SYLLABUS

for

Choice Based Credit System

(CBCS)

On the basis of
Outcome Based Education
(OBE)

M.A. GEOGRAPHY

CC/DSE/GE/AECE/SEC

PATNA WOMEN'S COLLEGE
Autonomous
PATNA UNIVERSITY
3rd Cycle NAAC Accredited at 'A' Grade with CGPA 3.58/4
"*College with Potential for Excellence*" *(CPE) Status Accorded by UGC*

Vision

Rooted in the life, vision and teachings of Jesus Christ and inspired by Mother Veronica, the foundress of the Apostolic Carmel, Patna Women's College strives to become a centre of academic excellence in higher education, social responsibility, and empowerment of women.

Mission Statement

Patna Women's College, the first college for women in Bihar, is committed to the holistic development of women so as to make an effective contribution to the creation of a better society.

To this end, we strive

- To become a center of excellence in higher education for women in an atmosphere of autonomy.
- To excel in teaching-learning, research, and consultancy.
- To provide education that promotes capacity building and holistic development of a person.
- To offer subjects for competency building and motivate/animate a workforce imbued with human values.
- To promote patriotism, communal harmony and cultural integration to maintain a free and peaceful atmosphere on the campus.
- To train the students in creative arts, social service, critical thinking, and leadership in order to make an effective contribution to the creation of a new and value-based society.
- To create women leaders and to make them agents of social change.
- To develop skill oriented and value-based courses, for the all-round development of individuals.
- To promote academic exchange and academia-industry interface.
- To form young women who are 'always wise' and who will dare to 'go ahead and conquer knowledge' through, competence, commitment, delicate conscience, and compassion.

M.A. GEOGRAPHY

Programme Outcome (PO)

Upon completion of the Post Graduate programme, the students will be able to achieve the following outcomes:

PO1: **Profound Professional Knowledge:** Obtain proficiency to maneuver in diverse context of the advance subject knowledge.

PO2: **Critical Thinking and Analysis:** Attain the analytical expertise to create, analyse, formulate, and solve challenging problems.

PO3: **Environment and sustainability:** Understand the impact of the scientific solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO4: **Research and Innovation:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5: **Effective Communication:** Demonstrate skills such as effective communication, decision making, problem and adapt ability to create technical writing.

PO6: **Problem Solving:** Understand, interpret, explain, analyse and assess the tools, techniques, models and methodologies to solve problems.

PO7: **Employability:** Demonstrate skills for doctoral, post-doctoral education, professional development and employability.

PO8: **Advance tools and techniques:** Attain ability to work with advanced IT tools and techniques in their domain.

PO9: **Social Consciousness:** Acquire awareness towards gender, environment, sustainability, human values and professional ethics and understand the difference between acting, responding and reacting to various social issues

PO10: Nation Building: Introspect and evolve into dynamic and creative individuals capable of socially productive, constructive actions that positively impact our Nation and the World at large.

Programme Specific Outcome (PSO)

Upon completion of the course, students will be able to:

PSO1: Enhance the in-depth knowledge base regarding different branches of geography, modern and scientific tools, and techniques.

PO2: Apply the knowledge gained, for getting through various competitive examinations, especially in the areas of lectureship and civil services.

PO3: Provide base for scientific and technological fields of Geo-informatics, Population dynamics, Meteorological and Hydrological studies and so on.

PO4: Create quality research ideas and undertake meaningful research based on systematic and scientific techniques.

PO5: Create an amicable and healthy living environment with human values, professional ethics, sustainable development, human rights, and gender sensitization.

PO6: Apply the knowledge gained for successfully getting through various competitive examinations, especially in the areas of lectureship and civil services and to increase their employability in Census, NIEPA, NCERT and Government Planning Section.

SEMESTER – I

M.A. GEOGRAPHY

COURSE OPTED	COURSE CODE	COURSE NAME	CREDITS
CC – 1 (Core Course)	**MGEO-CC101**	Geomorphology	05
CC – 2 (Core Course)	**MGEO-CC102**	Climatology and Oceanography	05
CC – 3 (Core Course)	**MGEO-CC103**	History of Geographical Thought	05
CC – 4 (Core Course)	**MGEO-CC104**	Representation and Analysis of Statistical Data (Practical)	05
AECC – 1 (Ability Enhancement Compulsory Course)	**MAECC101**	Environmental Sustainability Swachcha Bharat Abhiyan Activities	03 02

SEMESTER – II

M.A. GEOGRAPHY

COURSE OPTED	COURSE CODE	COURSE NAME	CREDITS
CC – 5 (Core Course)	**MGEO-CC205**	Regional Planning and Rural Development	05
CC – 6 (Core Course)	**MGEO-CC206**	Environment and Disaster Management	05
CC – 7 (Core Course)	**MGEO-CC207**	Resource and Economic Geography	05
CC – 8 (Core Course)	**MGEO-CC208**	Geography of India	05

CC – 9 (Core Course)	**MGEO-CC209**	Cartographic Techniques (Practical)	05
SEC – 1 (Skill Enhancement Course)	**MGEO-SEC201**	Skill Enhancement Course Tourism and Hospitality Management	05

SEMESTER – III

M.A. GEOGRAPHY

COURSE OPTED	COURSE CODE	COURSE NAME	CREDITS
CC – 10 (Core Course)	**MGEO-CC310**	Quantitative Techniques and Research Methodology	05
CC – 11 (Core Course)	**MGEO-CC311**	Remote Sensing and Geographical Information System	05
CC – 12 (Core Course)	**MGEO-CC312**	Human and Social Geography	05
CC – 13 (Core Course)	**MGEO-CC313**	Land Use and Agriculture Geography	05
CC – 14 (Core Course)	**MGEO-CC314**	Instrument Surveying, GIS and GPS	05
CC – 14 (Core Course)	**MGEO-CC314**	Instrument Surveying, GIS and GPS	05
AECC – 2 (Ability Enhancement Compulsory Course)	**MAECC302**	Human Values and Professional Ethics Gender Sensitization	03 02

SEMESTER – IV

M.A. GEOGRAPHY

COURSE OPTED	COURSE CODE	COURSE NAME	CREDITS
DSE – 1 (Discipline Specific Elective)	**MGEO-DSE401**	A. Urban Geography / B. Political Geography / C. Population Geography / D. Geology of India / E. Settlement Geography / F. Advance Cartography	05
DSE – 2 (Discipline Specific Elective)	**MGEO-DSE402**	Dissertation / Project Work Based on Socio Economic Survey	05
GE – 1 (Generic Elective	**MGEO-GE401**	A. Regional Planning and Rural Development Or B. Geography of Bihar	05

M.A. GEOGRAPHY (SEMESTER – I)

PAPER – MGEO-CC101 (Core Course – 1)

Geomorphology (5 Credits)

Time : 3 Hours (ESE) Full Marks : 100

Marks ESE : 70

CIA : 30 Marks

COURSE OUTCOME

After completion of the course, the students will be able to:

CO1. Remember the process of geomorphic formation of earth features.

CO2. Understand various evolutionary theories providing a concept base of physical geography.

CO3. Understand the geomorphic formation of different physical parts of India.

CO4. Apply the geomorphic concepts and ideas in practical and scientific pursuits.

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

Part – A

Ten objective type Questions – All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit) 10 x 1 = 10 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 6 = 24 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 12 = 36 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 Flood 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 Fluvial Landforms : Arid Landforms

Glacial Landforms

Periglacial landforms

Karst landforms

Unit IV Geomorphic Evolution of :

Chotanapur Highlands

Peninsular India

Shilling plateau

Kashmir Himalayas

Unit V Meaning and Scope of Applied Geomorphology

Application of Geomorphology in engineering projects and oil exploration

Morphometric Analysis of Drainage basin – Stream Order, Sinuosity Index and Drainage Density

CIA ..... 30 Marks

Selected Readings :

1. Williarn, D. Thornbury - Principles or Geomorphology
2. Savindra Singh – Geomorphology, Pravalika Publications, Allahabad.
3. Enayat Ahmed - Geomorphology. 4. P. Dayal- Geomorphology.
5. Alka Gautam- Geomorphology, Sharda Pustak Bhawan, Allahabad.

6. V. K. Sharma - Geomorphology of Earth Surfaces
6. Wooldrige and Morgan - An Outline of Geomorphology
7. R. N. Tikka - Physical Geography
8. P. K. Sea 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. Duly: Our Mobile Earth

PAPER – MGEO-CC102 (Core Course – 2)
Climatology and Oceanography (5 Credits)

Time : 3 Hours (ESE) Full Marks : 100
Marks ESE : 70

CIA : 30 Marks

COURSE OUTCOME

After completion of the course, the students will be able to:

CO1. Develop basic idea about various climatic phenomena of earth's atmosphere.

CO2. Understand the current climate related issues like weather forecasting and climate change consequences.

CO3. Evaluate the geography of ocean and its features.

CO4. Understand the concept and distribution of marine resources.

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

Part – A

Ten objective type Questions – All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit) 10 x 1 = 10 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 6 = 24 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 12 = 36 marks

Unit I Climatology and its Relation with other Sciences
Composition and Thermal Structure of Atmosphere
Heat Budget and Heat Balance

Unit II Airmasses: Characteristics, Classification and Distribution
Fronts, Types of Fronts and associated Weather Conditions
Techniques of Weather Forecasting
Cyclones and Anticyclones

Unit III Theories of climatic change
Global Warming: Causes and Consequences
El-Nino and La-Nina phenomena in Indian context

Unit IV Oceanography:
Bottom Relief or Indian and Atlantic Ocean
Submarine Canyons
Ocean Currents

Unit V Theories of Origin of' Tides
Types of Coral Reef and theories of Coral Reef formation
Ocean Deposits

CIA ..... 30 Marks

Selected Readings :

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

PAPER – MGEO-CC103 (Core Course – 3)
History of Geographical Thought (5 Credits)

Time : 3 Hours (ESE) Full Marks : 100
Marks ESE : 70

CIA : 30 Marks

COURSE OUTCOME

After completion of the course, the students will be able to:

CO1. Analyse the meaning of geography in context to science and social sciences.

CO2. Understand and remember the contributions of ancient and modern scholars in the growth and development of geography.

CO3. Evaluate various theories, concepts and ideologies that have shaped the growth of geography as a discipline.

CO4. Evaluate the contemporary and modern ideas prevalent in the field of geography.

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

Part – A

Ten objective type Questions – All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit) 10 x 1 = 10 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 6 = 24 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 12 = 36 marks

Unit I Place of Geography in Sciences and Social Sciences

Contribution by Greek and Roman Scholars with special reference to Eratosthenes,

Herodotus, Aristotle, Plato, Strabo, Ptolemy

Contribution by Arab scholars

Development of Geographical ideas in Ancient India

Unit II Development of' Geography during 19th century

Concept of' Space – Absolute, Relative and Abstract

Development of Modern Indian Geography: Prospects. Problems and Future

Unit III Positivism and Pragmatism in Human Geography

Paradigms in Geography

Quantitative Geography: Revolution. Merits and Demerits.

Models – Definition and Types

Unit IV Applied Geography

Behavioural Geography

Radical Geography

Humanistic Geography

Unit V Structuralism

Functionalism

Feminism

Post-Modernism

CIA ..... 30 Marks

Selected Readings :

1. Johnston R. and Sidaway J. (1997) Geography and Geographers
2. Richard Pee (l998) Modern Geographical Thought
3. Milton E. Harvey & Brian P. Holly (ed.) (l989): Themes in Geographical Thought
4. D. Harvey (1969) Explanation in Geography

5. R. Doi (2009) Geographical Thought
6. M. Hussain (2004 rep) Evolution 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 Mool Adhar (Hindi)
10. Kaushik (2009) Bhaugolik Chintan avam Bidhitantra (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, AMIJ., Press, Aligarh.
15. Anuchin, V., Directions in Geography.
16. Claval. P., Epistemology and History or 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 Behavioural Geography.
20. Hartshorne, R., (1959) Perspectives on Nature of Geography, Rand Mac Nally.
21. Johnston, R.J.,(1988) The Future of Geography. Methuen. London.

PAPER – MGEO-CC104 (Core Course – 4)
Representation and Analysis of Statistical Data
(5 Credits)

Time : 3 Hours (ESE) Full Marks : 100
Marks ESE : 70

CIA : 30 Marks

COURSE OUTCOME

After completion of the course, the students will be able to:

CO1. Understand the utility and significance of tools and techniques for graphical representation of statistical data.

CO2. Apply different statistical tools in geographical studies.

CO3. Evaluate the significance test to strengthen their argument with facts and Data.

CO4. Apply the knowledge in analysing multifarious data used in social science.

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 mark)

Practical record and viva voce will comprise 10 marks

Unit I Population Data - Dot Map, Proportionate Circle, Spherical Diagram

Unit II Climatic Data- Wind Rose, Foster's Climograph
Interpretation of Weather maps

Unit III Economic Data - Band Graph. Ergograph
Density of Population - Choropleth and Isopleth Method

Unit IV Statistical data - Standard Deviation 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.
4. Cuff, D.J, & Mattson, M.T., Thematic Maps, their Design and Production, Mathuen, New York., 1982.
5. Robinson, A.H. & others., Elements of Cartography. John Willey and Sons, New York (New edition).
6. Archer, J.E., & Dalton, T.H., Fieldwork in Geography, London.
7. National Atlas and Thematic Maps Organization (NATMO): National Atlas of India, Calcutta.
8. Monkhouse, F.J., Maps and Diagrams, Methuen & Co., London, 1967.
9. Mk0 ts0 ih0 'kekZ&iz;ksxkRed Hkwxksy dh :ijs[kk
10- Mk0 prqHkqZt ekeksfj;k ,oa tsíkeytSu&ekufp=kadu ,oa izk;ksfxd Hkwxksy
11*- Mk0 ,e0 ,e0 ih0 flUgk ,oa Mk0 lhekckyk & mPpdkVksZxzkQh
12- Sarkar. A. 2015. Practical Geography: A Systematic Approach, 3rd ed, Orient Blackswan Private Ltd.
13. Singh. R.L.; Singh, RP.B. 2008. Elements of Practical Geography. Kalyani Publishers.

PAPER – MAECC-101 (Ability Enhancement Compulsory Course)

A. Environmental Sustainability (03 Credit)

B. Swachha Bharat Abhiyan Activities (02 Credit)

Time : 2 Hours (ESE) Full Marks : 100

Marks ESE : 50

CIA : 50 Marks

COURSE OUTCOME

After completion of the course, the students will be able to:

CO1. Understand the concept of environmental Sustainability.

CO2. Understand the concept and types of natural resources and environmental pollution.

CO3. Evaluate the anomalies created due to haphazard population growth and its impact on biodiversity and population.

CO4. Understand the concept of Swachha Bharat Abhiyan and importance of cleanliness.

A-Unit- 1 Environmental ethics & ecosystem: Concept of sustainable development with reference to human values in western and Indian perspective, sustainable development & conservation of natural resources (Nature, factors, structure, development, and people participation) development, environment- rural and urban, concept of Ecosystem

A-Unit- 2 Development and its effect on environment: Environment pollution- water, air, noise etc. due to Urbanization, Industrial civilization, Concept of Global Warming, Climate change, Green House Effect, Acid rain, Ozone layer depletion, Menace of encroachment to impact on habit & habitat on indigenous flora & fauna.

A-Unit- 3 Concept of Biodiversity and its conservation: environment; degradation and conservation Govt Policies, Social effects

and role of social reforms in this direction. Role of scientific conservation of environmental concept of Three 'R' (reduce, reuse, recycle). Need of environmental education and awareness programme and ecological economics.

B-Unit- 4 Swachha Bharat Abhiyan: The concept of Swachhata as personal, Gandhiyan approach towards social and environmental moral values & concept of swachhata and its relation to moral Upgradation of society and freedom struggle, Awareness programme related to Swachhata. Role of 'Swachchagrahis' in Swachha Bharat Abhiyan.

Sanitation and hygiene, why sanitation is needed, sanitation and human rights, plantation, values of nature, concept of community participation and role of state agencies. Case study of Sanitation, effects of cleanliness, diseases- infectious and vector- borne ideas of spread of diseases through body and other biological fluids and excreta.

B-Unit- 5 Assignment/ Practical/ field work based on Unit- 4

or

Alternative to unit – 4 and unit- 5, a student can also enrol for Swachha Bharat Internship programme of MHRD

M.A. GEOGRAPHY (SEMESTER–II)

PAPER – MGEO-CC205 (Core Course – 5)

Regional Planning and Rural Development (5 Credits)

Time : 3 Hours (ESE) Full Marks : 100
Marks ESE : 70

CIA : 30 Marks

COURSE OUTCOME

After completion of the course, the students will be able to:

CO1. Understand the basic concept and processes of regional planning.

CO2. Evaluate the approach to the rural planning and development process in the Indian context.

CO3. Apply the planning processes and mechanism in further useful geographical applications and case studies.

CO4. Apply the knowledge to start NGO or Self-Help Group or start-up.

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

Part – A

Ten objective type Questions – All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit) 10 x 1 = 10 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 6 = 24 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 12 = 36 marks

Unit I Regional Planning: Concept, Merits and Limitation

Planning Process – Sectoral, Temporal and Spatial Dimensions

Concept or Planning Region and Methods for Delineation of Regions

Unit II Special Purpose Planning Regions in India:

River Valley Regions

Metropolitan Region

Problem Regions – Hilly Regions, Tribal Regions

Unit III Indicators or Development

Regional disparities in India

Need for Regional Planning in India

Regional Development in India: Problems and Prospects

Unit IV Concept or 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 Socio-Economic Access to Elementary Education and Primary Health Care and Micro Credit

CIA ..... 30 Marks

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 Developmetn and Planning – A Reader, MIT Press, Cambridge Hars.
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, or Mysore, Mysore.
8. Mishra R.P. et.a., 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}: Reinvesting Regional Development, Rawat Publication. Jaipur and N.Delhi
11. JhokLro 'kekZ ,oa pkSgku&izknsf'kd fu;kstu ,oa larqfyr fodkl
12. Singh, K., Rural Development, SAGE

PAPER – MGEO-CC206 (Core Course – 6)
Environment and Disaster Management (5 Credits)

Time : 3 Hours (ESE) Full Marks : 100
Marks ESE : 70

CIA : 30 Marks

COURSE OUTCOME

After completion of the course, the students will be able to:

CO1. Understand the dynamics of environmentalism and related aspects of earth's environment.

CO2. Analyse the current environmental issues and problems.

CO3. Create an awareness regarding environmental hazards and disasters.

CO4. Use the action plan for the mitigation, adaptation and mapping of disasters.

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

Part – A

Ten objective type Questions – All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit) 10 x 1 = 10 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 6 = 24 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 12 = 36 marks

Unit I Meaning and Scope if Environmental Geography, Environmentalism

Ecology and Dynamics of Ecosystem

Types of Ecosystem – Marine and Terrestrial

Unit II Environmental Degradation: Causes and Effects of Pollution

Air Pollution

Water Pollution

Soil Pollution

Unit III Global Warming – Causes and effects

Sea – level changes

Ozone depletion

Climate changes

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 – Examples from India

Mapping the Disasters

CIA ..... 30 Marks

Selected Readings :

1. Gaur. S. and Chandrashekhar. T., 2006, Global Environmental Crisis, Book Enclave, Jaipur.
2. Chandna, R.C. 1995. Environmental Awareness, Kalyani Publishers; New Delhi.
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. Verrna. S. B. and Shiva. K.S. (ed.). 2005. Environmental Protection and Development. Deep Publications. New Delhi.

13. Government of India. (1997) Vulnerability Atlas of India. New Delhi. Building Material & 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 Natural Disaster: Hydrological. Marine and Geological Disasters, Macmillan, Delhi.
16. Singh. R.B. (2005) Risk Assessment and Vulnerability Analysis. IGNOU, New Delhi
17. Singh. R. B. (ed.). (2006). Natural Hazards and Disaster Management: Vulnerability and 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 Perspectives 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.

PAPER – MGEO-CC207 (Core Course – 7)
Resource and Economic Geography (5 Credits)

Time : 3 Hours (ESE) Full Marks : 100

Marks ESE : 70

CIA : 30 Marks

COURSE OUTCOME

After completion of the course, the students will be able to:

CO1. Understand the meaning of resources, and the concepts of resource and economic geography.

CO2. Evaluate the models and theories regarding agricultural location, agricultural regions, industrial location, and international trade.

CO3. Apply the usage of non-conventional energy resources and their management.

CO4. Apply the conservation and protection methods for natural resources, energy means and agricultural produce.

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

Part – A

Ten objective type Questions – All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit) 10 x 1 = 10 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 6 = 24 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 12 = 36 marks

Unit I Meaning and Scope of Economic Geography.

Conservation and Management or Resources with special reference to:

(a) Water Resources

(b) Biotic Resources

Conventional Energy Resources: Coal, Petroleum, their Distribution. Production and Conservation

Non-Conventional Energy Resources and their Management.

Unit II Weber's Model and Smith's Model of Industrial location

Iron and Steel Industry of the World with special reference to China and India

Petro-Chemical Complexes with Reference to India

Unit III Distribution and production or some minerals in the World: Iron Ore. Copper ore and

Atomic minerals

Industrial regions of USA and Japan

Inter-regional and intra-regional trade

Unit IV Agricultural Regions of the World

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

Selected Readings :

1. Alexander. J. W. & Hartshorne, T. A. (1995): Econornic Geography.
2. Hussain Majid, Economic Geography
3. Guha, J.L. & Chattoraj, 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. Brian, J. L. Berry et al.. The Geography of Economic Systems.
7. Bariow, 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.
10. Grigg, D.B., Agricultural systems of the World: An Evolutionary.
11. Lloyd, P. & P. Dickens, Location in Space : A Theoretical Approach to Eco. Geo.

12. Strahler, A.N. & A. Strahler., Geography and Man's Environment.
13. Thoman, R.S. & E.C. Conkling., The Geography of Economic Activity.
14. Thoman, R. "Econ.Geog." in International Encyclopaedia of S. Science.
15. Miller, E. &. E. Willard., A Geography of Manufacturing. .
16. Mc. Carty, H & J.B. Lindbcrg., 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. Hartshon. T.A., Economic Geography.
21. Majid Husain , Economic Geography

PAPER – MGEO-CC208 (Core Course – 8)
Geography of India (5 Credits)

Time : 3 Hours (ESE) Full Marks : 100
Marks ESE : 70

CIA : 30 Marks

COURSE OUTCOME

After completion of the course, the students will be able to:

CO1. Understand the in-depth geography of India – its physical, socio-cultural and economic aspects

CO2. Understand the resource wealth and its application in the national economi growth and development.

CO3. Understand the ethnic and socio-cultural fabric of the country in terms of tribes, culture and language.

CO4. Evaluate the policies and programmes related to agricultural and industrial sectors.

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

Part – A

Ten objective type Questions – All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit) 10 x 1 = 10 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 6 = 24 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 12 = 36 marks

Unit I India : Relief and Structure; Peninsular and Himalayan Drainage

Origin and Mechanism of Indian Monsoon

Soils of India: Their types, Soil Erosion and Conservation

Unit II Forest Resources in India

Sources of Power: Coal, Petroleum and Hydroelectricity,

Non-Conventional Sources of 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 wellbeing: Social well- being and its indicators, Human Development Index (HDI)

Cultural Regions of India

Unit V Spatial distribution of Tribes, Major Linguistic Groups and Ethnicity, Social and Gender Inequality in India

CIA ..... 30 Marks

Selected Readings :

1. Spate O. H. K. & Learmont- Geography or 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., Geology of India and Burma
8. Das, P. K., The Monsoon, New Delhi
9. Wadia. D.N., Geology of India. London
10. चतुर्भुज ममोरिया - भारत का भूगोल
11- चौहान बी0एस0 एवं गोतम अलका - भारत : A Geography of India
12. सिंह ए गोपाल - भारत का भूगोल

PAPER – MGEO-CC209 (Practical) (Core Course-09)
Cartographic Techniques (5 Credits)

Time : 3 Hours (ESE) Full Marks : 100

Marks ESE : 70

CIA : 30 Marks

COURSE OUTCOME

After completion of the course, the students will be able to:

CO1. Remember the representation of mathematical and statistical data with the help of cartographic tools and techniques.

CO2. Understand the significance and relevance of cartograms, cartographic tools and map making in geographical studies.

CO3. Apply the cartographic techniques with accuracy and efficiency for geographical studies and research.

CO4. Articulate the Knowledge of modern cartographic technique.

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 mark)

Practical record and viva voce will comprise 10 marks

Unit I Cartogrars: Hypsographic. Climographic and Altimetric Frequency Curve

Unit II Profiles: Serial. Superimposed. Composite and Projected.
Slope Analysis by: Smith, Henry and Wentworth Methods

Unit III Map Projections: Bome's Mercator's, Sinusoidal, Gall's and International Projection

Unit IV Interpretations of Aerial Photographs, Satellite Imagery
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 Hail, tnc., Englewood Cliff, New Jesy, 1984
4. Cuff, DJ., & Mattson, M.T., Thematic Maps, their Design and Production, Mathuen. New York,1982.
5. Robinson, A.H. & others., Elements of Cartography, John Willey and Sons, New York (New edition).
6. Archer, J.E., & Dation. TH., Fieldwork in Geography, London.
7. National Atlas and Thematic Maps Organization (NATMO): National Atlas of India, Calcutta.

8. Monkhousc. F.J. Maps and Diagrams, Methuen & Co., London. 1967
9. Singh and Singh - Practical Geography
10. Spurs S.H., Photogrammetry & Photo Interpretation, New Delhi., 1960.
11. Stershew, A.I., Aerial Photography.
12. Tomar, M.A. & Maslakar, A.R., Aerial Photographs in Landuse & Forest Survey. Dehra-Dun,
13. Thomas, E.A., Interpretation of Aerial Photographs, Minnesota.
14. !4. Usill, G.W. (Revised by Hearn, G.S.G) Pract. Surveying, London. 1960.
15. White, LP., Aerial Photography & Remote Sensing for Soil Survey.
16. Campbell, James. B., Introduction to Remote Sensing- 2nd Edi. Taylor & Francis, London
17. Platt and Charliner - Simple Geological Structures
18. डा0 जे0 पी0 शर्मा - प्रयोगात्मक भूगोल की रूपरेखा
19-- डा0 पी0 आर0 चौहान - प्रयोगात्मक भूगोल
20- डॉ0 चतुर्भुजमामोरिया एवं जेद्दामलजैन - मानचित्रांकन एवं प्रायोगिक भूगोल
21- डा0 हीरालाल - प्रयोगात्मक भूगोल
22- डा0 एम0 एम0 पी0 सिन्हा एवं डा0 सीमाबाला - उच्चकार्टोग्राफी
23- सिंह जगदीस और बी0 पी0 राव - भौमिकीय मानचित्रों की रूपरेखा

Skill Enhancement Course (SEC) (02 Credits)

SEMESTER – II

Skill Enhancement Courses (SEC) : These courses may be chosen from a pool of courses designed to provide value-based and/or skill-based knowledge.

MGEO SEC201: Tourism and Hospitality Management

PWC Theory: 02 Credits

COURSE OUTCOME

This course will enable the students:

CO1. To understand significance of travel and tourism in the modern times

CO2. To gain knowledge about various types of tourism and various organizations involved in tourism management

CO3. To learn hospitality management in relation to tourism.

CO4. To know about tourism marketing and places of tourist interest.

Unit I **Introduction to Travel and Tourism**

- Meaning, significance and history of travel and tourism
- The tourism industry-its systems, components, infrastructure
- Types of tourism – Ecotourism, Heritage tourism, Medical tourism, Educational tourism-
- Impact of tourism

Unit II **Tourism Organization and Legislation**

Tourism Organization:

- Needs of tourism organization
- International organization
- Government organization
- Private Sector organizations in India
- Private Sector organizations in India
- Non-Government Organizations

Tourism Legislation:

- Laws pertaining to trans-board movements such as visa regulation, customers, foreign exchange, immigration
- Laws related food and beverages
- Laws related to transport
- Laws related to accommodation
- Consumer protection laws related to health, hygiene quality

- Travel & Tourism Department of Government-Central and States: Programmes and Policies

Unit III Hospitality Management

- Customer service skills- importance of customer satisfaction, telephone skills/ communication etiquettes, handling customers complaints, products, products knowledge, knowledge about the places of tourist interest.
- Travel Agent – types of travel agencies, functions of travel agency
- The Tour Operator – types of tour operators, packages tour, guides and escorts
- Formalities and regulations for tourism – Passport and Visa, Health regulations for international travel, Customs Regulations, Emigration and Immigration, Taxes paid by Travelers and Travel Insurance

Unit IV Itinerary planning and Tourism Marketing

- Itinerary planning – basic information for planning the itinerary, resources for planning itinerary, calculation of tour cost
- Tourism marketing – tourism market segmentation, designing a tour brochure, e-marketing, guidelines for tourist
- Places of tourist interest at national and international level for various purposes

Things to do:

- Visit places of tourist interest
- Prepare a list of places of interest in India under each type of tourism
- Prepare a list of tour operators working at local and national level
- Prepare a brochure for a place of tourist interest

References:

1. Kamra, K.K. and Chand, M. (2006) Basics of Tourism – Theory, Operation and Practice, Kanishka Publishers, New Delhi
2. Pur, I M. and Chand, G. (2006). Tourism Management, Pragun Publications. New Delhi

M.A. GEOGRAPHY (SEMESTER - III)

PAPER – MGEO-CC310 (Core Course – 10)

Quantitative Techniques and Research Methodology (5 Credits)

Time : 3 Hours (ESE) Full Marks : 100

Marks ESE : 70

CIA : 30 Marks

COURSE OUTCOME

After completion of the course, the students will be able to:

CO1. Understand the steps and techniques of social science research.

CO2. Understand the importance of quantitative tools and techniques in geographical research.

CO3. Apply and implement the correct methodology for a quality research work.

CO4. Create their own research ideas using proper methods and quantitative tools.

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

Part – A

Ten objective type Questions – All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit) 10 x 1 = 10 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 6 = 24 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 12 = 36 marks

Unit I Quantitative Methods in Geography: Merits and limitations, Research types and Methodology, Research Problems and Research Design, 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 't' Test

Unit IV Correlation Coefficient Techniques-Pearson and Spearman, Simple Linear Regression Analysis. Analysis of Variance (ANOVA), Multivariate Analysis-Importance and its Application

Unit V Models and Analogue, Types of Model, Gravity Potential Model, Population Potential Model

CIA ..... 30 Marks

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

Selected Readings :

1. Mahmood, Aslam, "Statistical Methods for Geographical Studies"
2. Koshari, K.C., " Research Methodology in Social Science"
3. Suleman, M., Research Techniques and Methods in Social Sciences
4. Adhikari, S. (2005): Fundamentals of Geographical Thought, Allahabad
5. Chorley. R.J. & Haggelt, P. (ed.) (1967): Models in Geography, London
6. Hartshorne. R. (1994 Indian Print): The Nature of Geography, Jaipur, Rawat Publication
7. Harvey: Explanation in Geography

8. Kaushik D., S.D. (2001) Bhougolik 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, I.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.

PAPER – MGEO-CC311 (Core Course – 11)
Remote Sensing and Geographical Information System (5 Credits)

Time : 3 Hours (ESE) Full Marks : 100
Marks ESE : 70

CIA : 30 Marks

COURSE OUTCOME

After completion of the course, the students will be able to:

CO1. Understand the significance of Remote Sensing in geographical studies.

CO2. Understand the mechanism and stages of Remote Sensing – the platforms, sensors and resolutions.

CO3. Apply the GIS tool for geo-referencing, land information system, urban and disaster management.

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

Part – A

Ten objective type Questions – All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit) 10 x 1 = 10 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 6 = 24 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 12 = 36 marks

Unit I Meaning and Definition of Remote Sensing, Historical Development, Significance and Utility of Remote Sensing in Geography.

Unit II Remote Sensing Platform, 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 or GIS, Elements of GIS, Raster Vs. Vector Data structure, Nature and Source of Data, Projection and Georeferencing, Digital cartography.

Unit V G.P.S. :- Concept and Applications. Application of Remote Sensing and GIS : Land Information System, Urban Management and Disaster Management.

CIA ..... 30 Marks

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. Devidatt Chauniyal, Sudoor Samvedanevam Bhaugolik Soochna Pranali.
9. Siddiqui, An Introduction to Geographical Information System.
10. American Society of Photogrammetry: Mannual of Photographic Interpretation, Banta Pub. Co., Wisconsin. 1960
11. Barett. 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 Photographic, Mc Graw Hill, N.Y., 1960.
14. Luder, D., Aerial Photography Interpretation: Princ. and Appl., McGraw Hill, New York., 1959.
15. Lilles & Kiefer, Remote Sensing & Image Interpretation.
16. Reeves, R.G. (Ed.) Mannual of Remote Sensing (Vol. 2), Virginia, 1975.
17. Smith, H.T.V., Aerial Photographs & their Applications, New Your, 1943.
18. Spurs S.H., Photogrammetry & Photo Interpretation, New Delhi., 1960.
19. Stershew, A.L., Aerial Photography.
20. Tomar, M.A. & Maslakar, 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.

PAPER – MGEO-CC312 (Core Course – 12)
Human and Social Geography (5 Credits)

Time : 3 Hours (ESE) Full Marks : 100
Marks ESE : 70

CIA : 30 Marks

COURSE OUTCOME

After completion of the course, the students will be able to:

CO1. Understand the concept and approaches to human geography and human settlement.

CO2. Evaluate the processes, pattern, and composition of world population.

CO3. Evaluate the conceptual aspects of social geography and the related concepts.

CO4. Apply the human and social patterns to socio-cultural transformation and uplifting quality of social life.

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

Part – A

Ten objective type Questions – All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit) 10 x 1 = 10 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 6 = 24 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 12 = 36 marks

Unit I Meaning, Definition and Scope of Human Geography

Approaches to Human Geography, Critical Human Geography Growth, Distribution and Density of World's Population

Migration: Causes and Con equcnccs

Unit II Human Settlement : Types and Patterns of' Rural Settlements.

Processes and Pattern of Urbanization in the World. (Urbanization and Related problem)

Age and Sex Composition of the World Population

Occupational Structure of the World Population

Unit III Meaning and Scope: of Social Geography

Cultural Evolution of Man

Major Human Races in the World- Negroid, Mongoloid. Caucasoid

Major World Religions: Their Origin, Diffusion 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 l.ife and its Spatial Pattern

Globalization and Social Transformation.

Unit V Recent Changes in Urban and Rural Social Life in India,

Panchayati Raj Institution and Social Transformation in India,

Social Ecology and Social Media in India.

CIA ..... 30 Marks

Selected Readings :

1. An Introduction to Social Geography, Emery Jones and John Eyles

2. Culture Geography - Mike Crang
3. Sociology and Social Anthropology – M.S. Goal
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. Knox, S.A. Marston
10. International Encyclopaedia 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 Publication, New Delhi
13. सांस्कृतिक भूगोल - श्रीकान्त दीक्षित एवं रामदेव त्रिपाठी, वसुन्धरा प्रकाशन, गोरखपुर
14. सामाजिक भूगोल - डॉ0 एस0 डी0 मौर्य
15. सांस्कृतिक भूगोल - इन्दिरा सिंह, युनिवर्सिटी पब्लिकेशन, नयी दिल्ली
16. सांस्कृतिक भूगोल - गायत्री प्रसाद

PAPER – MGEO-CC313 (Core Course – 13)
Land Use and Agriculture Geography (5 Credits)

Time : 3 Hours (ESE) Full Marks : 100
Marks ESE : 70

CIA : 30 Marks

COURSE OUTCOME

After completion of the course, the students will be able to:

CO1. Understand the meaning, concept and scope of land use and agricultural geography.

CO2. Understand and remember the models and classifications of land use of India and some other countries.

CO3. Evaluate the agricultural systems and patterns of the world with special reference to India.

CO4. Evaluate the modern agricultural technology, agricultural policies, and emerging problems.

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

Part – A

Ten objective type Questions – All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit) 10 x 1 = 10 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 6 = 24 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 12 = 36 marks

Unit I Meaning and Scope of Landuse and Agricultural Geography
History of Landuse survey
Model of l.anduse : Von Thunen, Jonassan
Major Land Reforms in India

Unit II Landuse classification of India
Landuse pattern in India
Land capability classification
Planning of Landuse in India

Unit III Fundamental concept of Agriculture Geography
History of Agriculture Geography

Factors influencing Agricultural Pattern

Agricultural Systems of the world

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

CIA ..... 30 Marks

Selected Readings :

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

PAPER – MGEO-CC314 (Core Course – 14)

Instrumental Surveying, GIS and GPS (5 Credits)

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.

COURSE OUTCOME

After completion of the course, the students will be able to:

CO1. Understand the importance and use of field survey methods of geography.

CO2. Apply the survey instruments for preparation of ground plans and profiles.

CO3. Apply the digital methods of geo-referencing and map preparation

CO4. Prepare scientific and technically sound digital maps and plans using GIS/ GPS

Unit I Survey by 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 or Base line and its extension
Formation of Polygon

Unit III Georeferencing using GIS Map Registration using MIS

Unit IV Digitisation and Map Preparation using GIS Surveying through hand held GIS

Unit V Practical Record and Viva-Voce

CIA ..... 30 Marks

Note: Departments are requested to introduce open source software like Q GIS

Selected Readings :

1. M. M.P. Singh & Seema Bala – Advanced Cartography
2. Kanetkar – Surveying and leveling Vol. I & II
3. Punamia – Surveying Vol. I, II & III
4. J.P. Sharma – Hkwxksy dh :ijs[kk
5. Punmia, B.C., Surveying 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.
9. Kanetkar, T.P., Kulkatni, 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., 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., Sing, 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 Modelling, Prentice Hall

PAPER – MAECC-302 (Ability Enhancement Compulsory Course)

A. Human values and professional Ethics (3 credits)

B. Gender Sensitization (2 credits)

COURSE OUTCOME

After completion of the course, the students will be able to:

CO1. Understand the importance of human values and professional ethics for their overall personality development

CO2. Infer the sociological, psychological and constitutional perspectives of gender

CO3. Apply the values of peace, harmony, morality, ethics, empathy, integrity and courage in their lives

CO4. Develop the understanding of human and gender specific rights

Unit I **Variety of Moral Issues, principals of Ethics and Morality:** Understanding the harmony in the society (society being an extension of family), Integrity, Work ethics, Courage, Empathy, Self Confidence, Professional Ideas and Virtues, Ethics as a Subset of Morality, ethics and Organizations, Duties and Rights of employees and employers.

Unit II **Holistic approach to corporate ethics:** Vendantic ethics- Tagore, Vivekananda, Gandhi and Aurobondo on ethics, Ethics in Finance, Business and Environment, Professional Rights, Intellectual property rights, Corporate responsibility, Social Audit and Ethic Investing, Computer and Ethics.

Unit III **Professional Ethics:** Augmenting Universal Human Order, Characteristics of people- friendly and eco-friendly production, Strategy for Transition from the Present state to Universal Human Order, At the level of Individual- as Socially and Ecologically Responsible Technologists and managers, at the Level of Society- as Mutually Enriching Institutions and organizations. case studies of typical holistic technologies and management patterns.

Unit IV **Gender- An overview:** Gender: Definition, nature and evolution, culture, tradition, histocrity, Gender spectrum: biological sociological , psychological conditioning, Gender based division of labour- domestic work and use value.

Unit V **Gender- Contemporary perspectives:** Gender justice and human rights: international perspectives, Gender: constitutional and legal perspectives, media and gender, Gender: emerging issues and challenges.

M.A. GEOGRAPHY (SEMESTER – IV)

PAPER – MGEO-DSE401 (Discipline Specific Elective -01)

A. Urban Geography (5 Credits)

Time : 3 Hours (ESE) Full Marks : 100

Marks ESE : 70

CIA : 30 Marks

COURSE OUTCOME

After completion of the course, the students will be able to:

CO1. Understand the meaning and scope of urban geography and functions of urban centres.

CO2. Understand the various concepts related to urban geography such as urban ecology, urban systems, urban morphology, City Region, umland and urban fringes.

CO3. Evaluate theories presented in the fields of urban land use.

CO4. Apply the knowledge into policy formulation for urban planning, slum improvement, eradication of urban poverty and development of smart cities.

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

Part – A

Ten objective type Questions – All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit) 10 x 1 = 10 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 6 = 24 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 12 = 36 marks

Unit I Definition and Scope or 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 Ulllman

Concept and characteristic of CBD

Conurbation, Urban Agglomeration in context of India

Unit IV Trend of Urbanization in India and the World

Concept of City region

Concept of Umland

Rural urban fringe

Unit V Urban problems with reference to slums

Urban poverty

Urban planning policies in India

Smart city concept

CIA ..... 30 Marks

Selected Readings :

1. Carter, H. (1972) The Study of Urban Geography, Arnold Heinemann
2. Geddes, P. (1968) Cities in Evolution, Benn Publication
3. Hall. P. (1992) Urban & Regional Planning, Routledge, London
4. Johnson, J. (1972) Urban Geography: An introductory Analysis, Germ Area

5. Mayer & 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-secundarabad Twin Cities, Asia Publishing House, Bombay.
10. Berry, B.J.L and Horton, F.F., 1970, Geographic perspectives on Urban System, Prentice Hall, Englewood Cliff, New Jersy.
11. Dickinson, R.E., 1964., City and Region, Routledge, London.
12. Gibbs, J.P., Urban Research Methods, New Jersey, 1961.
13. Sarkar Ghose(2019), 'Urban Poverty and Deprivation,', Rajesh Publications, New Delhi.
14. M. Rashmi, Sarkar Ghose & Chowdhury(ed), (2013)'Urban Poverty: Issues and Challenges, Rajesh Publications, New Delhi.
15. M. Rashmi, Sarkar Ghose D & Chowdhury A (ed) (2017) 'Development and management of Urban Infrastructure in India', Rajesh Publications, New Delhi.

PAPER – MGEO-DSE401 (Discipline Specific Elective -01)

B. Political Geography (5 Credits)

Time : 3 Hours (ESE) Full Marks : 100

Marks ESE : 70

CIA : 30 Marks

COURSE OUTCOME

After completion of the course, the students will be able to:

CO1. Understand the concepts and theories related to political geography, its approaches, and functional aspects.

CO2. Understand the global political strategies, geo-political issues, and nation- state dynamics in the context of world political order.

CO3. Apply the geo-political ideas for thinking on the lines of inter-state water disputes, border issues, regionalism problems etc.

CO4. Comprehend the knowledge as political analyst in electronic or print media.

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

Part – A

Ten objective type Questions – All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit) 10 x 1 = 10 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 6 = 24 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 12 = 36 marks

Unit I Meaning and scope of Political Geography:
Approaches to Political Geography: Functional and Unified Field Theory Approaches Geopolitics: Classical Geopolitics and Critical Geopolitics

Unit II Geopolitical World Order: Origin and Cessation of cold war:
Global Strategic Views: H.J. Mackinder. N.G. Spykman.
Geopolitics of Asia-Pacific

Unit III Concept of Nation and State
Land-Locked States
Frontiers and Boundaries
Maritime Boundaries

Unit IV Changing Political map or India: State re-organization
Geographical Bases of Indian Federalism
River water Disputes – International and National

Unit V Sino-Indian Border Dispute Kashmir Problem

Geopolitics of Indian Ocean: Sino Indian Rivalry Regionalism in India

Geopolitical codes of India

CIA ..... 30 Marks

Selected Readings :

1. John R. Stuart (1982) – An Introduction to Political Geography
2. Richard Muir (1995) – Modern Political Geography
3. Bergman K. Edward (1975) – Modern Political Geography
4. Luclie 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. I.M- Alexander (1963) – World Political System
8. P.J. Taylor & C. Flint: (2004 India. Ed) – Political Geography
9. R.D. Dikshit (1982) – Political Geography
10. S. Adhikari (1997) – Political Geography
11. B.L. Sukhwal (1985) – Modern Political Geography of India
12. S. Adhikari (2008) – Political Geography of India: A contemporary Perspective.
13. G. Parkar (1998) – Geopolitics: Past, Present and Future.
14. S.K. Dikshit (2006) – Political Geography and Geo-politics
15. Hari Mohan Saxsena (2009) – Political Geography
16. S. Adhikari and Ratan Kumar (2010) – Political Geography

PAPER – MGEO-DSE401 (Discipline Specific Elective -01)
C. Population Geography (5 Credits)

Time : 3 Hours (ESE) Full Marks : 100
Marks ESE : 70

CIA : 30 Marks

COURSE OUTCOME

After completion of the course, the students will be able to:

CO1. Understand the nature and growth of population geography.

CO2. Evaluate the growth, distribution, composition, and migration of population in Indian context.

CO3. Apply the theories of population growth and demographic transition into current circumstances.

CO4. Apply the dynamics of population in determination and measurement processes of fertility, mortality, migration, and urbanization.

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

Part – A

Ten objective type Questions – All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit) 10 x 1 = 10 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 6 = 24 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 12 = 36 marks

Unit I Nature and Scope of Population Geography,

Historical development of Population Geography. Relationship with Demography.

Sources of Population Data: The Census, vital registration and other sources.

Unit II Population distribution, growth and determinants: Pre-historic, ancient, medieval and modern period;

Theories of Population Growth: Malthus, Marx and Demographic Transition

Unit III Population Dynamics: Fertility-measurement; Mortality measurement, determinants and distribution; Migration: Brief history, trends and pattern or international migration, migration in India, Indian Diaspora.

Unit IV Population Regions: Typology or 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 ..... 30 Marks

Selected Readings :

1. Chandana. R.C. – A Study in Population Geography
2. Ghosh, B.N. – Population Geography
3. Hiralal – Jansankhya Bhoogol
4. Bhende and Kantkar – 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., H., 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.I., Population Geography, Rawat Pub, Jaipur, 2008.
12. Jhingan M.I., 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. Co. New Delhi-2007.
15. Nayrta 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. I Poston, Jr D.L., and Bouvier 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. Sriniwas, K. Basic Demographic Techniques and Applications, Sage Pub, New Delhi. 1998.
21. Trewartha, G.T., A Geography of Population: World Patterns, N.Y, 1969.

PAPER – MGEO-DSE401 (Discipline Specific Elective -01)
D. Geology of India (5 Credits)

Time : 3 Hours (ESE) Full Marks : 100
Marks ESE : 70

CIA : 30 Marks

COURSE OUTCOME

After completion of the course, the students will be able to:

CO1. Understand the scope and functions of geology in context to stratigraphic scales.

CO2. Evaluate the geological history and lithology of different physical sections of India.

CO3. Evaluate the geological classifications of rock formations, minerals, and energy resources of India.

CO4. Apply the knowledge in higher studies and specialized knowledge.

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

Part – A

Ten objective type Questions – All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit) 10 x 1 = 10 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 6 = 24 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 12 = 36 marks

Unit I Definition, scope and function of Geology, Principles of correlation. Standard Stratgraphic 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 or the following minerals with special reference to India – Iron ore, Mica, Bauxite and Copper .

Unit IV Classification mode of occurrence and distribution or energy resources in India: Coal, Petroleum, Uranium and Thorium

Unit V Rocks and mineral association, form, structure and classification of igneous rocks, Origin and types of sedimentary rocks, Process of metamorphism, Types and characteristics of metamorphic rocks.

CIA ..... 30 Marks

Selected Readings :

1. Wadia, D.N. – Geology of India
2. Mukherjee, P.K. – Psysical Geology
3. D.P. Singh – Hkkjr dk HkwoSKkfud ifjp;
4. Mehar D. N. Wadia – Minerals of India
5. Gokhale and Rao – Minerals of India
6. Platt and Charliner – Simple Geological Structures
7. Karna, N.N. – सरल भूवैज्ञानिक संरचनाएँ
8. Singh, Jagdish & B.P. Rao – भौमिकीय मानचित्रों की रूपरेखा

PAPER – MGEO-DSE401 (Discipline Specific Elective -01)
E. Settlement Geography (5 Credits)

Time : 3 Hours (ESE) Full Marks : 100
Marks ESE : 70

CIA : 30 Marks

COURSE OUTCOME

After completion of the course, the students will be able to:

CO1. Understand the meaning of settlement geography and development of settlements.

CO2. Evaluate the evolution, types, characteristic features, morphology and problems of rural settlements.

CO3. Evaluate the locations, functions, morphology and problems of urban settlements.

CO4. Apply the knowledge base in the settlement planning process for rural and urban areas.

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

Part – A

Ten objective type Questions – All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit) 10 x 1 = 10 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 6 = 24 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 12 = 36 marks

Unit I Meaning and Scope of Settlement Geography
Development of Settlement Geography in India
Evolution of Settlement in the Middle Ganga Valley
Types or Rural settlement in India

Unit II Old Sites of Settlements and Nomenclature
Development of Different forms of Rural settlements
Morphological features of Rural Settlements
Problems of rural settlements

Unit III Rural house types in different geographical environment in India
Rural Urban continuum
Rural Service centres
Hierarchy of settlements

Unit IV Locational and functional features or urban settlements
Morphological features of Indian cities
Problems of Indian urban centres
Problems of slums in India

Unit V Planning of Rural settlements
Planning of urban settlements
Metropolitan region
Planned urban centres of India

CIA ..... 30 Marks

Selected Readings :

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

PAPER – MGEO-DSE401 (Discipline Specific Elective -01)
F. Advance Cartography (5 Credits)

Time : 3 Hours (ESE) Full Marks : 100
Marks ESE : 70

CIA : 30 Marks

COURSE OUTCOME

After completion of the course, the students will be able to:

CO1. Understand the principles of cartography for map making and field surveys.

CO2. Understand the techniques of photogrammetry and aerial photography.

CO3. Apply the computer-based cartography in preparation of thematic maps.

CO4. Apply the remote sensing techniques for interpretation of satellite imageries.

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

Part – A

Ten objective type Questions – All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit) 10 x 1 = 10 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 6 = 24 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 12 = 36 marks

Unit I Brief history of cartography and its present status;

Fundamentals or 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); Gnomomic 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 scale' or aerial photograph s, Interpretation of aerial photographs.

Unit V Brief history of satellite remote sensing:

Concept of remote sensing; Development of remote sensing in India.

Elements or the interpretation of satellite imageries,

CIA ..... 30 Marks

Selected Readings :

1. 1. F. J. Monkhous - 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. Punmia, 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. Maltiar. K.K. and Maltiar, S.R. – Concept or Cartography, Remote Sensing and G.I.S. – Rajesh Publication, New Delhi

8. Devis. R.E., Foote, F.S. and Kelly, J.W. - Surveying : Theory and Practice
9. Misra, R. P., Singh, R. B. Misra, 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. Venkatramaiah. C. - Textbook of Surveying, Universities Press, Hyderabad
12. Joseph. Gcorge – Fundamentals of Remote Sensing. Universities Press, Hyderabad
13. Fazal. S. Remote Sensing Basics. Kalyani Publishers. Ludhiana
14. Lillesand. T.M. Kiefer. R. W. and Chipman. J. W. Remote Sensing and Image Interpretation, Wilev India Pvt. Ltd.. New Delhi

PAPER – MGEO-DSE402 (Discipline Specific Elective -02)
Dissertation / Project Work (5 Credits)

Full Marks : 100
ESE : 70

CIA : 30 Marks

COURSE OUTCOME

After completion of the course, the students will be able to:

CO1. Understand the methodology and design of social science research.

CO2. Understand and learn the techniques of data collection, sampling, and household surveys.

CO3. Evaluate and interpret the primary data with cartographic/ statistical treatment.

CO4. Create and prepare a detailed report in the form of dissertation.

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 70 marks, out of which, 45 marks will be on a written test and 25 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 commencement of the semester examination.

Unit I Procurement of a topographic map or 1:50,000 to 1:25,000 scale to study the settlements selected in its regional setting.

Unit II Collection of demographic, social & economic data of the village/town from Census Reports to study the temporal changes in the profile of such characteristics

Unit III Selection or sampling site, defining sampling size, and conducting socio-economic survey at households level with a self- structured questionnaire and supplementing the information by personal observations and perceptions.

Unit IV Based on results of the 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 may supplement the report.

CIA ..... 30 Marks

Selected Readings :

1. 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 Graw Hill, New York.

PAPER – MGEO-GE401 (Generic Elective -01)

A. Regional Planning and Rural Development (5 Credits)

Time : 3 Hours (ESE) Full Marks : 100

Marks ESE : 70

CIA : 30 Marks

COURSE OUTCOME

After completion of the course, the students will be able to:

CO1. Understand the basic concept and processes of regional planning.

CO2. Evaluate the approach to the rural planning and development process in the Indian context.

CO3. Apply the planning processes and mechanism in further useful geographical applications and case studies.

CO4. Apply the knowledge to start NGO or Self-Help Group or start-up.

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

Part – A

Ten objective type Questions – All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit) 10 x 1 = 10 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 6 = 24 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 12 = 36 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 Regions, 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 Socio-Economic Access to Elementary

Education and Primary Health Care and Micro Credit

CIA ..... 30 Marks

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 Hars.
5. Glasson, 1980, Regional Planning, Hutchinson, London.
6. Glikson, A., 1955, Regional and Development, Netherlands, University 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. JhokLro 'kekZ ,oa pkSgku&izknsf'kd fu;kstu ,oa larqfyr fodkl
12. Singh, K., Rural Development, SAGE

PAPER – MGEO-GE 401 (Generic Elective -01)
B. Geography of Bihar (5 Credits)

Time : 3 Hours (ESE) Full Marks : 100
Marks ESE : 70

CIA : 30 Marks

COURSE OUTCOME

After completion of the course, the students will be able to:

CO1. Understand the physical characteristics of Bihar.

CO2. Comprehend the climatic variations of the State.

CO3. Analysis the Flood and Drought problems of the State.

CO4. Evaluate the current scenario of agriculture, industries and population of the State..

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

Part – A

Ten objective type Questions – All questions to be answered (Questions shall be selected from the whole syllabus preferably two questions from each unit) 10 x 1 = 10 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 6 = 24 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 12 = 36 marks

Unit I Historical Account of Bihar as a State.

Geological Formation and Landforms, Physiographic Divisions, Drainage, Soils River Valley Projects: Gandak, Kosi and Sone

Unit II Climate: Regional Variation in Rainfall and Temperature, Seasonal Variation of Rainfall and Temperature

Flood and Drought Prone Areas, Wet Land Areas

Unit III Landuse and Agriculture: l.anduse Pattern, Agricultural Infrastructure, Agricultural Seasons, Food Crop, Cash Crop, Development and Prospect of Horticulture, Aqua- culture, Floriculture, Herbal Plants, Pisciculture, Agricultural Regions

Unit IV Industries: Agro Based Industries, Small and Cottage Industries,

Prospects of Food and Fruit Processing Industries. Industrial Regions

Unit V Population and Settlement: Population Attributes- Growth, Distribution, Occupation, Age and Sex Ratio

Evolution of Settlement : Types and Pattern,

Morphological Features, Rural Dwellers

CIA ..... 30 Marks

Selected Readings :

1. M.S. Pandey – Historical Geography and Topography of Bihar
2. Ahmed, E. – Bihar- Physical, Economic and Regional Geography
3. Sinha, VNP and Nazim Md. – Bihar: Land People
4. Sharma. N. – Bihar ka Bhugol (Hindi)

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