

M. A. GEOGRAPHY (SEMESTER - I)

Code- GEG-M 101 (Core Course - 01)

Geomorphology (5 Credits)

Time : 3 Hours (ESE)

Full Marks : 100

CLAS : 20 Marks

For questions for End Semester Examination Candidates of three parts  
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**2 Year (Four Semester)**

Part - A  
**Post Graduate Programme**

Part - B

For questions for End Semester Examination Candidates of three parts  
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**Syllabus for M. A. Geography**

For questions for End Semester Examination Candidates of three parts  
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**(Faculty of Social Science)**

Part - C

For questions for End Semester Examination Candidates of three parts  
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**Under**

**Choice Based Credit System (CBCS)**

For questions for End Semester Examination Candidates of three parts  
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**(To be effective from 2018-19)**

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H. S.  
Head  
Univ. Dept. of Geography  
B.R.A. Bihar University  
Muzaffarpur

# M. A. GEOGRAPHY (SEMESTER - 1)

Code- GEO-M 101 (Core Course - 01)

## Geomorphology (5 Credits)

Time : 3 Hours (ESE)

Full Marks : 100

ESE : 70 Marks

CIA : 30 Marks

The questions for End Semester Examination Comprises of three parts as mentioned below

### Part - A

Ten objective type Question : All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit)  $10 \times 2 = 20$  marks

### Part - B

Five short Answer Questions - Four questions to be answered (Questions shall be selected from the whole syllabus preferably one question from each unit)  $4 \times 5 = 20$  marks

### Part - C

Five long answer Questions. Three questions to be answered. (Questions shall be selected from the whole syllabus preferably one question from each unit.  $3 \times 10 = 30$  marks

- Unit I** Theories regarding evolution of Earth's Crust  
Isostasy - Concept, Theories and its Application  
Continental Drift Theory and Plate Tectonics  
Theory of Sea Floor Spreading
- Unit II** Morphogenic Evolution Models of Davis, Penck and King  
Models of Slope Formation  
Channel Morphology  
Rejuvenation and Multiple Cycle of Erosion
- Unit III** Classification and Evolution of Arid Landform, Glaciers,  
Underground water and periglacial
- Unit IV** Geomorphic Evolution of :  
Chotanagpur Highlands  
Peninsular India  
Shillong plateau  
Kashmir Himalayas

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22/11/2019

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Muzaffarpur

**Unit V**      **Meaning and Scope of Applied Geomorphology**  
**Application of Geomorphology in engineering projects and oil exploration**  
**Classification of Drainage basin and Drainage density**  
**Importance of drainage density in ground water assessment**

**CIA** ..... **30 Marks**

**Selected Readings :**

1. William, D. Thornbury - Principles of Geomorphology
2. Savindra Singh - Geomorphology
3. Enayat Ahmed - Geomorphology
4. P. Dayal - Geomorphology
5. V. K Sharma - Geomorphology Earth Surfaces
6. Wooldrige and Morgan - An Outline of Geomorphology
7. R. N. Tikka - Physical Geography
8. P. K. Sen and N. Prasad - An Introduction to the Geomorphology of India
9. D. S. Lal - Physical Geography
10. Cotton - Geomorphology
11. Sparks, B. W. - Geomorphology
12. Steers, J. A. Unstable Earth
13. Strahler, A. H. & Strahler, A. H. Elements of Physical Geography
14. Von Engeln. Geomorphology
15. Daly : Our Mobile Earth

**Unit I**      **Classification and the Evolution of the Earth's Surface**  
**Components and Processes of Geomorphology**  
**Form, Drainage and Geomorphology**

**Unit II**      **Geomorphology - Characteristics, Classification and Distribution**  
**Forms and the types**  
**Techniques of Field Geomorphology**  
**Topographic and Cartographic**

**Unit III**      **Climate Change - Effects**      **Changes in climate change in the past**  
**Global Warming - Causes and Consequences**  
**Effect of El Niño and El Niño phenomenon on global weather**

**Unit IV**      **Geomorphology - Drought configurations of India and Archaic features**  
**Subsidence - Causes - Theories regarding its origin**  
**Soil Erosion**

**Unit V**      **Planning of Land Use**  
**Types of Land Use and the location of Canal and Irrigation**  
**Soil Conservation and Ground Water**

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**Univ. of Jammu**  
**B.A. Geographical**  
**Muzaffargarh**

Code- GEO-M 102 (Core Course - 02)

Climatology and Oceanography (5 Credits)

Time : 3 Hours (ESE)

Full Marks : 100

ESE : 70 Marks

CIA : 30 Marks

The questions for End Semester Examination Comprises of three parts as mentioned below

Part - A

Ten objective type Question : All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit) 10 x 2 = 20 marks

Part - B

Five short Answer Questions - Four questions to be answered (Questions shall be selected from the whole syllabus preferably one question from each unit) 4 x 5 = 20 marks

Part - C

Five long answer Questions, Three questions to be answered. (Questions shall be selected from the whole syllabus preferably one question from each unit. 3 x 10 = 30 marks

- Unit I**      Climatology and its Relation with other Sciences  
Composition and Structure of Atmosphere  
Heat Budget and Heat Balance
- Unit II**      airmasses : Characteristics, Classifications and Distribution  
Fronts and its types  
Techniques of Weather Forecasting  
Cyclones and Anticyclones
- Unit III**      Climate change - causes : Evidences of climatic changes in the past  
Global Warming : Causes and Consequences  
Effect of El-Nino and Nina phenomena on Indian monsoon
- Unit IV**      Oceanography : Bottom configuration of Indian and Atlantic oceans  
Submarine Canyons - Theories regarding its Origin  
Marine Deposits
- Unit V**      Theories of Origin of Tides :  
Types of Coral Reefs and theories of Coral Reef building  
Salinity and temperature of ocean water

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**Selected Readings :**

1. Savindra Singh - Climatology
2. D. S. Lal - Climatology
3. A. Miller - Climatology
4. E. Aguado E. and J. E. Bert : Understanding Weather and Climate
5. Alka Gautam - Jalvayu Abum Samudra Vigyan
6. Sharma & Vatal - Oceanography for Geographers
7. Blair, T. A. Climatology - General and Regional
8. Chorley, R. J. & Barry, R. G. Atmospheric Weather and Climate
9. Donn, W. L. Meteorology
10. Kendrew, W. G. Climates of the Continents
11. Mather, J. R. Climatology : Fundamental and Applications, 1974.
12. Rama Sastry, A. A. Weather & Weather forecasting
13. Rummey, G. Climatology and the World's climate
14. Sgringer, Foundation of Climatology
15. Stringer, Techniques in Climatology
16. Trewartha, G. T. An Introduction to Climate
17. Davis, R. J. A. 1986, Oceanography - An Introduction and the Marine Environment, Win C. Brown, Iowa.
18. Murray, S. J., 1913, Ocean, A. General account of the Science of the sea, Thornton Buter Worth, London.
19. Siddhartha, K. 1999, Oceanography, A Brief Introduction, Kislaya Pub. Pvt. Ltd. New Delhi.
20. Stahler, A. N, Stahler A. M. 1997, Geography and man's Environment, John Wiley and Sons, New York.
21. Thurman, H. V. 1978. Introduction to oceanography, Charles E. Merrill Pub. Co., London.
22. Weyl, P. K. 1970. Oceanography an Introduction of the Marine Environment, John Wiley and Sons Ltd., London.

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Code- GEO-M 103 (Core Course - 03)

History of Geographical Thought (5 Credits)

Time : 3 Hours (ESE)

Full Marks : 100

ESE : 70 Marks

CIA : 30 Marks

The questions for End Semester Examination Comprises of three parts as mentioned below

Part - A

Ten objective type Question : All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit) 10 x 2 = 20 marks

Part - B

Five short Answer Questions - Four questions to be answered (Questions shall be selected from the whole syllabus preferably one question from each unit) 4 x 5 = 20 marks

Part - C

Five long answer Questions. Three questions to be answered. (Questions shall be selected from the whole syllabus preferably one question from each unit. 3 x 10 = 30 marks

- Unit I**      Meaning and scope of Geography ; Its relation with Social Sciences  
Contribution by Greek and Roman Scholars with Special reference to Eratosthenes  
Herodotus, Aristotle  
Contribution by Arab scholars  
Development of Geographical ideas in Ancient India
- Unit II**      Development of Geography during 19th and 20th centuries : Contribution of  
Humboldt, Carl Ritter, H. J. Mackinder  
Dualism in Geography ; Determinism v/s - Possibilism, Neo-Determinism.
- Unit III**      Positivism and Pragmatism in Human Geography  
Paradigms in Geography  
Quantitative Geography : Revolution, Merits and Demerit
- Unit IV**      Applied Geography  
Behavioural Geography  
Radical Geography  
Humanistic Geography
- Unit V**      Structuralism  
Functionalism  
Feminism  
Post modernism
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**Selected Readings :**

1. Johnston R. and Sideway J. (1997) *Geography and Geographers*
2. Richard Peet (1998) *Modern Geographical Thought*
3. Milton E. Harvey & Brian P. Hally (ed.) (1989) *Themes in Geographical Thought*
4. D. Harvey (1969) *Explanation in Geography*
5. R. Doi (2009) *Geographical Thought*
6. M. Hussain (2004 rep.) *Fundamentals of Geographical Thought*
7. S. Adhikari (2009 5th Ed.) *Fundamentals of Geographical Thought*
8. R. D. Dikshit (2002) : *Geographical Thought : A Conceptual History of Ideas*
9. Jagdish Singh (2000) *Bhaugolik Chintan Ka Mood Adhar (Hindi)*
10. Kaushik (2009) *Bhaugolik Chintan avam Bidhitaran (Hindi)*
11. V. K. Srivastava (2002) *Bhaugolik Chintan Ka Adhar (Hindi)*
12. Bansal (2008) *Bhaugolik Chintan (Hindi)*
13. Lalit Raina (2008) *Geographical Thought (English)*
14. Ali, S. M. *Arab Geography*, AMU, Press, Aligarh.
15. Anuchin, V., *Directions in Geography*.
16. Claval, P. *Epistemology and History of Geographical Thought in progress in Human Geography*, Vol. 4.
17. Dickinson, R. E. *The Making of Modern Geography*.
18. Davis, V. K. *Conceptual Revolution in Geography*.
19. Freeman, T. A. *A Hundred Years of Geography*, Introduction to Behavioral Geography.
20. Hartshorne, R. *Perspectives on Nature of Geography*, Rand MacNalty, 1959.
21. Johnston, R. J. *The Future of Geography*, Methuen, London, 1938.

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Unit III Economic Data - Types, Graphs, Diagrams

Concepts of "Population", "Economic" and "Logical" Method.

Unit IV Statistical Data - Correlation, Regression and Non-linear Regression Analysis

Unit V Physical Research and Maps

Class - \_\_\_\_\_

**Selected Readings**

1. Mackinder and Whitehead - Maps and Diagrams
2. Mitchell, J. W. M. "Statistical Methods in Geographical Studies"
3. Coatsworth, J. *Introductory Cartography*, Thomas Nelson, Inc., Bangalore, CLS

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**Code- GEO-M 104 (Core Course - 04)**

**Representation and Analysis of Statistical Data (5 Credits)**

**Time : 3 Hours (ESE)**

**Full Marks : 100**

**ESE : 50 Marks**

**CIA : 50 Marks**

The questions for End Semester Examination Comprises of three parts as mentioned below

**Part - A**

Ten objective type Question : All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit) 10 x 2 = 20 marks

**Part - B**

Five short Answer Questions - Four questions to be answered (Questions shall be selected from the whole syllabus preferably one question from each unit) 4 x 5 = 20 marks

**Part - C**

Five long answer Questions. Three questions to be answered. (Questions shall be selected from the whole syllabus preferably one question from each unit. 3 x 10 = 30 marks

Unit I	Population Data - Dot Map, Proportionate circle, Spherical Diagram
Unit II	Climatic Data - Wind Rose, Climograph, Hyther Graph Interpretation of Weather maps
Unit III	Economic Data - Bar Graph, Ergograph Density of Population - Choropleth and Isopleth Method
Unit IV	Statistical data - Correlation, Regression and Nearest Neighbour Analysis
Unit V	Practical Record and Viva-Voce
CIA	..... 30 Marks

**Selected Readings :**

1. Monkhouse and Wilkinson - Maps and Diagrams.
2. Mahmood, Aslam, "Statistical Methods for Geographical Studies."
3. Campbell, J. Introductory Cartography, Prentice Hall, Inc., Englewood Cliff, New Jersey, 1984.

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4. Cuff, D. J. & Mattson, M. T. Thematic Maps, their Design and Production, Methuen, New York, 1982.
5. Robinson, A. H. & others, Elements of Cartography, John Wiley and Sons, New York (New edition)
6. Archer, J. E., & Dalton, T. H. Fieldwork in Geography, London.
7. National Atlas and thematic Maps Organisation (MATMO) : National Atlas of India, Calcutta.
8. Monkhouse, F. J., Maps and Diagrams, Methuen & Co., London, 1967.
9. डाटा चेत पीठ सर्वा-प्रयोगात्मक भूगोल की समझना.
10. डाटा चतुर्भुज मोरिया एव सोधनलरीन सानधिकाकन एव प्रयोगिक भूगोल.
11. एण्ड एण्ड पीठ सिन्हा एव डाटा सीमाबाल-उपकारणीकारी.
12. Sarkar, A. 2015. Practical Geography : A Systematic Approach, 3rd ed, Orient Blackswan Private Ltd.
13. Singh, R. L., Singh, R. P. B. 2008. Elements of Practical Geography, Kalyani Publishers.

For other information, please contact the undersigned. Candidates shall be advised to have the whole or relevant parts of the syllabus read.

Part - C

Five long answer questions. Three questions to be answered. Candidates shall be advised to have the whole or relevant parts of the syllabus read.

- Unit I Applied Planning - Concepts, Models and Livelihood Organisations  
Planning Process - Formal, Informal, and Spatial Dimensions  
Concepts of Planning Region and Methods for Determination of Regions, Types of Planning
- Unit II Special Purpose Planning Regions in India  
River Valley Regions  
Mineral-rich Regions  
Frontier Regions - Khyber Regions, Tribal Regions, Pland & Frontier regions
- Unit III Indicators of Development - Planning, Education, Health, Conditions  
Regional Disparities in India  
Need for Regional Planning in India  
Regional Development in India - Problems and Progress
- Unit IV Concepts of Multi Level Planning  
Role of Panchayats and Institutions in Rural Development  
Defining Development and Rural Development - Alternative approach to rural development.
- Unit V High Level Approach to Rural Development - Strategic Process Area Programmes, Core Area Development, Village Area Development

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## M. A. Geography ( Semester - III)

Code- GEO-M 201 (Core Course - 05)

### Regional Planning and Rural Development (5 Credits)

Time : 3 Hours (ESE)

Full Marks : 100

ESE : 70 Marks

CIA : 30 Marks

The questions for End Semester Examination Comprises of three parts as mentioned below

#### Part - A

Ten objective type Question : All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit)  $10 \times 2 = 20$  marks

#### Part - B

Five short Answer Questions - Four questions to be answered (Questions shall be selected from the whole syllabus preferably one question from each unit)  $4 \times 5 = 20$  marks

#### Part - C

Five long answer Questions. Three questions to be answered. (Questions shall be selected from the whole syllabus preferably one question from each unit.  $3 \times 10 = 30$  marks

- Unit I** Regional Planning : Concept, Merits and Limitation Importance  
Planning Process - Sectoral, Temporal and Spatial Dimensions  
Concept of Planning Region and Methods for Delineation of Regions, Types of planning
- Unit II** Special Purpose Planning Regions in India  
River Valley Regions  
Metropolitan Region  
Problem Regions - Hilly Regions, Tribal Regions, Flood & Drought prone regions
- Unit III** Indicators of Development - Poverty, Education, Sanitary Conditions  
Regional disparities in India  
Need for Regional Planning in India  
Regional Development in India - Problems and Prospects
- Unit IV** Concept of Multi Level Planning  
Role of Panchayati Raj Institutions in Rural Development  
Defining Development and Rural Development : Gandhian approach to rural development
- Unit V** Area Based Approach to Rural Development : Drought Prone Area Programme,  
Flood Prone Area Development Mining Area Development  
Target Group Approach : MGNREGA, Jan Dhan Yojana  
Provision of Services - Physical and Socio-Economic Access to Elementary  
Education and Primary Health Care and Micro Credit System

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**Selected Readings :**

1. Bhatt, 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.
11. शरणादा तर्क एवं योजना-संदर्भित सिद्धान्त एवं संश्लिष्ट विचार
12. Singh, K. *Rural Development*, SAGE.

Page 2

Introduction - J. G. Thompson  
 Water Pollution  
 Social Pollution  
 Soil Pollution

Page 32

Global Warming - Causes and effects  
 Sea-level changes  
 Ocean acidification  
 Climate changes  
 Green House effect

Page 14

Environmental Hazards and Disasters - Flood and Drought in India  
 International Environmental Issues - The Sustainable Development Goals  
 Kyoto Conference  
 National Action Plan on Climate Change in India

Page 5

Disaster - Major world disaster - 2010 Japan - technological and human disaster  
 Maharashtra - Maharashtra  
 Managing the Disaster, Planning Response especially the coastal area

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Code- GEO-M 202 (Core Course - 06)

Environment and Disaster Management (5 Credits)

Time : 3 Hours (ESE)

Full Marks : 100

ESE : 70 Marks

CIA : 30 Marks

The questions for End Semester Examination Comprises of three parts as mentioned below

Part - A

Ten objective type Question : All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit) 10 x 2 = 20 marks

Part - B

Five short Answer Questions - Four questions to be answered (Questions shall be selected from the whole syllabus preferably one question from each unit) 4 x 5 = 20 marks

Part - C

Five long answer Questions. Three questions to be answered. (Questions shall be selected from the whole syllabus preferably one question from each unit. 3 x 10 = 30 marks

Unit I	Meaning and Scope of Environmental Geography, Factors of Environment Ecology and Dynamics of Ecosystem : Food Chains, Energy Flow Types of Ecosystem - Marine and Terrestrial
Unit II	Environmental Degradation : Causes and Effects Pollution - Air Pollution Water Pollution Sound Pollution Soil Pollution
Unit III	Global Warming - Causes and effects Sea - level changes Ozone depletion Climatic changes Green House effect
Unit IV	Environmental Hazards and Disasters : Flood and Droughts in India ; International Environmental Treaties : The Stockholm Conference, Earth Summit, Kyoto Conference National Action Plan on Climate Change in India
Unit V	Disaster - Man-made disasters, their types - Technological and Industrial Disasters Man-made disasters - India Specific Mapping the Disasters, Warning System especially for coastal areas
CIA	..... 30 Marks

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**Selected Readings :**

1. Gaur, S. and Chandrashekhar, T 2006, Global Environmental Crisis, Book Enclave, Jaipur.
2. Chaudha, R. C. 1998, Environmental Awareness, Kalyani Publishers, New Delhi.
3. Gupta, P. D. 2003, Environmental Issues for the 21st century, Mital Publications, New Delhi.
4. Morris, D., Freeland, J. H 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. Rasane, 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. Strabler, A. N. and Strabler, 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.) 2003, Environmental Protection and Development, Deep Publications, New Delhi.
13. Government of India (1997). Vulnerability Atlas of India. New Delhi, Building Materials & Technology Promotion Council, Ministry of Urban Development, Government of India.
14. Kapur, A. (2010) Vulnerable India : A Geographical Study of Disasters, Sage Pub., New Delhi.
15. Modh, S. (2010). Managing National Disaster : Hydrological Study, Marine and Geological Disasters, Macmillan , Delhi.
16. Singh, R. B. (2005) Risk Assessment and Vulnerability Analysis, KINOU, New Delhi.
17. Singh, R. B. (ed.), (2006) Natural Hazards and Disaster Management: Vulnerability a Mitigation, Rawat Publications, New Delhi.
18. Sinha, A. (2001). Disaster Management : Lessons Drawn and Strategies for Future, New United Press, New Delhi.
19. Stoltman, J. P. et. al. (2004) International Perspective on Natural Disasters, Kluwer Academic Publications, Dordrecht.
20. Singh, Jagbir (2007) "Disaster Management Future Challenges and Opportunities", 2007 Publisher-I. K. International Pvt. Ltd. S-25, Green Park Extension, Uphaar Cinema Market, New Delhi, India.

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Code- GEO-M 203 (Core Course - 07)

Resource and Economic Geography (5 Credits)

Time : 3 Hours (ESE)

Full Marks : 100

ESE : 70 Marks

CIA : 30 Marks

The questions for End Semester Examination Comprises of three parts as mentioned below

Part - A

Ten objective type Question : All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit)  $10 \times 2 = 20$  marks

Part - B

Five short Answer Questions - Four questions to be answered (Questions shall be selected from the whole syllabus preferably one question from each unit)  $4 \times 5 = 20$  marks

Part - C

Five long answer Questions. Three questions to be answered. (Questions shall be selected from the whole syllabus preferably one question from each unit.  $3 \times 10 = 30$  marks

- Unit I**      **Meaning and Scope of Economic Geography**  
Conservation and Management of Resources with special reference to :  
(a) Water Resources  
(b) Biotic Resources  
Conventional Energy Resources : Coal, Crude oil, their Distribution, Production and Conservation.  
Non-Conventional Energy Resources such as Solar and wind energy
- Unit II**      **Weber's Model and Smith's Models of Industrial location**  
Iron and Steel Industry and Cotton textiles Industry of the World with special reference to China and India
- Unit III**      **Distribution and production of some minerals in the World : Iron Ore, Copper ore and Atomic minerals**  
Macro Industrial regions of the World  
Inter-regional Trade and Place of India in International trade
- Unit IV**      **Major Agricultural Regions of the World : India, U. S. A. China and Japan**  
Von Thunen's Model of Agricultural Location  
Food Production, Problems and Food Security
- Unit V**      **World Trade Theories and Pattern**  
Impact of Globalization on World Economy  
Role of WTO in World Trade  
Concept of Export Processing Zone and SEZ (Special Economic Zone)
- CIA

30 Marks

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**Selected Readings :**

1. Alexander, J. W. & Hartshorne, T. A. (1995) *Economic Geography*.
2. Hussain Majid, *Economic Geography*.
3. Gaha, J. L. & Chatteraj, P. R. (1998) : *A New Approach to Economic Geography : A Study of Resources*
4. Singh, J. & Dhillon, S. S. (1984) *Agricultural Geography*, New Delhi, Tata McGraw Hills.
5. Boesch, H. A. *Geography of world Economy*.
6. Brain, J. L., Berry et. al., *The Geography of Economic Systems*.
7. Barlow, M. H. & R. G. Newton, *Patterns and Processes in Man's Economic Environment*.
8. Chisholm, M. *Geography and Economics*.
9. Jones, C. F., *Economic Geography*.
11. Lloyd, P. & P. Dickens, *Location in Space : A Theoretical Approach to Ec. Geo.*
12. Strahler, A. N. & A. Strahler, *Geography and Economy Activity*.
13. Thomas, R. S. & E. C. Conkling, *The Geography of Economic Activity*.
14. Thomas, R., *Eco. Geog.* in *International Encyclopedia of Science*.
15. Miller, E. & e. Willard, *A Geography of Manufacturing*.
16. Mc. Carty, H. & J. B. Lindberg., *A preface to Economic Geography*.
17. Von Royen, W., *Fundamentals of Economic Geography*.
18. William Von Royen, et. al., *Fundamentals of Economic Geography*
19. Zimmerman, E. W. *World Resources and Industries*.
20. Hartshorn, T. A. *Economic Geography*.
21. Majid Hussain, *Economic Geography*.

New Comprehensive Sources of Energy - Solar energy, wind energy, Tidal energy.

Unit 14 Industrial Revolution of India, Industrial Policy of India - Concentration and Diversification, Agricultural Revolution in India - Green, Blue, Yellow and White.

Unit 15 Human Resources and Social well-being, Social well-being and its indicators, Human Development Index (HDI), Pattern of unemployment and its solution, Cultural Regions of India.

Unit 16 Spatial classification of India, Major Linguistic Groups and Ethnicity, Social and Gender Inequality in India, Gender and social classification of Indian communities.

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Code- GEO-M 204 (Core Course - 08)

Geography of India (5 Credits)

Time : 3 Hours (ESE)

Full Marks : 100

ESE : 70 Marks

CIA : 30 Marks

The questions for End Semester Examination Comprises of three parts as mentioned below

Part - A

Ten objective type Question : All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit)  $10 \times 2 = 20$  marks

Part - B

Five short Answer Questions - Four questions to be answered (Questions shall be selected from the whole syllabus preferably one question from each unit)  $4 \times 5 = 20$  marks

Part - C

Five long answer Questions. Three questions to be answered. (Questions shall be selected from the whole syllabus preferably one question from each unit.  $3 \times 10 = 30$  marks

- Unit I India - Relief and Structure : Peninsular and Himalayan Drainage System  
Origin and Mechanism of Indian Monsoon  
Soils of India : their types, Soil Erosion and Conservation
- Unit II Forest Resources of India : Types of Forests and its importance in Indian economy  
Sources of Power : Coal, Petroleum and Hydro-electricity,  
Non Conventional Sources of Energy -Solar energy wind energy Tidal energy
- Unit III Industrial Regions of India  
Industrial Policy of India : Concentration and Dispersal  
Agricultural Revolutions in India - Green, Blue, Yellow and White
- Unit IV Human Resources and Social well being : Social well-being and its indicators  
Human Development Index (HDI), Problem of unemployment and its solution  
Cultural Regions of India
- Unit V Spatial distribution of Tribes, Major Linguistic Groups and Ethnicity, Social and Gender inequality in India, Benefits and social implications of female reservation

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**Selected Readings :**

1. Spate O. H. K. & Learmonth - Geography of India & Pakistan
2. Ramamoorthy & Gopal Krishnam - Geography of India
3. Singh, Gopal - Geography of India
4. Singh, Jagdish - INDIA : A Comprehensive Systematic Geography
5. Puri, G. S., Indian forest Ecology, New Delhi.
6. Ray Chaudhary, S. P. Land and soil, New Delhi.
7. Krishnan, M. S. Geography of India and Burma
8. Das, P. K., The Monsoon, New Delhi.
9. Wadia, D. N. Geography of India, London
10. चतुर्भुज कर्पेन्द्र - भारत का भूगोल
11. लक्ष्मण बी. एस. एवं गौतमलाला - भारत : A Geography of India
12. सिंह ए गौतम - भारत का भूगोल.

Unit I - Cartography: Axiographic, Chronographic and Astronomic Projections

Unit II - Social Factors - Social Organization, Commerce and Transport  
Map Accessibility: Scale and Traverse Methods

Unit III - Map Projections: Mercator, Cassini, Polyconic and Conic Projections

Unit IV - Interpretation of Aerial Photography, Satellite Imagery, Weathering,  
Geological and Structural Interpretation of Geological Maps

Unit V - Practical Exercise and Viva Voce

CLA: \_\_\_\_\_ 30 Marks

**Selected Readings:**

1. Mackenzie and Widdowson - Maps and Diagrams
2. Hirstwood, Arthur, "Selected Methods for Geographical Studies"
3. Campbell, J., Introduction to Cartography, Prentice Hall, Inc., Englewood Cliffs, New Jersey, 1984
4. Carr, D. J., & Higgins, M. J. Through Maps, Their Design and Production, Methuen, New York, 1982
5. Robinson, A. H. An Introduction to General Cartography, John Wiley and Sons, New York, 1962 edition
6. Archer, J. S., & Fisher, T. L. Introduction to Geography, London
7. Mitchell and the Thomas Map Company, The Art of Map Making, 1964

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**Code- GEO-M 205 (Practical) (Core Course - 09)**

**Cartographic Techniques (5 Credits)**

**Time : 3 Hours (ESE)**

**Full Marks : 100**

**ESE : 70 Marks**

**CIA : 30 Marks**

In the End Semester Examination questions will be set preferably from each unit out of which candidates are required to answer any three questions.

Each Question will carry 20 marks (20 x 3 = 60 marks)

Practical record and viva voce will comprise 10 marks

- Unit I** Cartograms : Hypsographic, Climographic and Altimetric Frequency Curves
- Unit II** Relief Profiles : Serial, Superimposed, Composite and Projected  
Slope Analysis by : Smith and Wentworth Methods
- Unit III** Map Projections : Mercator's, Sinusoidal, Polyconic and International Projection
- Unit IV** Interpretations of Aerial Photographs, Satellite Imagery, Weather maps  
Geological section and Interpretation of Geological Maps
- Unit V** Practical Record and Viva-Voce

CIA ..... 30 Marks

**Selected Readings :**

1. Monkhouse and Wilkinson - Maps and Diagrams
2. Mahmood, Aslam, "Statistical Methods for Geographical Studies."
3. Campbell, J., Introductory Cartography, Prentice Hall, Inc., Englewood Cliff, New Jersey, 1984.
4. Cuff, D. J., & Mattson, M. T. Thematic Maps, their Design and Production, Methuen, New York, 1982.
5. Robinson, A. H. & others, Elements of Cartography, John Wiley and Sons, New York (New edition).
6. Archer, J. E., & Dalton, T. H. Fieldwork in Geography, London.
7. National Atlas and Thematic Maps Organization (MATMO) : National Atlas of India, Calcutta.
8. Monkhouse, F. J., Maps and Diagrams, Methuen & Co, Londo, 1967.
9. Singh and Singh, Practical Geography.

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10. Spurr S. H., Photogrammetry & Photo Interpretation, New Delhi, 1960.
11. Stanshaw, A. I., Aerial Photography.
12. Tomar, M. A. & Mashkar, A. R., Aerial Photographs in Landuse & Forest Survey, Dehra-Dun.
13. Thomas, E. A., Interpretation of Aerial Photographs, Minnesota.
14. Usill, G. W. (Revised by Heam, G. S.G.) Pract. Surveying, London, 1960.
15. White, L. P., Aerial Photography & Remote Sensing for Soil Survey.
16. Campbell, James, B. Introduction to Remote Sensing, 2nd Edt. Taylor & Francis, London.
17. Platt and Charliner - Simple Geological Structure
18. डाटा जेठो पैठो जर्मो-प्रयोगत्मक भूगोल की रूपरेखा
19. डाटा पैठो आरठो चौहान-प्रयोगत्मक भूगोल
20. डाटा चतुर्दुर्जगन्धोरिया एवं मलजैन-मानचित्रांकन एवं प्रायोगिक भूगोल
21. डाटा श्रीवास्तव - प्रयोगत्मक भूगोल
22. डाटा एमठ एमठ पैठो सिन्हा एवं डाटा श्रीवास्तव - एक्सवर्दीयाकी
23. सिंठ जगदीस और बी. पी. राव - भौतिकीय मानचित्रों की रूपरेखा

Sl. No.	Question	Answer	Mark
1	Describe the methods of Geography - Methods and Techniques, Environmental and Anthropology - Review of Literature		
2	Define primary and secondary, Descriptive and Synthetic, Sampling Types - Random, Stratified and Purposive		
3	Hypothesis - Meaning and Types, Procedure for Hypothesis Testing, Chi-square Test, Student's Test		
4	Correlation Coefficient, Impression-Process and Regression, Scatter Correlation, Regression Analysis - Analysis of Variance (A.V.)		
5	Means and Standard, Types of Model, Gravity Potential Model, Population Pyramid Model		

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**M. A. - Geography (Semester III)**

**Code- GEO-M 301 (Core Course - 10)**

**Quantitative Techniques and Research Methodology (5 Credits)**

**Time : 3 Hours (ESE)**

**Full Marks : 100**

**ESE : 70 Marks**

**CIA : 30 Marks**

The questions for End Semester Examination Comprises of three parts as mentioned below

**Part - A**

Ten objective type Question : All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit) 10 x 2 = 20 marks

**Part - B**

Five short Answer Questions - Four questions to be answered (Questions shall be selected from the whole syllabus preferably one question from each unit) 4 x 5 = 20 marks

**Part - C**

Five long answer Questions. Three questions to be answered. (Questions shall be selected from the whole syllabus preferably one question from each unit. 3 x 10 = 30 marks

- Unit I** Quantitative Methods in Geography : Merits and limitations, Research types and Methodology, Review of Literature
- Unit II** Data collection and classification, Questionnaire and Schedules, Sampling Types - Random, Stratified and Purposive
- Unit III** Hypothesis : Concept and Types, Procedure for Hypothesis Testing, Chi-Square Test, Student's Test
- Unit IV** Correlation Coefficient Techniques-Pearson and Spearman, Simple Linear Regression Analysis, Analysis of Variance (ANOVA).
- Unit V** Models and Analogue, Types of Model, Gravity Potential Model, Population Potential Model

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**Note : Use of MS-Excell shall be promoted during the classroom teaching**

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**Selected Readings :**

1. Mahmood, Asla, "Statistical Methods for Geographical Studies",
2. Koshari, K. C. "Research Methodology in Social Sciences".
3. Suleman, M. Research Techniques and Methods in Social Sciences
4. Adhikari, S. (2005) : Fundamentals of Geographical Thought, Allahabad
5. Chorley, R. J. & Haggett, P. (ed.) (1967) : Models in Geography, London.
6. Harshome, R. (1994 Indian Print) : The Nature of Geography, Jaipur, Rawat Publication.
7. Harvey : Explanation in Geography.
8. Kaushik D. S. D. (2001) Bhugolik chintan aur Vidhitantra (Hindi).
9. Hammond / Mc Cullah, Quantitative Techniques in Geography, Oxford, 1974.
10. Gregory, S., Statistical Method for Geography, Longman, 1975.
11. Berry, B. J. L. & Marble, D. F. Spatial Analysis : A Reader in Statistical Geography, New Jersey, 1968.
12. Cole, J. P. & King, C. A. M. Quantitative Methods in Geography, New York. 1968.
13. King, L. J. Statistical Analysis in Geography, New Jersey.
14. Johnson, R. J. Multivariate Statistical Analysis in Geography, 1978.
15. Elhance, D.N., Elementary Statistics.
16. Pal, S. K. Statistical Methods in Geography.
17. Alvi, Zamiruddin, Statistical Geography.

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**M. A. Geography (Semester - III)**  
**Code- GEO-M 302 (Core Course - 11)**

**Remote Sensing and Geographical Information System (5 Credits)**

Time : 3 Hours (ESE)

Full Marks : 100

ESE : 70 Marks

CIA : 30 Marks

The questions for End Semester Examination Comprises of three parts as mentioned below

**Part - A**

Ten objective type Question : All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit) 10 x 2 = 20 marks

**Part - B**

Five short Answer Questions - Four questions to be answered (Questions shall be selected from the whole syllabus preferably one question from each unit) 4 x 5 = 20 marks

**Part - C**

Five long answer Questions. Three questions to be answered. (Questions shall be selected from the whole syllabus preferably one question from each unit. 3 x 10 = 30 marks

**Unit I**      Meaning and Definition of Remote Sensing, Historical Development, Significance and Utility of Remote Sensing in Geography, Role of ISRO in the space study

**Unit II**      Remote Sensing Platforms, Geo-Stationary and Sun-Synchronous Satellites : LANDSAT, IRS, and QUICK-BIRD Series.

**Unit III**     Sensors and Resolution, Interpretation of Aerial Photographs and Satellite Imagery Digital Elevation Model (DEM)

**Unit IV**     Concept and Principles of GIS, Elements of GIS, Nature and Source of Data, Digital cartography

**Unit V**      Raster Vs. Vector Data structure, G.P.S. Concept and Application, Application of Remote Sensing and GIS : Land Information System, Urban Management and Disaster management

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**Selected Readings :**

1. Avery, T. E. (1962) : Interpretation of aerial photograph. Minneapolis.
2. Dury, G. M. (1952) Map Interpretation
3. Cunan, R. J. (1985) : Principles of Remote Sensing.
4. Lillesand, T. M. & Kiefer, R. W. (1979) : Remote Sensing and Image Interpretation, New York.
5. Sabins, F. F. (1997) : Remote Sensing and Interpretation. New York.
6. Campbell, J. B. Introduction to Remote Sensing, London.
7. Fraser Taylor, D. R. (1991) : Geographical Information System, London.
8. Devidatta Chauniyal, Sudoor Samvedanevambhaugolik Soshna Pranali.
9. Siddiqui, An Introduction to Geographical Information System.
10. American Society of Photogrammetry : Manual of Photographic Interpretation Banta Pub. Co., Wisconsin, 1960.
11. Barrett, E. C. & Curtis, L. F. Introduction of Environ, Remote Sensing, 1976.
12. Hord, R. M., Remote Sensing : Methods and Applications, N. Y., 1986.
13. Lender, D. R. Aerial Photography, Mc Graw Hill, N. Y. 1960.
14. Luder, D., Aerial Photography Interpretation : Princ. and App., McGraw Hill, New York, 1959.
15. Lilles & Kiefer, Remote Sensing & Image Interpretation.
16. Reeves, R. G. (Ed.), manual of Remote Sensing (Vol. 2) Virginia, 1975.
17. Smith, H. T. V, Aerial Photographs & their Applications, New York, 1943.
18. Spurr S. H., Photogrammetry & Photo Interpretation, New Delhi, 1960.
19. Stenshaw, A. J., Aerial Photography.
20. Tomar, M. A. & Maslkar, A. R., Aerial Photographs in Landuse & Forest Survey, Dehra-Dun.
21. Thomas, E. A. Interpretation of Aerial Photographs, Minnesota.
22. Usill, G. W. (Revised by Hearn, G.S.g.) Pract. Surveying, London, 1960.
23. White, L. P., Aerial Photography & Remote Sensing for Soil Survey.

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**Code- GEO-M 303 (Core Course - 12)**  
**Human and Social Geography (5 Credits)**

**Time : 3 Hours (ESE)**

**Full Marks : 100**

**ESE : 70 Marks**

**CIA : 30 Marks**

The questions for End Semester Examination Comprises of three parts as mentioned below

**Part - A**

Ten objective type Question : All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit) 10 x 2 = 20 marks

**Part - B**

Five short Answer Questions - Four questions to be answered (Questions shall be selected from the whole syllabus preferably one question from each unit) 4 x 5 = 20 marks

**Part - C**

Five long answer Questions. Three questions to be answered. (Questions shall be selected from the whole syllabus preferably one question from each unit. 3 x 10 = 30 marks

- Unit I**      **Meaning, Definition and Scope of Human Geography**  
Approaches to Human Geography  
Growth, Distribution and Density of World's Population with reference to U.S.A.  
China and India  
Migration : Causes and Consequences
- Unit II**      **Human Settlement : types and Patterns of Rural Settlements.**  
Processes and Pattern of Urbanization in the Developed and Developing Countries;  
Problems of urbanisation  
Age and Sex Composition of the World Population  
Occupational Structure of the World Population
- Unit III**      **Meaning and Scope of Social Geography : Evolution of Man, Aryan Civilization**  
Culture : Elements of Culture  
Major Human Races in the World-Negroid, Mongoloid, Caucasoid  
Major World Religions : their Origin, Diffusing and Spatial Distribution.  
Major World Languages : Their Origin, Diffusion and Spatial Distribution
- Unit IV**      **Concept of Social Justice and Social Well-being**  
Social Structure, Process and Social Pattern  
Components of Quality of life and its Spatial Pattern  
Globalization and Social Transformation
- Unit V**      **Social Transformation and Gandhian doctrine of Social Change**  
Panchayati Raj Institution and Social Transformation in India  
Role of Media in India in Societal Changes

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**Selected Readings :**

1. An Introduction of Social Geography, Emery Jones and John Eyles.
2. Cultural Geography - Mike Crang
3. Sociology and Social Anthropology - M. S. Gosal
4. Social Geography - A. Ahmad
5. Social Geography - Majid Husain
6. Social Geography - Ruth Panelli
7. Rural Sociology in India - A. R. Desai
8. Readings in Social Geography - Emery Jones
9. Human Geography - Paul L. Kross, S. A. Marston
10. International Encyclopedia of Geography, Vol. VIII (Social Geography) - Subhash Mehtani, Amarjit Sinha, Common Wealth Publication Pvt. Ltd., New Delhi.
11. Cultural Geography : Form & Process - Neelam Grover and Kashi Nath Singh, Concept Publishing Company, Delhi.
12. Social Geography of India - Ashok Kumar, Anmol Publications, New Delhi.
13. सांस्कृतिक भूगोल - शैलानन्दसिंह एवं रामदेव त्रिवेदी, वसुधरा प्रकाशन, गोरखपुर.
14. सामाजिक भूगोल - डॉ. एस० जी० मोहं.
15. सांस्कृतिक भूगोल - इन्दिरा सिंह, युनिवर्सिटी पब्लिशिंग, नयी दिल्ली.
16. सांस्कृतिक भूगोल - भावजी प्रसाद

Unit I	History of Land-use survey in India Model of Land-use - Von Thunen, Leijonhufvud Major Land-Use patterns in India
Unit II	Land-use classification - U. S. and India Land-use pattern in India Land capability classification Importance of Land-use capability in India
Unit III	Fundamental concepts of Agricultural Geography History of Agricultural Geography Factors influencing Agricultural Pattern Crop-land-use in India, Food Security in India
Unit IV	Concept and Techniques of estimation of agricultural regions Measurement of Agricultural productivity and efficiency Crop-land-use and diversification Changing pattern in India
Unit V	New Agricultural Technology Green Revolution and White Revolution in India Agro-ecological systems of India Agricultural pollution and control
Unit VI	Agro-ecological systems of India Agricultural pollution and control

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M. A. Geography (Semester - III)  
Code- GEO-M 304 (Core Course - 13)

Land use and Agriculture Geography (5 Credits)

Time : 3 Hours (ESE)

Full Marks : 100

ESE : 70 Marks

CIA : 30 Marks

The questions for End Semester Examination Comprises of three parts as mentioned below

Part - A

Ten objective type Question : All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit)  $10 \times 2 = 20$  marks

Part - B

Five short Answer Questions - Four questions to be answered (Questions shall be selected from the whole syllabus preferably one question from each unit)  $4 \times 5 = 20$  marks

Part - C

Five long answer Questions. Three questions to be answered. (Questions shall be selected from the whole syllabus preferably one question from each unit.  $3 \times 10 = 30$  marks

**Unit I** Meaning and Scope of Landuse and Relationship between Land use and Agriculture Geography

History of Landuse survey in India  
Model of Landuse : Von Thunen, Jonsson  
Major Land Reforms in India

**Unit II** Landuse classification : U. K. and India  
Landuse pattern in India  
Land capability classification  
Importance of Land use planning in India

**Unit III** Fundamental concept of Agriculture Geography  
History of Agriculture Geography  
Factors influencing Agricultural Pattern  
Chief crops of India ; Food Security in India

**Unit IV** Concept and Techniques of delimitation of agricultural regions  
Measurement of Agricultural productivity and efficiency  
Crop-combination and diversification  
Cropping pattern in India

**Unit V** New Agricultural Technology  
Green Revolution and White Revolution in India  
Agro-climatic regions of India  
Agricultural problems and policies  
Role of irrigation in New Agricultural Technology

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**Selected Readings :**

1. Hussain, Majid - Agriculture Geography.
2. Singh J. & Dhillon, S. S. - Agriculture Geography
3. B. S. Negi - KrishiBhugol.
4. Sharma, R. L. - KrishiBhugol
5. Wrigley - tropical Agriculture.
6. Ali Mohammad - Studies in Agriculture Geography.
7. Krishna, D. The New Agricultural Strategy.
8. Dutta and Sundaram - Indian Economy.
9. Kumar, Pramila and Sharma, S. K. : Krishi Bhoogol.
10. Smith, T. P. Bayliss : The Ecology of Agricultural Systems.
11. Morgan, W. B. and Norton, J. C. : Agricultural Geography.
12. Singh, B. B. : Krishi Bhoogol
13. Symons, L. Agricultural Geography.
14. Shafi, M. : Agricultural Geography.
15. Tiwari, R. C. and Singh, B. N : Krishi Bhoogol

Unit II  
Theories of Soils - Formation and Classification of Soils  
Preparation of Ground water and Ground Profiles  
Measurement of Drainage and its economic  
Classification of Soils

Unit III  
Geomorphology using GPS  
Map Registration using GIS

Unit IV  
Distribution and Map Projections using GIS  
Sampling through aerial photo GIS

Unit V  
Practical Ground and Field Work

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**Selected Readings:**

1. M. M. P. Strick & Searles New Advanced Cartography (2nd/3rd/4th/5th Ed.)
2. Kaurishar - Surveying and Levelling Vol. I & II
3. Parsons - Surveying Vol. I & II
4. T. T. Gannon - Introduction of the Surveying
5. Parsons, B. C. Surveying and Levelling, Vol. I
6. Allen, J. H. Surveying, A Text Book of Surveying
7. Neame, H. N. 2017, Surveying and Levelling, 10th Edition, Butterworths
8. Neame, H. N. 2018, Introduction to Surveying, 10th Edition, Butterworths

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**Code- GEO-M 305 (Practical) (Core Course - 14)**  
**Instrumental Surveying, GIS and GPS (5 Credits)**

Time : 3 Hours (ESE)

Full Marks : 100

ESE : 70 Marks

CIA : 30 Marks

In the End Semester Examination questions will be set preferably from each unit out of which candidates are requested to answer any three questions.

Each Question will carry 20 marks. (20x3 = 60 marks)

Practical record and viva voce will comprise 10 marks

Unit I      Survey by Plane Table : Levelling Instrument  
              Finding out Rise and Fall  
              Plotting of Longitudinal Profile

Unit II      Theodolite Survey : Formation and Calculation of Triangles  
              Preparation of Ground plan and Ground Profiles  
              Measurement of Base line and its extension  
              Formation of Polygon

Unit III     Georeferencing using GIS  
              Map Registration using GIS

Unit IV     Digitization and Map Preparation using GIS  
              Surveying through hand held GPS

Unit V      Practical Record and Viva-Voce

CLA ..... 30 Marks

**Selected Readings :**

1. M. M. P. Sinha & Seema Bala-Advanced Cartography (mPpdkVksZxzkQh).
2. Kanetkar - Surveying and leveling Vol. I & II.
3. Punmia - Surveying Vol. I, II & III.
4. J. P. Sharma- इलेक्ट्रॉनिक सूर्योदय वी कर्पण.
5. Punmia, B. C., Seveying and leveling, Vol.I.
6. Alvi, Zamiruddin, A. Text Book of Surveying.
7. Basak, N.N. 2017. Surveying and Levelling, 2nd ed., McGraw Hill Education.
8. Bolton, T. 2009 (reprint) Geological Maps : Their Solution and interpretation, Cambridge. Univ. Press.

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9. Kanetkar, T.P. Kulkarni, S. v. 1988, Surveying and Levelling Part I. Pune Vidyarthi Griha Prakashan.
10. Monkhouse, F. J., Wilkinson, H. R. 1971, Maps and Diagrams.
11. Robinson, A.H. Morrison, J. L. Phillip, C. M., Kimerling, A.J., Guptill, S.C. 1995, Elements of Cartography, 6th ed., Wiley.
12. Sarkar, A. 2015, Practical, Geography : A Systematic Approach, 3rd ed. Orient Blackswan Private Ltd.
13. Singh, R. L. Singh, R. P.B. 2008, Elements of Practical Geography, Kalyani Publishers.
14. Siddiqui, An Introduction to Geographical Information System.
15. Tomlin, C. D., GIS and Cartographic Modeling. Prentice Hall.

1. The questions are classified into two categories: Short-answer questions and Long-answer questions.

Part A

Short-answer questions: These questions to be answered. (Questions shall be selected from the questions below preferably one question from each unit)

Part B

Long-answer questions: These questions to be answered. (Questions shall be selected from the questions below preferably one question from each unit)

Unit 1: Definition and Scope of urban geography. Development of urban geography in India. Urban ecology and urban systems. Study of urban densities and functional classification of towns.

Unit 2: Bangalore, Jaipur and Chennai City. Urban hierarchy. Mumbai, Coimbatore and Nagpur Cities. Concept of Megalopolis and Metropolitan regions.

Unit 3: Concept of urban morphology. Features of urban layout - Bangalore, Jaipur, Mumbai and Chennai. Concept and classification of CBD. Concentric, Urban Formulations in context of India.

Unit 4: Trends of Urbanization in India and the World. Concept of City region. Central and Peripheral areas. Rural-urban fringe.

Unit 5: Urban morphology in India and abroad. Urban hierarchy. Urban form - pattern in India.

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**M. A. Geography (Semester - IV)**  
**Code- GEO-M 401 A Elective Course - 01)**  
**Urban Geography (5 Credits)**

Time : 3 Hours (ESE)

Full Marks : 100

ESE : 70 Marks

CIA : 30 Marks

The questions for End Semester Examination Comprises of three parts as mentioned below

**Part - A**

Ten objective type Question : All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit) 10 x 2 = 20 marks

**Part - B**

Four short Answer Questions - Four questions to be answered (Questions shall be selected from the whole syllabus preferably one question from each unit) 4 x 5 = 20 marks

**Part - C**

Five long answer Questions. Three questions to be answered. (Questions shall be selected from the whole syllabus preferably one question from each unit. 3 x 10 = 30 marks

- Unit I**      Definition and Scope of urban geography, Development of urban geography in India  
Urban ecology and urban System  
Basis of urban functions and functional classification of towns
- Unit II**      Rank-Size Rule and Primate City  
Urban hierarchy  
Million Cities and Mega Cities  
Concept of Megalopolis and Metropolitan regions
- Unit III**      Concept of urban morphology  
theories of urban landuse - Burgess Hoyt, Harris and Ullman  
Concept and characteristics of CBD  
Conurbation, Urban Agglomeration in context of India
- Unit IV**      Trend of Urbanization in India and the World  
Concept of City region  
Umland and its delimitation  
Rural urban fringe
- Unit V**      Urban problems with reference to slums  
Urban poverty  
Urban planning policies in India  
Smart city concept

CIA

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**Selected Readings :**

1. Carter, H. (1972) *The Study of Urban Geography*, Arnold Heinemann
2. Geddes, P. (1968) *Cities in Evolution*, Benn Publisher.
3. Hall, P. (1992) *Urban & Regional Planning*, Routledge, London.
4. Johnson J. (1973) *Urban Geography : An introduction Analysis, Germ Area*
5. Mayhew & Kohn (1959) *Readings in Urban Geography, Chicago Area.*
6. Scott, J. A. (2001) *(Global city Region, Oxford University area, U. K.*
7. Sinha, M. M. P. & Seema Bala : *Nagariya Bhoogol (Hindi).*
8. Bansal : *Nagariya Bhoogol (Hindi).*
9. Alam, S. M. *Hyderabad secundeabad Twin Cities*, Asia Publishing House, Bombay
10. Berry, B. J. L. and Horton, F. F., *Geographic perspectives on Urban Systems*, Prentice Hall, Englewood Cliff, New Jersey, 1970.
11. Beaujeu Garniewr, J. Chabat, G *Urban Geography London, 1969.*
12. Dickson, R. E. 1964, *City and Region*, Routledge, London.
13. Gibbs, I. P. *Urban Research Methods*, New Jersey, '1961.

Students are advised to read the above mentioned books and articles carefully and to refer to them as and when required.

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Students are advised to read the above mentioned books and articles carefully and to refer to them as and when required.

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- I. Sinha* 22/4/19
- M. M. P. Sinha* 22/4/19
- S. M. Alam* 22/4/19
- J. Sinha* 22/4/19

M. A. Geography (Semester - IV)  
Code- GEO-M 401 B (Elective Course - 01)

Political Geography (5 Credits)

Time : 3 Hours (ESE)

Full Marks : 100

ESE : 70 Marks

CIA : 30 Marks

The questions for End Semester Examination Comprises of three parts as mentioned below

Part - A

Two objective type Question : All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit)  $10 \times 2 = 20$  marks

Part - B

Four short Answer Questions - Four questions to be answered (Questions shall be selected from the whole syllabus preferably one question from each unit)  $4 \times 5 = 20$  marks

Part - C

Three long answer Questions. Three questions to be answered. (Questions shall be selected from the whole syllabus preferably one question from each unit.  $3 \times 10 = 30$  marks

- Unit I      Meaning and scope of Political Geography  
Approaches to Political Geography : Functional and Unified Field Theory Approaches  
Geopolitics
- Unit II      Geopolitical (World Order : Origin and Cessation of cold war  
Global strategies, Views of H. L. Meckinder and N G. Spykman  
Geopolitics of Asia-Pacific
- Unit III      Concept of Nation and State and its elements  
Land-Locked States and its problems  
Frontiers and Boundaries - Types of boundaries  
Maritime Boundaries - Growing areas of tension
- Unit IV      Changing Political map of India : State re-organization  
Geographical Bases of Indian Federalism  
River water Disputes - International and National; Causes and effects
- Unit V      Sino-Indian Border Dispute  
Kashmir Problem  
Geopolitics of Indian Ocean : Sino Indian Rivalry  
Regionalism in India  
SAARC - its genesis and importance for India

CIA

30 Marks

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**Selected Readings :**

1. John R. Stuart (1982) - An Introduction to Political Geography
2. Richard Muir (1995) - Modern Political Geography
3. Herman K. Edward (1975) - Modern Political Geography
4. Lucile Carlson (1971) - Geography and World Politic
5. S. B. Cohen (1968) - Geography and Politics in a Divided world.
6. N. J. G. Pounds (1972) - Political Geography
7. L. M. - Alexander (1965) - World Political Systems
8. P. J. Taylor & c. Flint : (2004 India Boy - Political Geography.
9. R. D. Dikshit (1982) - Political Geography.
10. S. Adhikari (1997) - Political Geography.
11. B. L. Sakhwal (1985) - Modern Political Geography of India.
12. S. Adhikari (2008) - Political Geography of India : A contemporary Perspective
13. O. Parkar (1998) - Geopolitics : Past, Present and Future.
14. S. K. Dikshit (2006) - Political Geography and Geo politics.
15. Hari Mohan Saxena (2009) - Political Geography.

1. **Population and Development** - This seminar is to be organized. It should be an inter-collegiate seminar. The participants are to be invited from all over the state.

2. **Population and Development** - This seminar is to be organized. It should be an inter-collegiate seminar. The participants are to be invited from all over the state.

3. **Population and Development** - This seminar is to be organized. It should be an inter-collegiate seminar. The participants are to be invited from all over the state.

4. **Population and Development** - This seminar is to be organized. It should be an inter-collegiate seminar. The participants are to be invited from all over the state.

5. **Population and Development** - This seminar is to be organized. It should be an inter-collegiate seminar. The participants are to be invited from all over the state.

6. **Population and Development** - This seminar is to be organized. It should be an inter-collegiate seminar. The participants are to be invited from all over the state.

7. **Population and Development** - This seminar is to be organized. It should be an inter-collegiate seminar. The participants are to be invited from all over the state.

8. **Population and Development** - This seminar is to be organized. It should be an inter-collegiate seminar. The participants are to be invited from all over the state.

9. **Population and Development** - This seminar is to be organized. It should be an inter-collegiate seminar. The participants are to be invited from all over the state.

10. **Population and Development** - This seminar is to be organized. It should be an inter-collegiate seminar. The participants are to be invited from all over the state.

11. **Population and Development** - This seminar is to be organized. It should be an inter-collegiate seminar. The participants are to be invited from all over the state.

12. **Population and Development** - This seminar is to be organized. It should be an inter-collegiate seminar. The participants are to be invited from all over the state.

13. **Population and Development** - This seminar is to be organized. It should be an inter-collegiate seminar. The participants are to be invited from all over the state.

14. **Population and Development** - This seminar is to be organized. It should be an inter-collegiate seminar. The participants are to be invited from all over the state.

15. **Population and Development** - This seminar is to be organized. It should be an inter-collegiate seminar. The participants are to be invited from all over the state.

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**M. A. Geography (Semester - IV)**  
**Code- GEO-M 401 C (Core Course - 01)**

**Population Geography (5 Credits)**

**Time : 3 Hours (ESE)**

**Full Marks : 100**

**ESE : 70 Marks**

**CIA : 30 Marks**

The questions for End Semester Examination Comprises of three parts as mentioned below

**Part - A**

The objective type Question : All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit) 10 x 2 = 20 marks

**Part - B**

Five short Answer Questions - Four questions to be answered (Questions shall be selected from the whole syllabus preferably one question from each unit) 4 x 5 = 20 marks

**Part - C**

Five long answer Questions. Three questions to be answered. (Questions shall be selected from the whole syllabus preferably one question from each unit. 3 x 10 = 30 marks

- Unit I** Nature and Scope of Population Geography  
Historical development of Population Geography, Relationship with Demography  
Sources of Population Data : History of Census of India
- Unit II** Population distribution, growth and its determinants :  
Theories of Population Growth Malthus and Demographic Transition : Concept of optimum population
- Unit III** Population Dynamics : Fertility-measurement : Mortality measurement, determinants and distribution, Migration : Trends and pattern of migration in India
- Unit IV** Population Regions : Typology of population regions, Ackerman scheme of population resource region  
Human security - economic, food and health
- Unit V** Growth and distribution of population in India  
Population composition of India  
Internal migration in India  
Trends of urbanization  
Urban problems

**CIA**

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Selected Readings :

1. Chandana, R. C. - A Study in Population Geography.
2. Ghosh, B. N. - Population Geography.
3. Hirsai - Jansankhya Bhoogol
4. Bhende and Kanthar - Population Studies
5. Singh, R. L. - Practical Geography
6. Sharma, J. P. Prayogic Bhoogol Ki Rooprekha (Hindi)
7. Bhende, A. A. & Kanitkar, (2014), Principles of Population Studies, Himalayan Pub. Mumbai.
8. Bogue, D. J. Principles of Demography, New York, 1969.
9. Chandna, R. C. Geography of Population : Concepts Determinants and Pattern, Kalyan Pub. Ludhiana, 2014.
10. Clarke, J. I. Population Geography, Oxford-1981.
11. Hassan M. L. Population Geography, Rawat Pub. Jaipur, 2008.
12. Jhingar M. L. Bhatt B. K. and Desai, J. N. Demography, Vrid Pub. Delhi, 2006.
13. Khullar D. R. India : A comparative Geography, Kalyan Pub. Ludhiana, 2014.
14. Mandal, R. B. Uyanga J. and Prasad H. Introductory Methods in Population Geography, Concept Pub. C. New Delhi - 2007.
15. Maurya S. D., Population Geography, Pravalika Pub. Allahabad, 2014.
16. Newbold, K. B. - Population Geography : Tools and Issues, Rawat Pub. Jaipur, 2012.
17. Palmore, J. A. and Gardner R. W. Measuring, Mortality, Fertility and Migration : A Self Teaching Guide to Elementary Measures. The East-West Centre, Honolulu, 1987.
18. Poston, Jr. D. L. and Borvier L.F., Population and society : An Introduction to Demography, Cambridge Uni. Press, New York, 2010
19. Premi M. K. and Das D. N. Population of India 2011, b. R. Pub. Delhi, 2012.
20. Srinivas, K. Basic Demographic Techniques and Applications, Sage Pub. New Delhi, 1998.
21. Trewartha, G. T. A. Geography of Population : World Patterns, N. Y. 1969.

Selected Readings :

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**M. A. Geography (Semester - IV)**  
**Code- GEO-M 401 D (Elective Course - 01)**  
**Geology of India (5 Credits)**

Time : 3 Hours (ESE)

Full Marks : 100

ESE : 70 Marks

CIA : 30 Marks

The questions for End Semester Examination Comprises of three parts as mentioned below

**Part - A**

Ten objective type Question : All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit) 10 x 2 = 20 marks

**Part - B**

Five short Answer Questions - Four questions to be answered (Questions shall be selected from the whole syllabus preferably one question from each unit) 4 x 5 = 20 marks

**Part - C**

Five long answer Questions. Three questions to be answered. (Questions shall be selected from the whole syllabus preferably one question from each unit. 3 x 10 = 30 marks

- Unit I** Definition and scope of Geology, Principles of correlation, Standard Stratigraphical scale, Indian Stratigraphic scale
- Unit II** Origin, geographical distribution and lithological characteristics of Dharwar system, Vindhyan System, Gondwana system and Deccan Lava system.
- Unit III** Classification, mode of occurrence and distribution of the following minerals with special reference to India - Iron ore, Mica, Bauxite and Copper
- Unit IV** Classification mode of occurrences and distribution of energy resources in India : Coal, Petroleum, Uranium and Thorium
- Unit V** Rocks and minerals association, form, structure and classification of igneous rocks, Origin and types of sedimentary rocks, Processes of metamorphism, Types and characteristics of metamorphic rocks

CIA ..... 30 Marks

**Selected Readings :**

1. Wadia, D. N. - Geology of India
2. Mukharjee, P. K. - Physical Geology
3. D. P. Singh - भारत का भूवैज्ञानिक परिचय
4. Mehar D.N. Wadia - Minerals of India.
5. Gokhale and Rao - Minerals of India.
6. Platt and Charlier - Simple Geological Structures
7. Karna, N.N. - सरल भूवैज्ञानिक संरचनाएँ
8. Singh, Jagdish & B. P. Rao - भौतिकीय भूगर्भशास्त्र की संरचना.

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**M. A. Geography (Semester - IV)**  
**Code- GEO-M 401 E (Elective Course - 01)**  
**Settlement Geography (5 Credits)**

Time : 3 Hours (ESE)

Full Marks : 100

ESE : 70 Marks

CIA : 30 Marks

The questions for End Semester Examination Comprises of three parts as mentioned below

**Part - A**

Ten objective type Question : All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit) 10 x 2 = 20 marks

**Part - B**

Five short Answer Questions - Four questions to be answered (Questions shall be selected from the whole syllabus preferably one question from each unit) 4 x 5 = 20 marks

**Part - C**

Five long answer Questions. Three questions to be answered. (Questions shall be selected from the whole syllabus preferably one question from each unit. 3 x 10 = 30 marks

- Unit I**      Meaning and Scope of Settlement Geography  
Development of Settlement Geography in India  
Evolution of Settlement in the Middle Ganga Valley  
Types of Rural Settlement in India
- Unit II**      Development of Different forms of Rural Settlements  
Morphological features of Rural Settlements  
Problems of rural settlements  
Rural marketing system and its importance
- Unit III**      Rural house types in different geographical environment in India  
Rural Services centres  
Hierarchy of Settlements  
House building materials
- Unit IV**      Locational and functional features of urban settlements  
Morphological features of Indian cities  
Problems of Indian urban centres  
Problems of slums in India with reference to Mumbai and New Delhi
- Unit V**      Planning of Rural settlements  
Planning of urban settlements  
Metropolitan region  
Concept of Smart Cities

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**Selected Readings :**

1. Hopkinson, D. (1989) Geography of Settlement, Oliver & Boyd
2. Hudson, F. S. (1970) Geography of Settlement, Mackold & Erna.
3. Singh, R. L. (ed.) Rural Settlements in Monsoon Asia.
4. Carter, H. (1972) The Study of Urban Geography, Arnold Heinemann.
5. Misra, R. P. & K. Misra (Ed.) Million Cities of India, Nica Publisher.
6. Singh, R. Y. : An Introduction of settlement Geography.
7. Ghosh, S. : Settlement Geography.
8. Sinha, V. N. P. Verma, U, & Sahay, A. Introduction to Settlement Geography.

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**M. A. Geography (Semester - IV)**  
**Code- GEO-M 401 F (Elective Course - 01)**  
**Advance Cartography (5 Credits)**

Time : 3 Hours (ESE)

Full Marks : 100

ESE : 70 Marks

CIA : 30 Marks

The questions for End Semester Examination Comprises of three parts as mentioned below

**Part - A**

**Two objective type Question :** All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit) 10 x 2 = 20 marks

**Part - B**

**Short Answer Questions -** Four questions to be answered (Questions shall be selected from the whole syllabus preferably one question from each unit) 4 x 5 = 20 marks

**Part - C**

**Long answer Questions.** Three questions to be answered. (Questions shall be selected from the whole syllabus preferably one question from each unit. 3 x 10 = 30 marks

- Unit I** Brief history of cartography and its present status;  
Fundamentals of computer based cartography and its application;  
Thematic maps - types and their use.
- Unit II** Mathematical construction and characteristics of the following map projections.  
Conical Equal - Area with one standard parallel (Lambert's V) Gromonic  
projection (equatorial Case); Stereographic projection (Equatorial Case); Cassini's  
Projection
- Unit III** Principles of triangulation Survey : Measurement of base-line in triangulation  
survey. Definition and characteristics of the following astronomical terms -  
Azimuth, Right Ascension, Hour Angle, Star at elongation, Altitude, Declination.
- Unit IV** Brief history and basic principle of Photogrammetry : types and scales of aerial  
photographs. Interpretation of aerial photographs, Importance of aerial  
Photographs for defence System
- Unit V** Brief history of satellite remote sensing :  
Concept of remote sensing, GIS  
Development of remote sensing in India  
Elements of the interpretation of satellite imageries

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**Selected Readings :**

1. F. J. Monkhouse - Maps & Diagrams & H. R. Wilkinson.
2. Sinha, M. M. P. & Bala, Seema - *Advanced Cartography*, Sharda Publication, Allahabad.
3. Kanetkar - *Surveying and leveling Vol. II*.
4. Purnia, B. C. - *surveying Part II & III*.
5. Sarkar, A. - *Practical Geography : A Systematic Approach*, Orient Blackswan Private Ltd.
6. Singh, R. L. and Singh, R. P. B. - *Elements of Practical Geography*, Kalyani Publishers, New Delhi.
7. Maitra, K. K. and Maitra, S. R. - *concept of Cartography, Remote Sensing and G. I. S.* - rijesh Publication, New Delhi.
8. Davis, R. E. Foote, F. S. and Kelly, J. W - *Surveying : Theory and Practice*.
9. Misra, R. P. Singh Brijesh and Pandey, Anupam - *Fundamentals of Cartography*, Concept Publishing Company Pvt. Ltd., New Delhi.
10. Narayan, L.R. A. - *Remote Sensing and its Application*, Universities Press, Hyderabad.
11. Venkatramalah, C. - *textbook of Surveying*, Universities Press, Hyderabad.
12. Joseph, George - *Fundamentals of Remote Sensing* Universities Press, Hyderabad.
13. Fazal, S. - *Remote Sensing Basics*, Kalyani Publishers Ludhiana.
14. Lifesard, T. M. Kiefer, R. W. and Chipman, J. W. - *remote Sensing and image Interpretation* Wiley India Pvt. Ltd. new Delhi.

Q.13. Explain the concept of remote sensing, sampling, data, and processing. Discuss the role of remote sensing in a well-planned environment. Illustrate the importance of ground observations and applications.

Q.14. Discuss the role of remote sensing and applications. Discuss the role of remote sensing in a well-planned environment. Illustrate the importance of ground observations and applications.

Q.15. Discuss the role of remote sensing and applications. Discuss the role of remote sensing in a well-planned environment. Illustrate the importance of ground observations and applications.

**Selected Readings :**

1. Gopal, S. (1987) *Remote Sensing Methods and the Computer*, J. Jaypee Brothers, Lucknow.
2. Gopal, S. (1987) *Remote Sensing Methods in Geographical Studies*, J. Jaypee Brothers, Lucknow.
3. Gopal, S. (1987) *Remote Sensing Methods in Geographical Studies*, J. Jaypee Brothers, Lucknow.
4. Gopal, S. (1987) *Remote Sensing Methods in Geographical Studies*, J. Jaypee Brothers, Lucknow.

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**M. A. Geography (Semester - IV)**  
**Code - GEO-M 402 Elective Course - 01**  
**Dissertation/Project Work (5 Credits)**

**Time : 3 Hours (ESE)**

**Full Marks : 100**

**ESE : 50 Marks**

**CIA : 50 Marks**

Students have to prepare a Dissertation / Project work based on Socio-Economic survey.

The topic will be approved by departmental council.

ESE will consist of total of 50 marks out of which, 40 marks will be on a written test and 10 marks for Viva Voce on dissertation. CIA will comprise of written test, Presentation and brief summary of report.

Students have to submit one copy of dissertation/Project work report prior to the recommencement of the semester examination.

- Unit I** Procurement of a topographic map of 1:50,000 to 1:25,000 scale to study the settlement selected in its regional setting.
- Unit II** Collection of demographic, social & economic data of the village and towns from Census Reports to study the temporal changes in the profile of such characteristics.
- Unit III** Selection of sampling site, defining sampling size, and conducting socio-economic survey at households level with a self structured questionnaires and supplementing the information by personal observations and perceptions.
- Unit IV** Based on results of land-use and socio-economic survey of the households, preparation of a critical field-survey report Photographs and sketches, in addition to maps and diagrams, supplementary reports may be used

CIA ..... 50 Marks

**Selected Readings :**

1. Gregory, S. 1980. Statistical methods and the Geographer, Longman, London.
2. Mahmood, A. 2008. Statistical Methods in Geographical Studies, Rajesh Pub., New Delhi.
3. Ibrahim, R. 1992. Socio-Economic, Profile of Mewat, Radha Publishers, New Delhi.
4. Robinson, A. H. et. al. 1995 (6th edition), Elements of Cartography, John Wiley, New York.
5. Raisz, E. 1962. Principles of Cartography, Mc Grow Hill, New York.

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## M. A. Geography (Semester - IV)

Code- Discipline Specific Elective - DSE-01 (201-CC)

Regional Planning and Rural Development (5 Credits)

Time : 3 Hours (ESE)

Full Marks : 100

ESE : 70 Marks

CLA : 30 Marks

The questions for End Semester Examination Comprises of three parts as mentioned below

### Part - A

Ten objective type Question : All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit)  $10 \times 2 = 20$  marks

### Part - B

Five short Answer Questions - Four questions to be answered (Questions shall be selected from the whole syllabus preferably one question from each unit)  $4 \times 5 = 20$  marks

### Part - C

Five long answer Questions, Three questions to be answered. (Questions shall be selected from the whole syllabus preferably one question from each unit.  $3 \times 10 = 30$  marks

**Unit I** Regional Planning, Concept Merits and Limitation  
Planning Process Sectoral, Temporal and Spatial Dimensions  
Concept of Planning Region and Methods for Delineation of Regions

**Unit II** Special Purpose Planning Regions in India  
River Valley Regions  
Metropolitan Region  
Problem Regions, Hilly and Tribal Regions

**Unit III** Indicators of Development  
Regional disparities in India  
Need for Regional Planning in India  
Regional Development in India - Problems and Prospects

**Unit IV** Concept of Multi Level Planning  
Role of Panchayati Raj Institutions in Rural Development  
Defining Development and Rural Development : Gandhian approach to rural development

**Unit V** Area Based Approach to Rural Development : Drought : Prone Area Programme, PMGSY  
Target Group Approach : SJSY, MGNREGA, Jan Dhan Yojana and PURA  
Provision of Services : Physical and Social-Economic Access to Elementary Education and Primary Health Care and Micro Credit

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30 Marks

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**M. A. Geography (Semester - IV)**  
**Code- Generic Course - FE - 01**  
**Geography of Bihar (5 Credits)**

Time : 3 Hours (ESE)

Full Marks : 100

ESE : 70 Marks

CIA : 30 Marks

The questions for End Semester Examination Comprises of three parts as mentioned below

**Part - A**

Ten objective type Question : All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit) 10 x 2 = 20 marks

**Part - B**

Five short Answer Questions - Four questions to be answered (Questions shall be selected from the whole syllabus preferably one question from each unit) 4 x 5 = 20 marks

**Part - C**

Five long answer Questions. Three questions to be answered. (Questions shall be selected from the whole syllabus preferably one question from each unit. 3 x 10 = 30 marks

<b>Unit I</b>	Historico- Political evolution of Bihar as a State, Geological Formation and Physiographic Divisions, Drainage, System and soil groups
<b>Unit II</b>	Climate, Regional Variation in Rainfall and Temperature, Seasonal Variation of Annual variation in rainfall Flood and Drought Prone Areas Impact of rainfall variations on Bihar's economy
<b>Unit III</b>	Landuse and Agriculture : Landuse Pattern, Agricultural Infrastructure, Agricultural Seasons, Food Crops, Cash Crop. Development and Prospect of Horticulture, Aquaculture, Floriculture, Herbal Plants, Pisciculture, Agricultural Regions.
<b>Unit IV</b>	Industries : Agro Based Industries, Small and Cottage Industries; Sugar industries Prospects of Food and Fruit Processing Industries Industrial Regions
<b>Unit V</b>	Population and Settlement : Population Growth, Distribution, Occupation Age and Sex Ratio : Occupational Structure ; Literacy Migration of Population Evolution of Settlement : Types and Pattern,
<b>CIA</b>	..... 30 Marks

**Selected Readings :**

1. M. S. Pandey - Historical Geography and Topology of Bihar.
2. Ahmed, E. - Bihar-Physical, Economic and Regional Geography.
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