1974.
9. Patterson., Introduction to Meteorology.
10. Rama sastery, A.A., Weather & Weather fore casting.
11. Rummey, G., Climatology and the world's climate.
12. Stringer., Foundation of Climatology.
13. Stringer., Techniques in Climatology.
14. Trewartha, G.T., An Introduction to Climate.

Syllabus 2018-2019
M. A. / M. Sc. (Previous) I Semester

GGM1003 : OCEANOGRAPHY

Credit	:02
Sessional	:30
End Term Exam.	:70
Total	:100

- UNIT I.** Oceanography – nature, scope and development, distribution of land and water, Ocean bottom topography, bottom relief of Pacific, Atlantic and Indian Ocean.
- UNIT II.** Characteristics of Ocean water: temperature – distribution, salinity – composition, source and distribution, density of sea level.
- UNIT III.** Movement of ocean water: currents - causes and character, currents of Atlantic, Indian and Pacific Ocean, Waves, tides and theories of origin.
- UNIT IV.** Ocean deposits and coral reefs: sources, types and distribution of ocean deposits, coral reefs –formation, condition of growth, type and theories of origin.

BOOKS RECOMMENDED:

1. Davis, R.J.A. 1986, Oceanography – An Introduction of the Marine Environment, Win C. Brown, Iowa.
2. King, C.A., Oceanography for Geographers, Edward Arnold Pub.
3. Murray, S.J., 1913, Ocean, A General account of the Science of the sea, Thorton Butter Worth, London.
4. Siddhartha, K. 1999, Oceanography, A Brief Introduction, Kisalaya Pub. Pvt. Ltd., New Delhi..
5. Singh, S. 2002, Physical Geography, Prayag Pub., Allahabad.
6. Stahler, A. N. Stahler A.M., 1997, Geography and man's Environment, John Wiley and Sons, New York.
7. Thurnman, H.V., 1978, Introduction to oceanography, Charles E. Merrill Pub. Co., London.
8. Weyl, P.K. 1970, Oceanography an Introduction of the Marine Environment, John Wiley and Sons Ltd., London.

Syllabus 2018-2019
M. A. / M. Sc. (Previous) I Semester

GGM1004 :INDIA: PHYSICAL GEOGRAPHY

Credit	:04
Sessional	:30
End Term Exam.	:70
Total	:100

Unit I: Physiography: Stratigraphy of India -A Brief Review. Bases of Physiographic Divisions of India; Evolution of Extra-Peninsula: Its Geological Structure, Relief and the Evidences Regarding its Present Day Evolution; Peninsula: Structure and Relief; Indo-Gangetic Plain: Evolution, Structure and Relief; Coasts: Western Coast and Eastern Coast.

Unit II: Drainage: Evolution of Extra-peninsular Drainage -A Critical Study of Indo-Brahm Theory: The Gng River System, System and Pattern of Peninsular Drainage. The Godavari River System; differences between the Himalayan and Peninsular Drainage.

Unit III: Climate: Origin and Mechanisms of Indian Monsoon - A Critical Review of Classical and Modern Views Regarding its Origin: Effects of El-Nino on Indian Monsoon. Koppen's and Thornthwaite classification of Climate

Unit IV: Soils and Forests: Problems of Soil - Soil Erosion and Conservation; Saline and Alkaline Soils -their measures of reclamation; Problems of Indian Forestry; Forest Development Programs.

BOOKS RECOMMENDED:

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

Syllabus 2018-2019
M. A. / M. Sc. (Previous) I Semester

GGM 1005 :HISTORY OF GEOGRAPHICAL THOUGHT

Credit	:02
Sessional	:30
End Term Exam.	:70
Total	:100

- UNIT I:** Origin and development of philosophy of geography; Scientific Character of Geography in the Classical Greek Period. Contributions of Thales, Anaximander, Hecataeus, Herodotus, Eratosthenes, Strabo and Ptolemy.
- UNIT II:** Development of geographical thought during Dark Age; General characteristic of Contribution of Arabs in scientific geography; Al Khwarizmi, Al Masudi, Al Biruni and Ibn Khaldun.
- UNIT III:** Concepts in geography; Environmental Determinism, Possibilism and Neo-determinism and their present relevance in geography. Development of Dualism in geography: Physical versus Human Geography and Regional versus Systematic Geography.
- UNIT IV:** Development of Modern Geography: Contributions of German School-Humboldt, Ritter, Ratzel. Contribution of French School-Vidal-De-la Blache. Contribution of British School-Meckinder the relevance of 'Heartland theory' in present day-Geo-political order.

BOOKS RECOMMENDED:

1. Ali, S.M., Arab Geography, AMU., Press, Aligarh.
2. Anuchin, V., Directions in Geography.
3. Bunge, W., Theoretical Geography.
4. Claval, P., Epistemology and History of Geographical Thought, in progress in Human Geography, Vol.4.
5. Dickinson, R.E., The Makers of Modern Geog., London, 1969.
6. Dickinson, R.E., The Making of Modern Geography.
7. Davis, V.K., Conceptual Revolution in Geography.
8. Freeman, T.A., A Hundred Years of Geography: Introduction to Behavioral Geography.
9. Amedes, Douglas, An Introduction to Scientific Reasoning in Geog., John Wiley, 1971.
10. Hartshorne, R., Perspectives on Nature of Geography, Rand MacNally, 1959.
11. Johnston, R.J., The Future of Geography, Methuen, London, 1988.

Syllabus 2018-2019
M. A. / M. Sc. (Previous) I Semester

GGM1006 :REMOTE SENSING: THEORETICAL CONCEPT

Credit	:02
Sessional	:30
End Term Exam.	:70
Total	:100

- UNIT I:** Remote Sensing: Meaning, Definition, significance and utility of remote sensing in Geography. History and Development of Remote Sensing. Advantages and Limitations of Remote Sensing. Stages of remote sensing. Ideal and Real remote sensing.
- UNIT II:** Principles of Remote Sensing. EMR: its properties, Electromagnetic spectrum and characteristics of different wavelength regions. EMR: interaction mechanisms. Atmospheric interaction and their types; Surface interaction and their types; Spectral signature. Spatial, Spectral, Radiometric and Temporal Resolutions.
- UNIT III:** Aerial Photography, its geometry, Relief Displacement and Image Formations. Classification of Aerial Photographs and their Utility. Elements of Image Recognition and Aerial Photo interpretation, The multi-concept.
- UNIT IV:** Types of Remote sensing: Active and Passive Remote sensing. Types and characteristic of Remote Sensing Platforms; Geo-stationary and Polar orbiting Satellites. Digital Image Processing: Pre-Processing-Radiometric, Geometric and atmospheric Corrections; Enhancements; Image Classification-Supervised and Unsupervised.

BOOKS RECOMMENDED:

1. Sabins, Floyd F, 1986, Remote Sensing: Principles & Interpretation, Freeman, New York.
2. Lillesand, T.M. & Klefer, R.W. 1987, Remote Sensing and Image Interpretation, John Wiley & Sons, New York.
3. Curran, Paul J; 1985, Principles of Remote Sensing, Longman, London.
4. Estes, J.E. and LW Senger, 1974, Remote sensing Techniques for environmental Analysis, Hamilton, Santa Barbara, California.
5. Lillesand, Thomas M. and RW Klefer,1987, Remote Sensing and Image Interpretation, John Wiley & Sons, New York.
6. Slater, PN, 1980, Remote Sensing: Optics and Optical System, Addison-Wesley, Reading.
7. Jamles, B. Camp bell, Introduction to Remote Sensing-2nd Edi. Taylor & Francis, London.
8. Fazal, S. (2009), Remote Sensing Basics, Kalyani Publishers, New Delhi.
9. Reddy, A. (2001), Textbook of Remote Sensing And Geographical Information Systems, BS Publication Hyderabad.

Syllabus 2018-2019
M. A. / M. Sc. (Previous) I Semester

GGM1071 :P1-REMOTE SENSING (PHOTOGRAMMETRY)

Credit	:02
Continues Evaluation	:40
End Term Exam	:60
Total	:100

- ⇒ Stereoscopic Vision Test
- ⇒ Format and stereoscopic Orientation of Aerial Photographs
- ⇒ Determination of scale and Stereoscopic area
- ⇒ Determination of Principal Point and Conjugate Principal Point, Direction of Flight line and Air Base.
- ⇒ Calculation of traffic Speed through Aerial Photographs
- ⇒ Calculation of Photographic coverage for a Planning Area
- ⇒ Mapping Land Use change Detection
- ⇒ Height Determination Methods
- ⇒ Land use Measurement Methods
- ⇒ Preparation of Landcover and Landuse Map
- ⇒ Interpretation of Aerial Photographs
- ⇒ Population Census with Aerial Photographs

BOOKS RECOMMENDED:

1. American society of Photogrammetry: Manual of Photographic Interpretation , Banta Pub. Co., Wisconsin, 1960.
2. Avery, T.E., Interpretation of Aerial Photographs, Minneapolis, 1962.
3. Barrett, E.C. & Curtis, L.F., Introduc. Of Environ. Remote Sensing, 1976.
4. Dury, G.M., Map Interpretation, Isaac Pitman, London, 1952.
5. Cunan, R.J., Principles of remote sensing, London, 1985.
6. Hord, R.M., Remote sensing: Methods and Applications, N.Y., 1986.
7. Lender, D.R., Aerial Photographic, Mc Graw Hill, N.Y., 1960.
8. Luder, D., Aerial Photography Interpretation: Principles and applications, McGraw Hill, N.Y., 1959.
9. Lilles & Klefer, Remote sensing & Image Interpretation.
10. Reeves, R.G.(Ed.) Manual of Remote sensing(Vol.2) Virginia, 1975.
11. Sabins, F.F., Remote sensing: Principles & Interpretation, 1982.
12. Smith, H.T.V., Aerial Photographs & their Applications, N.Y., 1943.
13. Spurr S.H., Photogrammetry & Photo Interpretation, N.D., 1960.
14. Stersheu, A.I., Aerial Photography.
15. Tomar, M.A. & Maslakar, A.R., Aerial Photographs in Landuse & Forest Survey, Dehra- Dun, 1974.
16. Thomas, E.A., Interpretation of Aerial Photographs, Minnesota.
17. Usill, G.W. (Revised by Hearn, G.S.G) Pract. Surveying, London, 1960.
18. White, L.P., Aerial Photography & Remote sensing for soil survey.
19. James, B. Camp bell., Introduction to Remote Sensing- 2nd Edi. Taylor & Francis, London.

Syllabus 2018-2019
M. A. / M. Sc. (Previous) I Semester

GGM1072 : CARTOGRAPHY

Credit	:02
Continues Evaluation	:40
End Term Exam	:60
Total	:100

- # History, Development and Significance of Cartography.
- # Representation of Relief and Climatic Data:
- # Depiction of Relief: Drawing of Profiles - Serial, superimposed, composite and projected; Profiles and their usefulness in studying landforms
- # Gradient and Slope: Significance, calculation of gradient, scale of slopes
- # Methods of slope analysis: Wentworth, Smith, Henry Raisz and Robinson
- # Hypsographic, Climographic and Altimetric frequency curves
- # Representation of Climatic Data: Climograph, Hythergraph and Rainfall Dispersion Diagram.
- # Representation of Statistical Data:
Thematic Mapping - Choropleth and Isopleth; Lorenz Curve.

BOOKS RECOMMENDED:

1. Campbell, J., Introductory Cartography, Prentice Hall, Inc., Englewood Cliff, New Jersey, 1984.
2. Cuff, D.J., & Mattson, M.T., Thematic Maps, their Design and Production, Methuen, New York., 1982.
3. Robinson, A.H. & others., Elements of Cartography, John Willey and Sons, New York (New edition).
4. Archer, J.E., & Dalton, T.H., Fieldwork in Geography, London.
5. National Atlas and Thematic Maps Organization (NATMO): National Atlas of India, Calcutta.
6. Monkhouse, F.J., Maps and Diagrams, Methuen & Co., London, 1967.

Syllabus 2018-2019
M. A./M. Sc. (Previous) I Semester
GGM1073 :TRV - FIELD TRAINING & TOUR

Credit	:02
Continues Evaluation	:40
End Term Exam	:60
Total	:100

A. Field Training Methods

- Objectives and scope of the field enquiry.
- Methods of field work in different areas
- Scale - macro, meso and micro.
- Preparation of questionnaire:
- Sampling techniques for the collection of data
- Collection, processing and presentation of data

Fieldwork will be carried out on the basis of a interview schedule/questionnaire prepared.

The data so collected with the analyzed by the candidate by preparing suitable tables, maps and diagrams. A report on the basis of survey conducted by the candidate shall be prepared.

The report duly certified by the teacher-in-charge shall be submitted.

B. Tour

Students are required to undertake a field study tour of a distant area or region to study certain aspects of social, cultural landscape and on-spot observations under the supervision of teachers who will accompany the students.

A comprehensive tour report on the area / region shall be submitted by the students within two weeks on their return from the tour. The report shall be sent to the examiner for evaluation, and subsequently the students have to appear for viva – voce examination.

BOOKS RECOMMENDED:

1. Archeer, J.E. & Dalton, T.H. **Fieldwork in Geography**, London, 1968.
2. Elhance, D.N. **Fundamentals of Statistics**, Allahabad, 1972.
3. Jones, P.A., **Fieldwork in Geography**, London, 1968.
4. Glodard, R.H., **Field Techniques and Research Methods in Geography**, Dubuque 1982.
5. Wheleso, K.S. & Harding, M., **Geographical Fieldwork**, London, 1965.
6. Mahmood. A., **Statistical Methods in Geographical Studied**, Rajesh Publication, Delhi, 1977.
7. Geogory, S., **Statistical Methods and the Geographers**, Longmans, London.
8. Monkhouse, F.J., **Maps and Diagrams**, Methuen & Co., 1952.
9. Berry, B.J.L., & Marble, F., **Spatial Analysis: A Reader in Statistical Geography**, New Jersey, 1968.

Syllabus 2018-2019
M.A./M. Sc. (Previous) – II Semester
Paper – Human Geography
(Paper Code: GGM-2001)

Credit	: 02
Sessional	:30
End Term Exam.	:70
Total	:100

Unit I	Nature, scope and significance of human geography; approaches to the study of human geography. Man-environment relationship: Environmental determinism and possibilism.
Unit II	Patterns of population: Distribution and growth of population in developed and developing countries and their socio-economic implications. Human migration: causes and consequences.
Unit III	Human settlement: origin and evolution of rural settlements; types and patterns of rural settlements. Origin and growth of urban settlements: processes and patterns of urbanization, classification of cities on the basis of site, size and functions.
Unit IV	Major human races in the world: distribution of races/ ethnic groups. Major world religions and languages: their origin, diffusion and spatial distribution.

BOOKS RECOMMENDED:

1. Perpillou, A.V., 1977, *Human Geography*, London.
2. Ambrose, P., 1969, *Analytical Human Geography*, London.
3. Spencer, J.E. & Thomas, W.L., 1978, *Introduction to Cultural Geography*, New York.
4. De Blij, H.J., 1977, *Human Geography*, New York.
5. Rubenstein. J.M. & Bacon R.S., 1983, *The Introduction to Human Geography*, New York.
6. Khan, J.H. Scio-Economic & Structural Analysis of Internal Migration, New D. 2010.
7. Smith, D.M., 1977, *Human Geography: A Welfare Approach*, London.
8. Taylor. G., *Geography in Twentieth Century*.
9. Khan, J.H. Scio-Economic & Structural Analysis of Internal Migration, N. D. 2010.
10. Dicken, S.N., *Introduction to Human Geography*.
11. Jones, E., *Human Geography*.
12. Garnier, J.B., *Geography of Population*.
13. Trewartha, G., *Geography of Population*.
14. Enayat, A., *Social and Geographical Aspects of Human Settlements*.
15. Briggs, K., 1983, *Human Geography: Concepts and applications*, London.
16. Husain, M., 2000, *Human Geography*, New Delhi.
17. Leong, G.C. & Morgan, *Human and Economic Geography*.

Syllabus 2018-2019
M.A./M. Sc. (Previous) – II Semester
Paper – Biogeography
(Paper Code: GGM-2002)

Credit	: 02
Sessional	:30
End Term Exam.	:70
Total	:100

- UNIT I.** Meaning and scope of Biogeography, Biogeography and related sciences, Approaches to the study of Biogeography, relevance and significance of Biogeography, environmental factors affecting distribution of flora and faunas.
- UNIT II.** Soils as an ecological factor, Soil forming factors, Soil components, Soil properties, Soil profile and horizon, Soil erosion and conservation, concept and types of ecosystem,
- UNIT III.** Biomes with special reference to Tropical rain forests, Tropical Monsoon deciduous forest, Tropical and Temperate grass lands biomes, zoogeographical regions.
- UNIT IV.** Evolution, dispersal and distribution of plants, forest conservation in India, wild life conservation in India, Biodiversity, concept types and importance.

BOOKS RECOMMENDED:

1. Simmon, I.G., Biogeography: Natural and Cultural, Longman, London 1974.
2. Watts, David, Principles of Biogeography, London.
3. Odum, Eugene P., Fundamentals of Ecology, Philadelphia.
4. Newbiggin, M.I., Plant and Animal Geography, London.
5. Cloudsley-Thompson, J.L., Terrestrial Environment, London.
6. Allee, W.C. & Schmidt, K.P., Ecological Animal Geography, New York.
7. Jones, R.L., Biogeography: Structure, Process Pattern and Change within a Biosphere.
8. Mathur, M.S., Essentials of Biogeography, Jaipur.
9. Darlington, P., Zoogeography, New York.
10. Huggett, R.J., Fundamentals of Biogeography, Routledge, U.S.A, 1998.
11. Cox, C.B. and More, P.D., Biogeography: An Ecological and Evolutionary Approach, London, 2000.

Syllabus 2018-2019
M.A./M. Sc. (Previous) – II Semester
Paper - Economic Geography
(Paper Code: GGM-2003)

Credit	: 02
Sessional	:30
End Term Exam.	:70
Total	:100

- Unit I Meaning and scope of Economic Geography. Approach to the study of economic geography, recent trends, changing relationship between Economics and Economic Geography, Economic Development, Indicators of Socio-Economic Development, Rostow's model of stages of growth and development.
- Unit II Economic Activities; Characteristics and importance of Primary, Secondary and Tertiary economic activities. Classification of Agricultural system -Whittlesey's Classification and Von-Thunen model of Agricultural Location.
- Unit III Manufacturing Activities: Significance and types, Factors of Industrial Location, Iron and Steel Industry, Cotton Textile Industry. Theories of Industrial Location; Weber's and Smith models.
- Unit IV Energy Resources: Conventional Energy resources-Coal, Petroleum, Non-conventional energy resources-Solar Energy, World Energy Crises. International Trade: Problems and Prospects, World Trade Organization (WTO), Central Place Theories of Christaller and Losch.

BOOKS RECOMMENDED:

1. Alexander, J.W., Economic Geography.
2. Boesch, H., A Geography of world Economy.
3. Brian, J.L., Berry et al., The Geography of Economic Systems.
4. Barlow, M.H. & R.G. Newton., Patterns and Processes in Man's Economic Environment.
5. Chisholm, M., Geography and Economics.
6. Jones, C.F., Economic Geography.
7. Grigg, D.B., Agricultural Systems of the World: An Evolutionary.
8. Lloyd, P. & P. Dickens., Location in Space; A Theoretical Approach to Eco. Geo.
9. Strahler, A.N. & A. Strahler., Geography and Man's Environment.
10. Thoman, R.S. & E.C. Conkling., The Geography of Economic Activity.
11. Thoman, R., " Econ.Geog." in International Encyclopaedia of S.Science.
12. Miller, E. & E. Willard., A Geography of Manufacturing.
13. Mc. Carty, H. & J.B.Lindberg., A preface to Economic Geography.
14. Von Royen, W., Fundamentals of Economic Geography.
15. William Von Royen, et. al., Fundamentals of Economic Geography.
16. Zimmerman, E.W., World Resources and Industries.
17. Hartshorn, T.A., Economic Geography.
18. Majid Husain, Economic Geography

Syllabus 2018-2019
M.A./M. Sc. (Previous) – II Semester
Paper –Disaster Management
(Paper Code: GGM-2004)

Credit	: 04
Sessional	:30
End Term Exam.	:70
Total	:100

Unit I Disaster – meaning and concept; hazards, risk and vulnerability. Disaster: its management – plans, managing environment. Disaster its effect on different social groups; poverty and vulnerability. Disaster management: prevention, preparedness and mitigation.

Unit II Disaster – classification of disasters; Natural disaster – earthquake, floods, drought and global warming: causes, consequences and mitigation. Natural disaster – Examples from India.

Unit III Disaster – man made disasters, their types – technological and industrial disasters. Social disasters: causes, consequences and mitigation. Man made disasters – Examples from India.

Unit IV Disaster management – relief and response; reconstruction and rehabilitation. Disaster – strategies for survival, types of strategies. Importance of information in disaster management, significance of remote sensing and GIS. Planning in the context of disaster management.

Reading List

1. Government of India. (1997) Vulnerability Atlas of India. New Delhi, Building Materials & Technology Promotion Council, Ministry of Urban Development, Government of India.
2. Kapur, A. (2010) Vulnerable India: A Geographical Study of Disasters, Sage Pub. , New Delhi.
3. Modh, S. (2010) Managing Natural Disaster: Hydrological, Marine and Geological Disasters, Macmillan, Delhi.
4. Singh, R.B. (2005) Risk Assessment and Vulnerability Analysis, IGNOU, New Delhi.
5. Singh, R. B. (ed.), (2006) Natural Hazards and Disaster Management: Vulnerability and Mitigation, Rawat Publications, New Delhi.
6. Sinha, A. (2001). Disaster Management: Lessons Drawn and Strategies for Future, New United Press, New Delhi.
7. Stoltman, J.P. et al. (2004) International Perspectives on Natural Disasters, Kluwer Academic Publications. Dordrecht.
8. Singh Jagbir (2007) “Disaster Management Future Challenges and Oppurtunities”, 2007. Publisher-I.K. International Pvt. Ltd. S-25, Green Park Extension, Uphaar Cinema Market, New Delhi, India.

Syllabus 2018-2019
M.A./M. Sc. (Previous) – II Semester
Paper – Industrial Geography
(Paper Code: GGM-2005)

Credit	: 04
Sessional	:30
End Term Exam.	:70
Total	:100

Unit I : Localization of Industries and Theories.

- Nature, scope, and recent developments of Industrial Geography.
- Factors of localization of industries.
- Theories and models of industrial location: Weber and Hoover.
- Critical review and application of industrial location theories

Unit II : Pattern of Industries and Industrial Regions.

- Distributional patterns of important industries:
 - Iron and steel
 - Cotton Textiles
 - Chemicals and Petro-chemicals.
- Method of delineating industrial regions
- Major industrial regions of the World with special reference to North America

Unit III : Degradation and Globalization:

- Environmental degradation caused by industries.
- Industrial hazards and occupational health.
- Impact of industries on economic development.
- Role of globalization on industrial sector

Unit IV: Major Industrial Regions of India:

- Location, characteristics, chief industries and associated problems of each region.
- The Mumbai-Pune industrial region.
- The Chhotanagpur industrial region.

Suggested Readings

1. Alexander, J.W., Economic Geography, Prentice Hall, Englewood Cliffs, 1988.
2. Alexanderson, C., Geography of Manufacturing, Prentice Hall Bombay, 1967.
3. Hoover, E.M., The Location and Space Economy, McGraw Hill, New York, 1948
4. Isard, W, Methods of Regional Analysis, The Technology Press of MIT & John Wiley & Sons, New York 1956.
5. Miller E., A Geography of Manufacturing, Prentice Hall, Englewood Cliffs, 1962.
6. S. Siddartha, Economic Geography, Theories, process and pattern, Kisolaya Pub. Pvt. Ltd. Pantan, 2000.
7. Weber, Alfred, Theory of Location of Industries, Chicago University Press, Chicago, 1957.

Syllabus 2018-2019
M.A./M. Sc. (Previous) – II Semester
Paper – Geography of Health
(Paper Code: GGM-2006)

Credit	: 04
Sessional	:30
End Term Exam.	:70
Total	:100

- Unit I Place of Medical Geography:**
(i) Nature, scope and significance of Medical Geography
(ii) Place of Medical Geography in medical science.
(iii) Sequential development of Medical Geography.
- Unit II Geographical Factors Affecting Human Health and Diseases**
* Physical Factors – relief, climate, soil and vegetation
* Social Factors – population density, literacy, social customs and poverty.
* Economic Factors – food security, nutrition, occupation & standard of living
* Environmental Factors – urbanization, congestion, waste disposal and pollution.
- Unit III Major Diseases:**
(i) Classification of Diseases: Communicable and Non-Communicable
(ii) Occupational and deficiency diseases
(iii) Pattern of World distribution of major diseases.
- Unit IV Ecology and Health Care Planning:**
(i) Cholera, Typhoid, Malaria, Tuberculosis, Hepatitis.
(ii) Diffusion and causes of diseases
(iii) Deficiency disorders – under and malnutrition in India.
(iv) Health Care Planning; International and national: Role of WHO, UNICEF and Red Cross

Suggested Readings

1. Ashraf, S.W.A., Agriculture, Environment and Health, Concept Pub., New Delhi.
2. Banerjee, b and Hazra J., Geo-Ecology of Cholera in West Bengal, Unv of Culcutta, 1980.
3. Chatterjee Mera, Implementing Health Policy, Centre for Policy Research, New Delhi, 1988.
4. Cliff, A. & Stewart, L., (eds.), Atlas of Diseases distribution , Basil Blackwell, Oxford, 1989.
5. Hazra, J., (eds.), Health Care Planning in Developing Centres, Unv of Culcutta, 1997.
6. Learmonth, A.T.A., Patterns of Diseases and Hunger – A Study in Medical Geography, David & Charles, Victoria, 1978.
7. May, J.M., Ecology and Human Diseases, M.D. Pub. New York, 1959.
8. May, J.M., Studies in Disease Ecology, Hafner Pub. New York, 1961.
9. Mc. Glashan. N.D., Medical Geography, Methuen , London, 1972.
10. Misra, R.P., Medical Geography of India, National Book. Inst, India, New Delhi.
11. Rais, A and Learmonth, A.T.A., Geomorphic aspect of health and diseases in India.
12. Stamp, L.D., The Geography of Life and Death, Cornell Univ. Ithaca, 1964.

Syllabus 2018-2019
M.A./M. Sc. (Previous) – II Semester
Paper – Marketing Geography
(Paper Code: GGM-2007)

Credit	: 04
Sessional	:30
End Term Exam.	:70
Total	:100

Unit I	<p>Marketing Geography Definition, scope and significance. Growth and development Approaches of study: Commodity, Spatial, Social, Economic, Behavioural. Application of Planning: Market, Urban, Agriculture</p>
Unit-II	<p>Markets Classification, structure and hierarchy Markets participants, Market Channel and Trade Area Theoretical Framework for Study of Market Centres: Christaller and Losch Model of Market Locations; B.J. Berry’s Model and Reilly’s Models of interaction and trade area delimitation.</p>
Unit-III	<p>Trade Classification and structure: Local, Regional, National, and International. Historical Development of Trade, Factors of Development of Trades. International Trade, World Trade Organization, World Trading Zone: SAFTA (South Asian Free Trade Association), NAFTA (North Atlantic Free Trade Association).</p>
Unit-IV	<p>Indian Agricultural Marketing: Definition, Types and Structure Formal Marketing: Regulated, Government Purchase Centres. Informal Marketing: Local, Regional, Private Traders, Processing Units. Marketing Channels, Foodgrains and Vegetables WTO and Agricultural Marketing: Its impact on agriculture, environment, Food Security and Society.</p>

Suggested Readings

1. Acharya, S.S & Agarwal, N.L (1987) Agricultural Marketing in India, Oxford & IHB Publishing Co, New Delhi.
2. Berry, B.J.L. (1967) Geography of Market centers and Retail Distribution. Prentice Hall, Englewood cliffs, N.J
3. Davis, R.L. (1976) Marketing Geography, .Methuen, London,
4. Dixit, R.S. (1984) Marketing Centers and their spatial development in the Umland of Kanpur, Allahabad
5. Garnier, B, J and Delobez. A (1977) Geography of Marketing, Longman, London.
6. Khan.N (1991) Agriculture development and Marketing, H.K. Publisher, New Delhi
7. Losch, A (1 954) Economics of Location. Yale University press, New Heaven.
8. N.C.A.E.R (1983) Market towns and Spatial Development in India, NCAER, N.D.
9. Saxena, H.M (1984) Geography of Marketing. Concepts and Methods, New Delhi.
10. Saxena, P. Marketing and Sustainable Development. Rawat Publication, New Delhi.
11. Singh, G.N. (1987) Agricultural Marketing in India. Hugh Publication, Allahbad.
12. Rajgopal (2001) Rural Marketing. Rawat Publication, New Delhi

Syllabus 2018-2019
M.A./M. Sc. (Previous) – II Semester
Paper - Geography of Tourism
(Paper Code: GGM-2008)

Credit	: 04
Sessional	:30
End Term Exam.	:70
Total	:100

UNIT I: Basics of Tourism: meaning, definition, concept; Approach of Tourism: Tourism products Definition of Tourism; Factors influencing tourism, historical, natural, socio – cultural and economic; motivating factors for pilgrimages; leisure, recreation; Elements of tourism, Tourism as an industry.

UNIT II: Geography of tourism: - its spatial affinity; Areal and locational dimensions comprising, physical, cultural, historical and economic; Tourism types: natural, cultural, adventure, national and international.

UNIT III: Infrastructure and Support System: - Accommodation, Transport; other facilities and amenities; Impact of tourism: physical, economic and social and perceptual positive and negative impacts.

UNIT IV: Indian Tourism: - Regional dimensions of tourist attraction, Evolution of tourism, promotion of tourism. Tourist development in Garhwal Himalayas, Dal Lake and Manipur and its impact on the countryside.

RECOMMENDED BOOKS

1. Bhatia, A.K., Tourism Development: Principles and Practices, Sterling Publishers, N D., 1996.
2. Bhataia, A.K., International Tourism – Fundamentals and Practices Sterling Publishers, New Delhi, 1991.
3. Biju, M.R., Sustainable Dimensions of Tourism Management, Mittal Publications, N.D, 2006.
4. Chandra, R.H., Hill Tourism, Planning and Development, Kanishka Publications, N, D.1998.
5. Hunter C. and Green, H., Tourism and the Environment A Sustainable Relationship, Rout Ledge, London, 1995.
6. Hanifa Bano, Geography of Dal Lake, unpublished Ph.D. thesis, Department of Geography, A.M.U., 1984.
7. Hugel, B.C., Kashmir and Punjab, Light and Life Publishers, Jammu, 1972.
8. Kaur, J., Himalayan Pilgrims and New Tourism, Himalayan books, New Delhi, 1985.
9. Kaur, R.K., Dynamics of Tourism and Recreation, Inter – India, New Delhi, 1985.
10. Lea, J., Tourism and Development in the third world, Rout Ledge, London, 1988.
11. Nigam, D., Tourism, Environment and Development of Garhwal Himalayas, Mittal Publications, 2002.
12. Robinson, H., A Geography of Tourism, Macdonald and Evans, London, 1996.
13. Sharma, J.K. (ed.), Tourism Planning and Development – A new Perspective, Kansihka Publisher, New Delhi, 2000.
14. Sinha, P.C. (ed.), Tourism Impact Assessment, Anmol Publishers, New Delhi, 1988.
15. Siddiqui, S., Eco - friendly tourism in U.P. Himalayas, B.R. Publishers, New Delhi, 2000.
16. Singh, I., Manipur, A Tourist Paradise, B.R. Publishers, New Delhi, 2005.

Syllabus 2018-2019
M.A./M. Sc. (Previous) – II Semester
Remote Sensing (Image Processing)
(Paper Code: GGM-2071)

Credit	:02
Continues Evaluation	:40
End Term Exam	:60
Total	:100

- Image interpretation, basic principle, Images and their interpretability, factors governing quality of images, factors governing interpretability, elements of image interpretation.
- Use of multiple image in image interpretation, seasonal differences on images, comparisons of seasonal images, winter and summer images.
- Thermal infrared images; thermal processes and properties, heat, temperature and radiant flux, IR region of the electromagnetic spectrum, IR detection and imaging technology, characteristics of IR images, advantages of thermal imagery.
- Introduction of image processing, forms of images, different image processing techniques, computer image processing, digital image processing, image restoration image enhancement, edge enhancement, ratio images.

BOOKS RECOMMENDED:

1. American Society of Photogrammetry: Manual of Photographic Interpretation , Banta Pub. Co., Wisconsin, 1960.
2. Avery, T.E., Interpretation of Aerial Photographs, Minneapolis, 1962.
3. Barrett, E.C. & Curtis, L.F., Introduction of Environ. Remote Sensing, 1976.
4. Dury, G.M., Map Interpretation, Isaac Pitman, London, 1952.
5. Cunan, R.J., Principles of Remote Sensing, London, 1985.
6. Hord, R.M., Remote Sensing: Methods and Applications, N.Y., 1986.
7. Lender, D.R., Aerial Photographic, Mc Graw Hill, N.Y., 1960.
8. Luder, D., Aerial Photography Interpretation: Princ. and Appl., McGraw Hill, NewYork., 1959.
9. Lilles & Kiefer, Remote Sensing & Image Interpretation.
10. Reeves, R.G.(Ed.) Manual of Remote Sensing (Vol.2), Virginia, 1975.
11. Sabins, F.F., Remote Sensing: Principles & Interpretation, 1982.
12. Smith, H.T.V., Aerial Photographs & their Applications, New York, 1943.
13. Spurr S.H., Photogrammetry & Photo Interpretation, New Delhi., 1960.
14. Stershew, A.I., Aerial Photography.
15. Tomar, M.A. & Maslakar, A.R., Aerial Photographs in Landuse & Forest Survey, Dehra- Dun,
16. Thomas, E.A., Interpretation of Aerial Photographs, Minnesota.
17. Usill, G.W. (Revised by Hearn, G.S.G) Pract. Surveying, London, 1960.
18. White, L.P., Aerial Photography & Remote Sensing for Soil Survey.
19. Campbell, James, B., Introduction to Remote Sensing- 2nd Edi. Taylor & Francis, London

Syllabus 2018-2019
M.A./M. Sc. (Previous) – II Semester
ADV. QUANTITATIVE TECHNIQUES
(Paper Code: GGM-2072)

Credit	:02
Continues Evaluation	:40
End Term Exam	:60
Total	:100

- **Correlation analysis:** Karl Pearson's Product moment, Spearman's Rank Correlation, Co-efficient and their limits; test of significance on correlation co-efficient; scatter diagram.
- **Simple linear regression and multiple regression analysis;** regression lines and residuals; Methods of constructing regression lines, properties of least square estimates, co-efficient of determination.
- **Test of significance:** Chi-square test, student 't' test, variance estimate test.
- **Test for Distributions in Space;** nearest neighbour analysis; spacing of settlement.

BOOKS RECOMMENDED:

1. Hammond / Mc Cullah., Quantitative Techniques in Geog, Oxford, 1974.
2. Gregory, S., Statistical Method for Geography, Longman, 1975.
3. Berry, B.J.L., & Marble, D.F., Spatial Analysis: A Reader in Statistical Geography, New Jersey, 1968.
4. Cole, J.P., & King, C.A.M., Quantitative Methods in Geography, New York, 1968.
5. King, L.J., Statistical Analysis in Geography, New Jersey.
6. Johnson, R.J., Multivariate Statistical Analysis in Geography, 1978.
7. Elhance, D.N., Elementary Statistics.
8. Pal, S.K., Statistical Methods in Geography.
9. Alvi, Zamiruddin., Statistical Geography.

Syllabus 2018-2019
M.A./M. Sc. (Previous) – II Semester

COMPUTER MAPPING
(Paper Code - GGM 2073)

Credit	:02
Continues Evaluation	:40
End Term Exam	:60
Total	:100

Computer Cartography: Fundamentals of computer cartography, Developments and advantages of computer-assisted cartography.

Representation of geographic data through computer aided techniques:
Diagrammatically illustrations and Mapping.

Types of cartographic symbols and their uses: Point, line and area.

Statistical diagrams: Types, line graphs and dimensional diagrams.

Maps: Significance, types, distribution maps.

Books Recommended:

1. Cromley, R.G., Digital Cartography, Prentice Hall, N. Jersey, 1992.
2. Fraser Taylor, D .R., Geographical Information System, Pergmon Press, U.K., 1991.
3. Haddad, A., Microsoft Power Point 2000, G.C. Jain for Techmedia, New Delhi, 1999.
4. Khan, J. H., Hassan, T. and Shamshad, Scales, Academic Publication, Delhi, 2014.
5. Khullar, D.R., Essentials of Practical Geography, New Academic Publishing Co. Jalandhar,2005.
6. Maquire, DJ., Good Child, M.F. and Rhind, D.W., Geographical Information Systems: Principles and Application, Taylor and Francis Publication Washington, 1991.
7. Misra, R.P., & Ramesh, A. Fundamental of Cartography, Concept Publishing Company, New Delhi, 1989.
8. Monkhouse, FJ. and Wilkinson, H.R, Maps and Diagrams, Mathuen and Co, Ltd. London, 1952.
9. Pery, G., Microsoft Office 2000, G.C. Jain for Techmedia, New Delhi, 2002.
10. Monmonier, M. S., Computer Assisted Cartography: Principles and Prospects, Prentice Hall, New Jersey, 1982.
11. Singh L.R. and Singh, R., Map work and Practical Geography, Central Book Depot., Allahabad, 1973.
12. Singh, RL. and Singh, RP.B., Elements of practical geography, Kalyani Publishers, New Delhi, 1991.

Syllabus 2018-2019
M. A. / M. Sc. (Final) III Semester

PAPER – REGIONAL DEVELOPMENT & PLANNING
(Paper Code - GGM 3001)

Credit	:04
Sessional	:30
End Term Exam.	:70
Total	:100

Unit I: 1. World History of Regional Planning: a brief overview. **2. Concept and Nature of Regional Planning:** viz. complex, inter-disciplinary and future-oriented nature. **3. Types of Regional Planning:** basic types, viz., short and long term, single and multilevel, centralized and decentralized. **4. Decentralized Planning in India:** salient features.

Unit II: 1. Concept and Types of Regions: basic types, especially formal, functional and perceptual. **2. Concept and Methods of Regionalization: an overview** **3. Concept and Essential Characteristics of Planning Regions :** basic requirements for making a geographic region a planning region. **4. Planning Regions in India:** a brief overview of regionalization.

Unit III: 1. Concepts and Types of Development: salient features of economic development, sustainable development and human development. **2. Economic Growth and Economic Development:** their contrast and indicators of measurement. **3. Types of Economic Systems in the World;** an overview.

Unit IV: 1. World Socio-Economic Disparities: a quantitative representation of selected countries from various regions. **2. Regional Disparities in India:** inter-state socio-economic disparities. **3. Regional Development in Post-Reform India:** an overview.

Recommended Books:

1. Bhat, L.S., 1973, Regional Planning in India, Statistical Publishing Society, Calcutta.
2. Chandana, R.C., 2000, Regional Planning, Kalyani Publishers Ludhiana.
3. Chand, M., Puri, & V.K., 1983, Regional Planning in India, allied Publishers, New Delhi.
4. Friedman, J., & Alonso, W., 1967 Regional Development and Planning-A Reader, MIT Press, Cambridge Mass.
5. Glasson, 1980, Regional Planning, Hutchinson, London.
6. Glikson, A., 1955, Regional and Development, Netherlands, Universities Foundation of International Corp, London.
7. Mishra, R.P., 1969, Regional Planning Concepts, Techniques and Policies, University of Mysore, Mysore.
8. Mishra R.P, et al., 1974, Regional Development and Planning in India, Institute of Development Studies, Mysore.
9. Rao, V.L.B., 1960, Regional Planning, Asia Publishing House, New Delhi.
10. Kant Surya et al (eds): Reinventing Regional Development, Rawat Publication, Jaipur and N. Delhi.

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M. A. / M. Sc. (Final) III Semester

PAPER – REGIONAL & ECONOMIC GEOGRAPHY OF INDIA
(Paper Code - GGM 3002)

Credit	:04
Sessional	:30
End Term Exam.	:70
Total	:100

- Unit I** Development of Regional Studies; concept of region; Types of Region - formal region, nodal region, functional region. Regionalization-process, methods and techniques used for regionalization of formal regions and functional regions.
- Unit II** **Agriculture** – Green Revolution in Indian agriculture. Regionalization of Agriculture - methods and techniques used in the analysis of crop combination regions, agricultural productivity regions.
- Unit III** **Industry** - Industrial development in pre and post independence India; factors of location of industries-cotton textiles and iron-steel industries, production, distribution and problems; associated with them.
- Unit IV** **Regionalization** - Agro-climatic regionalization; industrial regionalization-macro and meso regions; Regional imbalances in India with reference to agriculture and industry.

BOOKS RECOMMENDED:

1. Misra, R.P., Regional Planning: Concepts, Techniques and Policies.
2. Kurdue, A. & Raza, Moonis, Indian Economy the Regional Dimension.
3. Clonlay, R.J. & Haggat, P., Models in Geography.
4. Md.Noor., Perspectives in Agricultural Geography, New Delhi.
5. Ali Mohammad., Food Production and Food Problem in India, N. Delhi
6. Krishna, D. The New Agricultural Strategy, Delhi, 1971.
7. Bansil, B.C., Agricultural Problems in India, Delhi, 1975.
8. India 2004, Ministry of Information and Broad Casting, Govt. of India, New Delhi
9. Survey of Agriculture and Survey of Industry, 2003, Hindu Publication.
10. C.B. Memoria, Economic and Commercial Geography of India.
11. Mahesh Chand and V.V. Puri, Regional Planning in India.
12. Paul Claval, An Introduction to Regional Geography.
13. Johnston, R.J., Geography and Geographers Since 1945.
14. Sinha, B. N., Industrial geography of India.
15. Sant, M., Industrial Movement and Regional Development.
16. Bijli, S.M., Industrialization in the Third World.
17. India 2004, Government of India Publication.

Syllabus 2018-2019
M. A. / M. Sc. (Final) III Semester

PAPER – ENVIRONMENTAL GEOGRAPHY
(Paper Code - GGM 3003)

Credit	:04
Sessional	:30
End Term Exam.	:70
Total	:100

UNIT I: Meaning and scope of Environmental Geography, Relations of environmental geography with other sciences, meaning, component and types of environment, approaches to the study of man-environment relationships.

UNIT II: Ecosystems, meaning, types and components of ecosystem, function of ecosystem, trophic levels, food chain and food webs. Ecological pyramid and flow of energy. Bio-Geo-Chemical Cycles-Nitrogen cycle, Carbon cycle and Hydrological cycle.

UNIT III: Environmental Degradation and Pollution: concept and types of Environmental Degradation, causes of Environmental Degradation, sources and types of Pollution, Air Pollution, adverse affect of air pollution on weather and climate, ozone depletion, green house effects, effects on human health, water pollution; surface and ground water, adverse effects on human health.

UNIT IV: Environmental Planning and Management: Environmental management – methods and approaches; Ecological basis of environmental management – Ecological principles; Survey, evaluation, preservation and conservation of resources. Environmental impact Assessment.

RECOMMENDED BOOKS

1. Chandna, R.C., 1998, Environmental Awareness, Kalyani Publishers, New Delhi.
2. Gaur, S., and Chandrashekhar, T., 2006, Global Environmental Crisis, Book Enclave, Jaipur.
3. Gupta, P.D., 2003, Environmental Issues for the 21st Century, Mittal Publications, New Delhi.
4. Morris, D., Freeland, J., Hinchliff, S., Smith, S. (ed.), 2003, Changing Environments, Pd. John Wiley and Sons Ltd., The Open University, U.K.
5. Park, C.C., 1980, Ecology and Environmental Management, Butterworths, London.
6. Radha, S., and Sankhyan, A.S., (ed.), 2004, Environmental Challenges of the 21st Century, Deep Publications, New Delhi.
7. Rasure, K.A., 2007, Environment and Sustainable Development, Serials Publications, New Delhi.
8. Saxena, H.M., 2006, Environmental Studies, Rawat Publications, Jaipur.
9. Singh, S., 1991, Environmental Geography, Prayag Publication, Allahabad.
10. Strahler, A.N., and Strahler, A.M., 1997, Geography and Man's Environment, John Wiley and Sons, New York.
11. Taj, B., Murphy, P. and Rana, P.S., 2007, Environmental Impact Assessment, An Indo – Australian Perspective, Bookwell New Delhi.
12. Verma, S. B. and Shiva, K.S.,(ed.), 2005, Environmental Protection and Development, Deep Publications, New Delhi.

Syllabus 2018-2019
M. A. / M. Sc. (Final) III Semester

PAPER – POLITICAL GEOGRAPHY
(Paper Code - GGM 3011)

Credit	:04
Sessional	:30
End Term Exam.	:70
Total	:100

Unit : I Introduction to Political Geography

- Definition and Historical Development of Political Geography
- Recent Development in Political Geography
- Distinction between Geo-Politics and Political Geography
- Approaches to the Study of Political Geography; Hortshorn's Functional, Whittesey's Landscape and Joni's Unified Field theory.

Unit: II Concept of State, Nation and Boundary

- Definition and Components of State
- Definition of Nation and Nation State
- Nationalism/ Nation Building
- Geographical factors of state : Physical, spatial and human & Economic
- Definition of Boundary and Frontier and their Classification

Unit III Global Strategies Models and Colonization

- Meckinder's Geographical Pivot and Heartland Model
- Spykman's Rim Land Model
- Critical Assessment of Heartland and Rim Land Model and their Relevance to World' Geo politics
- Concept of Colonization,
- Factors and Styles of Colonization
- Neo Imperialism : Political ,Economic and Cultural Mechanism

Unit IV Political Geography of India and Geography of Election

- India Under Colonial Rules
- India as a Federal country
- India as a Unitary or Union of States
- India's Relation with China and Pakistan
- Concept and Definition of geography of Election or Electoral Geography
- Approaches to Study of Election / Electoral Geography

BOOKS RECOMMENDED:

1. Alexander, L.M. World Political Patterns, London, 1964
2. De Blij, H.J. Systematic Political Geography, New York, 1967
3. Dikshit, R.D. Political Geography, New Delhi, 2004
4. Dikshit, R.D. Political Geography, a Century of Progress, New Delhi, 1999.
5. Dikshit, S.K. Electoral Geography of India, Varanasi, 1993
6. Dwivedi, R.L. Fundamentals of Political Geography, Alhabad, 2010
7. Jackson, W.A.D. Politics & Geographic Relationships, PrHall '71
8. Kasperson / Minghi, Structure of Political Geography, London '70
9. Pounds, N. Political Geography, London, 1963
10. Taylor, P. Political Geography, London, 1985

Syllabus 2018-2019
M. A. / M. Sc. (Final) III Semester

PAPER – GEOGRAPHY OF RESOURCES
(Paper Code - GGM 3012)

Credit	:04
Sessional	:30
End Term Exam.	:70
Total	:100

UNIT I : Nature, scope and significance of geography of resources. Definition and concept of natural resources. Classification of resources.

UNIT II: Characteristics of natural resources: Resource conservation and management with reference to land and forest resource.

UNIT III: Water resources-Hydrologic Cycle, fresh water resources, surface and underground water supplies, problems of water supplies. Marine resources, major fishing grounds of the world, fish distribution and exploitation. India's natural resource: water resource, conservation and management and its utilization

Unit IV: Energy resources-Conventional energy resources - coal, petroleum, non – conventional - solar and geothermal energy.

BOOKS RECOMMENDED:

1. Alexander, J.W., Economic Geography, New Jersey, 1965.
2. Ali, S.A., Resources for Future Economic Growth, New Delhi, 1979.
3. Behends, William, W., The Dynamics of Natural Resource Utilization in D.Meadow(Ed.), Masaclusetts, 1972.
4. Duncan, G., Resource Utilization and Conservation, New York, 1975.
5. Earl, D.K., Forest Energy and Economic Development, Oxford, 1975.
6. Ranner, G.T., Conservation of Natural Resources, New York, 1942.
7. Zimmerman, E.W., Introduction to World Resources (edited by H.L. Honker, The Ohio State University, New York, 1964.
8. Zimmermann, E.N., World Resources & Industries, New York.

Syllabus 2018-2019
M. A. / M. Sc. (Final) III Semester

PAPER – RURAL GEOGRAPHY
(Paper Code - GGM 3013)

Credit	:04
Sessional	:30
End Term Exam.	:70
Total	:100

UNIT 1: Concept and scope of rural geography; different approaches to study rural Geography; concept and significance of rural development: Indicators of rural development.

Unit II: Rural Settlements: Definition and characteristics; Types and patterns of rural settlements and their distribution with special reference to spacing, rural house type, based on building materials, size and shape.

Unit III: Rural infrastructure facilities and amenities, New Agricultural technology: Rural transportation, rural education, rural industries and rural marketing.

Unit IV: Critical review of rural development strategies in India; Integrated Rural Development Programme (I.R.D.P.), Community Development Programmes, Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA), National Rural Health Mission (NRHM).

BOOKS RECOMMENDED:

1. Singh Kartar., Rural Development: Principles, Policies and Management.
2. Maheshwari, R.S., Rural Development in India.
3. Clout, S.D., Rural Geography.
4. Husain, Majid., Agricultural Geography, New Delhi.
5. Bell, G.(Ed.), Strategies for Human Settlements: Habitat and Environment.
6. Chisholm, M., Rural Settlement and Land Use.
7. Singh, R.L. et.al: Readings in Rural Settlement Geography.
8. Singh, K.N.(Ed.) Rural Development in India: Problems, Strategies and Approaches.
9. Wanmali, Sudhir., Service Centres in Rural India.
10. Mishra, H.N.(Ed.) Rural Geography.
11. Prasad, R. & Sarkar S., Rural India – Socio-political development, Vol. I &II, Global Vision Pub. House, New Delhi.
12. Khullar D.R. India-A Comprehensive Geography, Kalyani Pub. New Delhi.

Syllabus 2018-2019
M.A./M. Sc. (Final) – III Semester
Paper – Settlement Geography
(Paper Code: GGM-3014)

Credit	:04
Sessional	:30
End Term Exam.	:70
Total	:100

Unit I

- Definition and scope
- Approaches to study the settlement geography
- Archeological finds and settlements-Mesopotamia, the Nile valley, the Indus valley
- Place names versus settlements
- The rural urban continuum.

Unit II

- Characteristics of rural settlements
- Distribution of rural settlements with reference to size and spacing
- Types and patterns of rural settlements and their cause and effect relationships.

Unit III

- Regularity in landuse around settlements – Von Thunen Model
- Theories explaining the internal structure of cities- The concentric ring theory, The multiple nuclei theory
- Functional classification of urban centres – Harris and Nelson

Unit IV

- Rural service centres
- Theory of Christaller and its application
- Theory of Losch and its application
- Settlement planning.

BOOKS RECOMMENDED:

1. Ambrose, Petir, Concepts in Geography, Vol., I, Settlement Pattern, Longman, 1970.
2. Baskin, C., (Translator), Central Places in Southern Germany, Prentice Hall Inc. Englewood Cliffs, New Jersey, 1966. Originally written by C.W. Christaller in German with title Die Zentralen Orte Sudddeutsch Land in 1933.
3. Hagget, Peter, Andrew D. Cliff and Allen Frey (edited), Location Models , Arnold Heinemann, 1979.
4. King, Leslie, J., Central Place Theory, Sage Pub., New Delhi, 1986.
5. Mayer, M. Harold and Clyde F. Kohn (editors), Reading in Urban Geography, Central Book Depot, Allahabad, 1967.
6. Mitra, Ashok, Mukherjee, S and Bose R., Indian Cities, Abhinav Pub., New Delhi.
7. Ramachandran, R., Urbanization and Urban Systems in India, Oxford University Press, New Delhi, 1992.
8. Singh, R.L. and Kashi Nath Singh (editors), Readings in Rural Settlement Geography, National Geographical Society of India, Varanasi, 1975.

Syllabus 2018-2019
M. A./ M. Sc. (Final) III Semester

PRACTICAL TRV – FIELD WORK (TOUR REPORT)
(Paper Code - GGM 3071)

Credit	:02
Continues Evaluation	:40
End Term Exam	:60
Total	:100

The students of MA./M. Sc. (Final) III Semester are required to study and submit their tour reports for evaluation and viva voce examination. The duration of the main fieldwork will be upto two weeks. The fieldwork will cover the following region/ regions of India assigned by the department during the academic year. The class room teaching would include preliminaries of socio-economic and environmental surveys to equip the students for the field work and tour report.

1. The Deccan Region
2. The Konkan / Malabar Coast
3. The Sunder Ban Delta
4. The Mahanadi Delta
5. The Krishna Delta
6. The Cauvery Delta
7. The North Eastern States
8. The North / North Western States
9. The Central India.

BOOKS RECOMMENDED:

1. Singh, R.L., (Ed) India – A Regional Study .
2. Spate, O.H.K., India – A Regional Geography
3. Wadia, D.N., Geology of India
4. M.S. Krishna, Geology of India
5. Ray and Chaudhary, Soils of India
6. Ahmad, E., Coastal Geomorphology
7. Ahmad, E., Some Aspects of Indian Geography

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M. A./M. Sc. (Final) III Semester

PRACTICAL-GEOGRAPHIC INFORMATION SYSTEMS (GIS) **(Paper Code - GGM 3072)**

Credit	:02
Continues Evaluation	:40
End Term Exam	:60
Total	:100

Fundamentals of GIS

Introduction to GIS: Definition, Information technology in geography, history and development in GIS, components of GIS, advantages of GIS over traditional techniques. Application of GIS in geographical studies.

Geographic data – human cognition of the spatial world, maps and other representation of the world. Types of information in a digital map: scale, projection and georeferencing.

Spatial Data - Geographic data and information, spatial – non-spatial data. GIS data formats, raster and vector data, their merits and demerits.

Lab Work

Lab. I: Introduction to Arc View's Modular Structure

Task Set 1: Basic software and operating system concept

Task Set 2: Introduction to Arc View

Lab II: Projection and Cartography

Task Set 1: Basic concepts of projection

Task Set 2: Concept of the theme in Arc View

Task Set 3: Cartographic design concepts

Lab III: Vector Data Model:

Task Set 1: The Vector data model: Points

Task Set 2: The Vector data model: Lines and Polygons

Task Set 3: Joining tabular data to spatial data

Task Set 4: Creating Visualization

Lab. IV: Digitizing and Data Automation

Task Set 1: Digitizing in Arc View

Task Set 2: Creating a map

Task Set 3: Creating a table and entering data

Lab. V: Geo-coding: Matching Addresses with Locations

Task Set 1: Geo-coding

Lab. VI: Spatial Analysis

Task Set 1: Classification

Task Set 2: Distance measures and Buffers

BOOKS RECOMMENDED:

1. Cromley, R.G., Digital Cartography, Prentice Hall, N.Jersey, 1992.
2. Fraser Taylor, D.R., “ Geographical Information System, Pergmon Press, U.K., 1991.
3. Maquire, D.J., Good Child, M.F. and Rhind, D.W., “ Geographical Information Systems: Principles and Application, Taylor and Francis Publication Washington, 1991.
4. Monmonier, M.S., Computer Assisted Cartography: Prainciples and Prospects, P.Hall, New Jersey, 1982.
5. Peuquet, D.J. and Markle, D.F “Introductory Reading in Geographical Information System” , Taylor and Francis Publication, Washington, 1990.
6. Shahab Fazal. GIS Basics, New age International Publisher.

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AGRICULTURE GEOGRAPHY
(Paper Code - GGM 4001)

Credit	:04
Sessional	:30
End Term Exam.	:70
Total	:100

- Unit-I** Aims, objectives and scope of Agricultural Geography; Basic concepts, Historical Perspective and recent trends. Approaches to the study of agricultural geography - Regional and Systematic approach, Ecological and Commodity approach.
- Unit II** Influence of major factors on the performance of agriculture. Whittlessey's classification of agricultural systems of the world - problems and prospects of agriculture and its economic impact in regions of the world.
- Unit III** Concept of Land use, Agricultural land use- land capability classification and land use planning for agricultural development. Agricultural Regionalization. Land Use Location Theory - Von Thunen and its applicability; Modern Theories of Agricultural Location: Optimum Physical and Economic Conditions and Limits.
- Unit IV** Green Revolution in India, impact of green revolution in India, Green Revolution and regional imbalances. Problems of Indian Agriculture, Measures for Agricultural Development. Concept of second green revolution in India.

Books Recommended:

1. Duckhan, A.N. and Masfield, G.B., *Farming Systems of the World*, London, 1970.
2. Griggs, D.G., *An Introduction to Agricultural Geography*, 1964.
3. Husain, Majid., *Agricultural Geography*, New Delhi.
4. John, R, Tarrant., *Agricultural Geography*.
5. Mohammad, A., *Food Production and Food Problem in India*, New Delhi.
6. Mohammad, N., *Perspectives in Agricultural Geography*, New Delhi.
7. Morgan, W.B. and Munton, P.J.C. *Agricultural Geography*, London, 1971.
8. Shafi, M., *Agricultural Geography of South Asia*, Macmillon, New Delhi 2000.
9. Shafi, M., *Agricultural Geography*, Dorling Kindersley, New Delhi, 2006
10. Singh, J. and Dhillon, S.S., *Agricultural Geography*, 1970.
11. Symons, L., *Agricultural Geography*, London, 1967.
12. Wrigley, G., *Tropical Agriculture*, 1979.

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URBAN GEOGRAPHY
(Paper Code - GGM 4002)

Credit	:04
Sessional	:30
End Term Exam.	:70
Total	:100

- Unit I** **Internal Structure of Cities:** Meaning, scope and significance of Urban Geography; urban morphology and land use patterns, classical models of urban growth and evolution of functional zones - **Burgess's Concentric Zone Theory ; Hoyt's Sectoral Model; Harris and Ullman's Multiple Nuclei Model** – formulation, salient features and critical evaluation of these models; **CBD** – meaning, internal structure, characteristic features and method of its delineation.
- Unit II** **City – Surrounding Relations:-** The urban economic base – terminology, concepts, geographic qualities of the basic, non – basic concepts; the city's spheres of influence (Umland) – methods of its determination; rural – urban fringe – conceptual explanation, internal structure, characteristic features.
- Unit III** **Settlement Theories and Concepts:-** The study of Walter Christaller's Central Place Theory and August's Losh settlement theory in the following heads - **Initial formulation of the model and later developments; Salient features of the model and its applicability; Losch's Theory of settlement** – generalization and development of Central Place Model by August Losch; **Rank-Size Rule and Law of Primate City.**
- Unit IV** **Urbanization:** Urbanization as a process of transformation-demographic process, economic process and socio-cultural process. Spatial pattern and trends of urbanization in India, patterns of urban growth in India - decadal, regional, different size classes of towns (I – VI).

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BOOKS RECOMMENDED:

1. Alam, S.M., Hyderabad-secundarabad Twin Cities, Asia Publishing House, Bombay.
2. Barry, B.J.L and Horton, F.F., Geographic perspectives on Urban Systems, Prentice Hall, Englewood Cliff, New Jersey, 1970.
3. Beaujeu Garnier, J., Chabot, G., Urban Geography, London, 1969.
4. Carter, Harold, The Study of Urban Geography, Edward Arnold Publishers, London.
5. Dickinson, R.E., 1964., City and Region, Routledge, London.
6. Gibbs, J.P., Urban Research Methods, New Jersey, 1961
7. Hall, T., Urban Geography, London, 1988.

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SOCIAL GEOGRAPHY
(Paper Code - GGM 4003)

Credit	:04
Sessional	:30
End Term Exam.	:70
Total	:100

- Unit I** **Emergence of Social Geography;** meaning, scope and significance of social geography, approaches to study of social geography; empiricist, positivist, structuralist and radical approaches. Social Geography as an applied branch of human geography, the affinity and relationship of social geography with other social sciences.
- Unit II** **Social Well-Being:** Social well-being and its indicators, Human Development Index (HDI), inclusive growth, social segregation and ghetto formation.
- Unit III** **Gender Issues and Social Change:** Gender inequality, women empowerment, women literacy and health, social change with special reference to caste and tribal groups, rural-urban divide, rural-urban interaction and social change.
- Unit IV** **Social Differentiation and Region Formation:** Spatial distribution of tribes, castes and linguistic groups, relationship between social identity and economic conditions.

BOOKS RECOMMENDED:

1. Aijazuddin Ahmad., Social Geography.
2. Garden, J.F., Geography as a Social Science.
3. Gosal, G.S. & Mukherjee, A.B., Religious Groups in India.
4. Gregory, D.& Urry, J., Social Relations.
5. Hammelt, Chris. (Ed), Social Geography; A Reader.
6. Harvey, D., Social Justice and the City.
7. John, E.(ed.) Social Geography in International Perspective.
8. Jones, E.& Eyles, J., An Introduction to Social Geography.
9. Jones, E.(ed.) Readings in Social Geography.
10. Kulkarni, K.M., Geographical Patterns of Social Well-being.
11. Pacliona, M.(ed.) Social Geography, Progress and Prospects.
12. Paul Knox, Social Well-being, A Spatial Perspective.
13. Rao. M.S.A., Urbanization and Social Change.
14. Smith, David., Social Problem and the City.
15. Smith, David., The Geography of Social Well-being.
16. Srinivas, M.N., Social Change in Modern India.
17. Wagner, P.L. & Mikesell, H.W.(eds.) Readings in Cultural Geography.

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POPULATION GEOGRAPHY
(Paper Code - GGM 4004)

Credit	:04
Sessional	:30
End Term Exam.	:70
Total	:100

Unit I	Nature, scope, significance, approaches to study Population Geography, recent trends, Sources of population data; The Census, Vital Registration and Other Sources, Problems relating to comparability of data, Population distribution and density in the World.
Unit II	Population Dynamics: Growth, fertility and mortality measurement, Theories of Growth: Malthusian theory, Social Capillary and demographic transition theory. Migration: types, determinant and consequences, patterns of international migration, Theories of Migration: Ravenstein and Lee's Laws.
Unit III	Population Composition/ Characteristics: Sex Composition-measures, determinants and distribution. Declining Sex Ratio, Age composition: various systems of age groupings, determinants and distribution; ageing of population, Occupational structure, determinants of work force, types of workers.
Unit IV	Population and resources: Over population, Under population, Optimum population, Ackerman's scheme of Population-Resource regions, population problems with special reference to India: food, housing, unemployment and poverty, population policies, National Population Policy (NPP), 2000.

Books Recommended:

1. Bhende, A.A. & Kanitkar, (2014), Principles of Population Studies, Himalayan Pub. H., Mumbai,
2. Bogue, D. J., Principles of Demography, New York, 1969.
3. Chandna, R.C., Geography of Population: Concepts Determinants and Pattern, Kalyan Pub. Ludhiana, 2014.
4. Clarke, J.I. Population Geography, Oxford, 1981.
5. Coontz, S.H. Population Theories and the Economic Interpretation.
6. Garnier, B.J., Geography of Population, Longman Group Limited, London, 1966.
7. Jones, H.R., A Population Geography, London, 1981.
8. Jhingan M.L. Bhatt B.K. and Desai, J.N. Demography, Vrid Pub. Delhi, 2006.
9. Khan, J.H. Socio-Economic and Structural Analysis of Internal Migration, New Delhi, 2010.
10. Khullar D.R., India: A comparative Geography, Kalyan Pub. Ludhiana, 2014.
11. Shamshad, Houseless: People on the Road, Academic Publication, 2015.
12. Siddiqui. F.A. Regional Analysis of Population Structure, new Delhi, 1984.
13. Smith, T., Fundamentals of Population Study, New York, 1960.
14. Trewartha, G.T., A Geography of Population: World pattern, New York, 1969.
15. United Nations, The Determinants and Consequences of Population Trends, Population Studies, 17 Un, New York, Revised Edition.
16. White. P. and Wood. R. The Geographical Impact of Migration, Longman, Inc, New York, 1980.
17. Wood, R. Population Analysis in Geography, Longman, London, 1979.
18. Zelinsky, W. A Prolong to Population Geography, Prentice Hall, New Jersey, 1966.

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MODERN CONCEPT IN GEOGRAPHY
(Paper Code - GGM 4005)

Credit	:04
Sessional	:30
End Term Exam.	:70
Total	:100

Concepts and Approaches in Geography; Ideographic, Nomothetic, Deductive, Inductive and Environmental concept; Concept of Sustainable Development.

Unit -II

Scientific explanations in geography, types of explanations; Cognitive descriptions; Cause and effect - Temporal, Functional and Ecological.

Unit-III

Empirical-scientific model of geography; Laws, Theories and Models in Geography; General System Theory; Quantitative Revolution, Behaviourism.

Unit-IV

Changing Paradigm in Geography; Radical concept; Welfare approach; Concept of gender Geography - Feminism; Modernism and Post-Modernism in Geography.

Recommended Books:

1. Arentsen M., Stam R. and Thuijjs R., 2000: Post-modern Approaches to Space, eBook.
2. Bhat, L.S. (2009) Geography in India (Selected Themes). Pearson
3. Bonnett A., 2008: What is Geography? Sage.
4. Dikshit R. D., 1997: Geographical Thought: A Contextual History of Ideas, Prentice- Hall India.
5. Hartshorne R., 1959: Perspectives of Nature of Geography, Rand McNally and Co.
6. Holt-Jensen A., 2011: Geography: History and Its Concepts: A Students Guide, SAGE.
7. Johnston R. J., (Ed.): Dictionary of Human Geography, Rutledge.
8. Johnston R. J., 1997: Geography and Geographers, Anglo-American Human Geography since 1945, Arnold, London.
9. Kapur A., 2001: Indian Geography Voice of Concern, Concept Publications.
10. Martin Geoffrey J., 2005: All Possible Worlds: A History of Geographical Ideas, Oxford.
11. Soja, Edward 1989. Post-modern Geographies, Verso, London. Reprinted 1997: Rawat Pub., Jaipur and New Delhi.

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GENERAL GEOGRAPHY (OPEN ELECTIVE)
(Paper Code - GGM 4091)

Credit	:04
Sessional	:30
End Term Exam.	:70
Total	:100

Unit –I Basic Concepts: Definition of Geography; General Geography, Regional Geography, Systematic Geography; Solar System; Motions of Earth – Rotation and Revolution; Concept of Latitude and Longitude; International Date Line; Calculation of Time.

Unit –II Components of Earth System: Atmosphere, Lithosphere, Hydrosphere, Biosphere, Composition and Structure of Atmosphere; Interior of the Earth; Weather and Climate; Wind Circulation; Hydrological Cycle; Ecosystem, Food Chain and Food Web.

Unit –III Regional Geography: Concept of Region; Components of Natural Regions; Natural Regions of the World; Man and Environment Relationship in Equatorial Region, Temperate Region and Polar Region.

Unit – IV Environment: Concept of Environment - Physical and Cultural Environment; Hazards and Disasters, Social and Economic Disaster; Global Warming and Climate Change.

RECOMMENDED BOOKS

1. Hussain Majid, Fundamentals of Physical Geography, Rawat Pub, New Delhi.
2. Singh Savindra – Environmental Geography, Prayag Pustak Bhawan, Allahabad
3. Blij H.E. Dc Geography, Regions and Concept, John Wiley and Sons.
4. Lal D.S. Climatology, Sharda Pustak Bhawan , Allahabad.
5. Gohchenglenong, Certificate Physical and Human Geography, latest addition.
6. Singh Savindra & Singh J, Disaster Management- P. Pub., Allahbad
7. Campbell J.B., Introduction to Remote Sensing, G. Ford press.

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FIELD STUDIES (SOCIO-ECONOMIC SURVEY)
(Paper Code - GGM - 4071)

Credit	:02
Continues Evaluation	:40
End Term Exam	:60
Total	:100

Objective: The main objective of field studies is to provide the students with the understanding of ground reality of a chosen Village/Town by observation, Conducting socio-economic survey of the Urban household/village with the help of a questionnaire, mapping of data, landuse and cropping pattern.

UNIT I: Methods of Field work: Types of data, Techniques of primary data collection: Sampling, Preparation of a questionnaire. Significance of field work in Geographical studies.

UNIT II: Conduct a socio-economic survey of the Urban Households with the help of a questionnaire. Supplement the information by personal observations and perceptions.

UNIT III: Procure a Cadastral map of the Village for field mapping of the features of the landuse, settlement and other prominent features. Conduct a socio-economic survey of the Village. Supplement the information by personal observations and perceptions.

UNIT IV: Based on the results of socio-economic and landuse enquiry, prepare a Field Survey Report both for Urban and Village survey. Maps, diagrams, photographs and sketches should support the report.

RECOMMENDED BOOKS

1. Archeer, J.E. and Dalton, T.H. Fieldwork in Geography, London, 1968.
2. Jones, P.A., Fieldwork in Geography, London, 1968
3. Glodard, R.H., Field Techniques and Research Methods in Geography, Dubuque, 1982.
4. Wheleso, K.S. and Harding, M., Geographical Fieldwork, London, 1965.
5. Mohammad, A.C., Statistical Methods in Geographical Studies, Rajesh Publication, Delhi, 1977.

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PRACTICAL - ADVANCED SURVEYING
(Paper Code - GGM 4072)

Credit	:02
Continues Evaluation	:40
End Term Exam	:60
Total	:100

- Plane Table Survey
 - Radiation Method with Telescopic Alidade

- Prismatic Compass Survey
 - Correction of bearing and plotting
 - Calculation of included angles and plotting
 - Elimination of Error- Bowditch Method

- Dumpy Level Survey
 - Rise and Fall System
 - Plotting of Longitudinal Sections.

- Theodolite
 - Measurement of horizontal angles

BOOKS RECOMMENDED:

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| Punmia, B.C., | Surveying and Leveling, Vol I. |
| Alvi, Zamiruddin, | A Text Book of Surveying |

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DV – PROJECT
(Paper Code - GGM 4073)

Credit : 4