Appendix- IV

University of Rajasthan
Jaipur

SYLLABUS

Three / Four Year Bachelor of Social Science/Science in Geography

B. A. (UG 9104)

B.A./B.Sc. III & IV Semester

(2024-25)

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Syllabus

Three/ Four Year Bachelor of Social Science/Science in Geography

B. A. (UG 9104)

(2024-25)

SEMESTER WISE PAPER TITLES WITH DETAILS

Three/ Four Year Bachelor of Arts in Geography									
S. No.	**Level**	**Semester**	**Type**	**Title**	**Credits**				**Contact Hours**
					L	**T**	**P**	**Total**	
1.	**6**	**III**	**MJR**	**GEO-63T-251** Human Geography	**4**	**0**	**0**	**4**	**4**
2.	**6**	**III**	**MJR**	**GEO-63T-252** World Regional Geography	**4**	**0**	**0**	**4**	**4**
3.	**6**	**III**	**MJR**	**GEO-63P-253** Practical-V	**0**	**0**	**2**	**2**	**4**
4.	**6**	**III**	**MJR**	**GEO-63P-254** Practical-VI	**0**	**0**	**2**	**2**	**4**
5.	**6**	**IV**	**MJR**	**GEO-64T-255** Geography of India	**4**	**0**	**0**	**4**	**4**
6.	**6**	**IV**	**MJR**	**GEO-64T-256** Agricultural Geography	**4**	**0**	**0**	**4**	**4**
7.	**6**	**IV**	**MJR**	**GEO-64P-257** Practical-VII	**0**	**0**	**2**	**2**	**4**
8.	**6**	**IV**	**MJR**	**GEO-64P-258** Practical-VIII	**0**	**0**	**2**	**2**	**4**

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Syllabus

GEO-63T-251 - Human Geography

Code of Course	Title of the Course	Level of the Course	Credits of the Course
GEO-63T-251	Human Geography	6	4
Types of the Course	**Delivery type of the Course**		
Major	Lecture, 60 Lectures including diagnostic and formative assessments during lecture hours		
Prerequisites	Central Borad of Secondary Education or Equivalent		
Objectives of the Course	To attain knowledge in detail about Human geography and associated branches		

Duration- 3 Hours

Max. Marks- 20+80
Min. Marks- 8+32

Pattern of Examination	Bifurcation of Marks
Part A	10 × 2= 20
Part B	15 × 4=60
Total	**80**

Note:

1. *Internal assessment will be as per University Norms.*
2. *End Semester Examination question paper will comprise of two parts: Part A and Part B.*
3. *Part A will comprise of TWO questions consisting Map Work and Multiple-Choice Questions (MCQs)/ Short Answer type questions.*
4. *Part B will comprise of FOUR descriptive questions with Internal choice from each unit.*
5. *In all student will have to attempt total 6 questions, 2 questions from Part A and 4 questions from Part B.*

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Syllabus

Unit I

Human Geography: Definition, Nature, Scope and Principles. Inter-disciplinary approach. Understanding of Cultural landscape, Man- Nature Relationship: Determinism, Possibilism, Neo-Determinism.

मानव भूगोलः परिभाषा, प्रकृति, क्षेत्र और सिद्धांत। अंतःविषय दृष्टिकोण। सांस्कृतिक परिदृश्य की समझ, मानव–प्रकृति संबंध: निश्चयवाद, संभववाद, नव–निश्चयवाद।

Unit II

Cultural regions; Race (Griffith Taylor's Classification), Tribes-Eskimo, Bushman, Pygmy, Santhal, Nagas, Bhil. Religious and Linguistics composition of World Population.

सांस्कृतिक क्षेत्र; जाति (ग्रिफिथ टेलर का वर्गीकरण), जनजातियाँ–एस्किमो, बुशमैन, पिग्मी, संथाल, नागा, भील। विश्व जनसंख्या की धार्मिक और भाषाई संरचना।

Unit III

World Population: Growth, Distribution, Density, Sex-Ratio and Literacy. Population Growth Theory (Malthusian and Demographic Transition Theory). Human Development Index (HDI).

विश्व जनसंख्याः वृद्धि, वितरण, घनत्व, लिंग–अनुपात और साक्षरता। जनसंख्या वृद्धि सिद्धांत (माल्थस व जनसांख्यिकीय संक्रमण सिद्धांत)। मानव विकास सूचकांक (एचडीआई)।

Unit IV

Factors, Types and Consequences of Migration, Griffith Taylor's Migration Theory. Trends and Patterns of Urbanisation of the World. Settlements- Types and Patterns. Christallers's Central Place Theory.

प्रवसन के कारक, प्रकार और परिणाम, ग्रिफिथ टेलर का प्रवसन सिद्धांत। विश्व के नगरीकरण की प्रवृतियाँ और प्रारूप। बस्तियाँ– प्रकार और प्रारूप। क्रिस्टालर्स का केंद्रीय स्थान सिद्धांत।

Recommended Readings:

- Bergwan, Edward E. (1995). Human Geography: Culture, Connections and Landscape. New Jersey: Prentice-Hall.
- Carr, M. Patterns. (1987). Process and change in Human Geography. London: MacMillan Education.
- Chandna, R.C. (2010). Population Geography. New Delhi: Kalyani Publisher.
- DeBlij, H.J. (2000). Human Geography, Culture, Society and Space. New York: John Wiley.
- Fellman, J.L. (1997). Human Geography: Landscapes of Human Activities. USA: Brown and Benchman Pub.
- Hassan, M.I. (2005). Population Geography. Jaipur: Rawat Publications.

- Hussain, Majid (2012). Manav Bhugol. Jaipur: Rawat Publications.
- Johnston, R.J. (2000). Dictionary of Human Geography. New York: Oxford.
- Kaushik, S.D. (2010). Manav Bhugol. Meerut: Rastogi Publication.
- Maurya, S.D. (2012). Manav Bhugol. Allahbad: Sharda Pustak Bhawan.
- McBride, P.J. (2000). Human Geography Systems, Patterns and Change. U.K.
- Michael, Can. (1997). New Patterns: Process and Change in Human Geography.
- Singh, K.N. (2000). People of India. An Introduction Seagull Books.

Course Learning Outcomes:

By the end of the course, students will be able to:

1. Identify branches of human geography and distinguish between the different concepts of man environment relationship.
2. Classify the different tribes of the world and use various factors to interpret the spatial distribution of population.
3. Visualize the various patterns of migration, settlements and summarize the major problems of urbanisation in World.

GEO-63T-252 - World Regional Geography

Code of Course	Title of the Course	Level of the Course	Credits of the Course
GEO-63T-252	**World Regional Geography**	6	4
Types of the Course	**Delivery type of the Course**		
Major	Lecture, 60 Lectures including diagnostic and formative assessments during lecture hours		
Prerequisites	Central Borad of Secondary Education or Equivalent		
Objectives of the Course	To attain knowledge in detail about the continents of Asia, Europe and North America.		

Duration- 3 Hours **Max. Marks- 20+80**

Min. Marks- 8+32

Pattern of Examination	Bifurcation of Marks
Part A	10 × 2= 20
Part B	15 × 4=60
Total	**80**

Note:

1. *Internal assessment will be as per University Norms.*

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2. *End Semester Examination question paper will comprise of two parts: Part A and Part B.*
3. *Part A will comprise of TWO questions consisting Map Work and Multiple-Choice Questions (MCQs)/ Short Answer type questions.*
4. *Part B will comprise of FOUR descriptive questions with Internal choice from each unit.*
5. *In all student will have to attempt total 6 questions, 2 questions from Part A and 4 questions from Part B.*

Syllabus

Unit-I

Region: Concept and Classification, Major Physiography Regions, World Climatic Regions, Soil and Vegetation.

क्षेत्रः अवधारणा और वर्गीकरण, प्रमुख भौतिक भूगोल क्षेत्र, विश्व जलवायु क्षेत्र, मिट्टी और वनस्पति।

Unit -II

Asia: Physiography, Drainage, Climate, Natural Vegetation, Soil, Population
Major Economic Aspects- Crops (Rice, Wheat, Tea, Sugarcane), Minerals (Iron Ore, Coal, Petroleum)
Industrial Regions- China, Japan
Specific Study- Trans-Siberian Railways

एशियाः भूआकृति, जल निकासी, जलवायु, प्राकृतिक वनस्पति, मिट्टी, जनसंख्या

प्रमुख आर्थिक पहलू– फसलें (चावल, गेहूं, चाय, गन्ना), खनिज (लौह अयस्क, कोयला, पेट्रोलियम)

औद्योगिक क्षेत्र– चीन, जापान

विशिष्ट अध्ययन– ट्रांस–साइबेरियन रेलवे

Unit-III

Europe- Physiography, Drainage, Climate, Natural Vegetation, Soil, Population
Major Economic Aspects –Industries (Iron & Steel, Automobile, Textile)
Industrial Regions- France, Germany and UK
Specific Study- Fisheries and Mediterranean Agriculture

यूरोप– भूआकृति, जल निकासी, जलवायु, प्राकृतिक वनस्पति, मिट्टी, जनसंख्या

प्रमुख आर्थिक पहलू– उद्योग (लौह और इस्पात, ऑटोमोबाइल, कपड़ा)

औद्योगिक क्षेत्र– फ्रांस, जर्मनी और यूके

विशिष्ट अध्ययन– मत्स्य पालन और भूमध्यसागरीय कृषि

Unit- IV

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North America- Physiography, Drainage, Climate, Natural Vegetation, Soil, Population
Major Economic Aspects- Power Resources (Coal, Petroleum, Hydroelectricity), Crops (Maize, Wheat)

Industrial Regions of USA and Canada
Specific Study- Panama Canal

उत्तरी अमेरिका– भूआकृति, जल निकासी, जलवायु, प्राकृतिक वनस्पति, मिट्टी, जनसंख्या

प्रमुख आर्थिक पहलू– बिजली संसाधन (कोयला, पेट्रोलियम, जलविद्युत), फसलें (मक्का, गेहूं)

यूएसए और कनाडा के औद्योगिक क्षेत्र

विशिष्ट अध्ययन– पनामा नहर

Recommended Readings:

- Cole, J., 1996. A Geography of the World's Major Regions, Routledge, London.
- Deblij, H.J., 1994, Geography: Regions and Concepts, John Wiley, New York.
- Dickenson, J.P. et al, 1996. The Geography of the Third World, Routledge, London.
- Gourou, P., 1980. The Tropical World, Longman, London.
- Jackson, R.H. and Hudman, L.E., 1991. World Regional Geography: Issues for Today, John Wiley, New York.
- Kolb, A., 1977. East Asia - Geography of a Cultural Region,
- Mathuen, London. Minshull, G.N., 1984 Western Europe, Hoddard & Stoughton, New York.
- Patterson, J.H., 1985. Geography of Canada and the United States, Oxford University Press.
- Songquiao, Z., 1994. Geography of China, John Wiley, New York.
- Ward, P. W. and Miller, A. 1989. World Reginal Geography: A Question of Place, John Wiley, New York.

Course Learning Outcomes:

By the end of the course, students should be able to:

1. Understand about the physical divisions and their characteristics of continents of Asia, Europe and North America.
2. Know about the population, economy, culture and diverse socio-cultural setup of these continents.

GEO-63P-253 - Practical-V

Code of Course	Title of the Course	Level of the Course	Credits of the Course
GEO-63P-253	Practical-V	6	2
Types of the Course	**Delivery type of the Course**		
Major	60 contact hrs- Laboratory lectures and field study including diagnostic and formative assessments during lecture hours		
Prerequisites	Central Borad of Secondary Education or Equivalent		
Objectives of the Course	To attain knowledge about graphical representation of data in three-dimensional diagrams and maps.		

	To do techniques and applicability of Prismatic Compass Survey.

Duration- 4 Hours **Max. Marks- 10+40**

Min. Marks- 4+16

Pattern of Examination	Bifurcation of Marks	Time
Written Test	4 × 5 = 20	2 Hours
Survey and Viva-Voce	7+3	2 Hours
Record Work and Viva-Voce	7+3	
Total	**40**	**4 Hours**

***Note-**

1. *The students will have to prepare **A3 Size Record Book** which will be simultaneously checked by the Teacher in the class after teaching and evaluated during the examinations.*
2. *There will be 6 questions (3 questions from each unit) in written paper. The students have to attempt 4 questions in total (2 questions from each unit).*
3. *The student will have to prepare Survey Sheet **INDIVIDUALLY** during the examination.*
4. *Simple Calculator is permitted in practical examination.*

Unit-I

Three Dimensional Diagrams –Cube, Sphere and Block-pile.

Projection- Definition, Importance, Earth's Grid System and Scale of Projection, Classification- Conical Projection, Cylindrical Projection and Zenithal Projection.

प्रक्षेप –परिभाषा, महत्त्व, पृथ्वी की ग्रिड प्रणाली एवं प्रक्षेप की मापनी, वर्गीकरण–शंकु प्रक्षेप, बेलनाकार प्रक्षेप, खमध्य प्रक्षेप ।

Unit-II

Prismatic Compass Survey- Its Parts and instruments used, Method of Surveying (Radiation and Intersection), Traversing (Open and Close), Correction of Bearings (Mathematical & Bowditch Method).

प्रिज्मीय कम्पास सर्वेक्षण– इसके भाग और प्रयुक्त उपकरण, सर्वेक्षण की विधि (विकिरण और प्रतिच्छेदन), मालारेख विधि (खुली और बंद विधि), दिक्मानों का संषोधन (गणितीय तथा बाउडिच विधि)।

Recommended Readings:

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- Monkhouse, F. J. and Wilkinson, H. R. (1973). Maps and Diagrams. London: Methuen.
- Rhind, D. W. and Taylor, D. R. F. (2000). Cartography: Past, Present and Future. International Cartographic Association.
- Robinson, A. H., (2009). Elements of Cartography. New York: John Wiley and Sons.
- Robinson, A.H. (2000). Elements of Cartography. U.S.A.: John Wiley& Sons.
- Sarkar, A. K. (2005). Practical Geography: A Systematic Approach. Calcutta: Oriental Longman.
- Sharma, J. P. (2010). Prayogik Bhugol. Meerut: Rastogi Publishers.
- Singh, R.L. and Dutt, P.K. (2010). Elements of Practical Geography. New Delhi: Kalyani Publishers.

Course Learning Outcomes:

By the end of the course, students should be able to:

1. Represent various datasets using one-dimensional and two-dimensional diagrams.
2. Know about the procedure and technicalities of Prismatic Compass Survey.
3. To imply simple statistical techniques for interpretation of data.

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GEO-63P-254 - Practical-II

Code of Course	Title of the Course	Level of the Course	Credits of the Course
GEO-63P-254	Practical-VI	6	2
Types of the Course	**Delivery type of the Course**		
Major	60 contact hrs- Laboratory lectures and field study including diagnostic and formative assessments during lecture hours		
Prerequisites	Central Borad of Secondary Education or Equivalent		
Objectives of the Course	To attain the knowledge about various levelling instruments and instruments measuring depth and height of the buildings.		

Duration- 4 Hours **Max. Marks- 10+40**

Min. Marks- 4+16

Pattern of Examination	Bifurcation of Marks	Time
Written Test	4 × 5 = 20	2 Hours
Survey and Viva-Voce	7+3	2 Hours
Record Work and Viva-Voce	7+3	
Total	**40**	**4 Hours**

Note-

5. *The students will have to prepare **A3 Size Record Book** which will be simultaneously checked by the Teacher in the class after teaching and evaluated during the examinations.*
6. *There will be 6 questions (3 questions from each unit) in written paper. The students have to attempt 4 questions in total (2 questions from each unit).*
7. *The student will have to prepare Survey Sheet **INDIVIDUALLY** during the examination.*
8. *Simple Calculator is permitted in practical examination.*

Unit – I

Dumpy Level Survey- Introduction, Instruments and Surveying. Preparation of field-book with various methods.

डम्पी लेवल सर्वेक्षण– परिचय, उपकरण और सर्वेक्षण। क्षेत्र पुस्तिका तैयार करवाने की विभिन्न विधियाँ।

Unit – II

Abney Level Instrument- Introduction, type and methods of height measurement (Accessible and Inaccessible Method)

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Diagrams- Isochrone map, Ergograph and Band-graph.

एबनी लेवल उपकरण– परिचय, ऊंचाई मापने के प्रकार व विधियाँ (सुलभ और दुर्गम विधि) आरेख– आइसोक्रोन मानचित्र, एर्गोग्राफ और बैंड–ग्राफ।

Recommended Readings:

- Monkhouse, F. J. and Wilkinson, H. R. (1973). Maps and Diagrams. London: Methuen.
- Rhind, D. W. and Taylor, D. R. F. (2000). Cartography: Past, Present and Future. International Cartographic Association.
- Robinson, A. H., (2009). Elements of Cartography. New York: John Wiley and Sons.
- Robinson, A.H. (2000). Elements of Cartography. U.S.A.: John Wiley& Sons.
- Sarkar, A. K. (2005). Practical Geography: A Systematic Approach. Calcutta: Oriental Longman.
- Sharma, J. P. (2010). Prayogik Bhugol. Meerut: Rastogi Publishers.
- Singh, R.L. and Dutt, P.K. (2010). Elements of Practical Geography. New Delhi: Kalyani Publishers.

Course Learning Outcomes:

By the end of the course, students should be able to:

- To attain the knowledge about the various levelling instruments
- To learn the knowledge about how to measure the depth and height of building.

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Semester IV

(2024-25)

GEO-64T-255 - Geography of India

Code of Course	Title of the Course	Level of the Course	Credits of the Course
GEO-64T-255	Geography of India	6	4
Types of the Course	**Delivery type of the Course**		
Major	Lecture, 60 Lectures including diagnostic and formative assessments during lecture hours		
Prerequisites	Central Borad of Secondary Education or Equivalent		
Objectives of the Course	To describe various geographical aspects of land, people and economy of Indian sub-continent.		

Duration- 3 Hours **Max. Marks- 20+80**

Min. Marks- 8+32

Pattern of Examination	Bifurcation of Marks
Part A	10 × 2= 20
Part B	15 × 4=60
Total	**80**

Note:

1. *Internal assessment will be as per University Norms.*
2. *End Semester Examination question paper will comprise of two parts: Part A and Part B.*
3. *Part A will comprise of TWO questions consisting Map Work and Multiple-Choice Questions (MCQs)/ Short Answer type questions.*
4. *Part B will comprise of FOUR descriptive questions with Internal choice from each unit.*
5. *In all student will have to attempt total 6 questions, 2 questions from Part A and 4 questions from Part B.*

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Unit-I

India-Location & Extent, Climate: Factors affecting Climate, Seasons, Mechanism of Indian Monsoon (Classical Theory, Air Mass Theory, El-Nino, Southern Oscillation, Jet Stream)

भारत–स्थान और विस्तार, जलवायुः जलवायु को प्रभावित करने वाले कारक, मौसम, भारतीय मानसून का तंत्र (शास्त्रीय सिद्धांत, वायु राषि सिद्धांत, एल–नीनो, दक्षिणी दोलन, जेट स्ट्रीम)

Unit-II

Drainage System, Types & Conservation of Soils, Natural Vegetation (Forests, Shrubs & Grasslands); Wildlife Sanctuaries (Jim Corbett, Periyar, Sundarban, Kaziranga, Ranthombore) and their Conservation.

अपवाह तंत्र, मृदा के प्रकार और संरक्षण, प्राकृतिक वनस्पति (वन, झाड़ियाँ और घास के मैदान), वन्यजीव अभयारण्य (जिम कॉर्बेट, पेरियार, सुंदरबन, काजीरंगा, रणथंभौर) और उनका संरक्षण।

Unit-III

Mineral Resources - Iron Ore, Manganese, Copper, Tungsten, Bauxite, Gold, Silver, Zinc, Lead

Non-Metallic- Mica, Limestone, Dolomite, Asbestos, Gypsum

Energy Resources- Coal, Petroleum, Natural Gas, Solar Energy, Wind Energy, Biomass Energy

Industries- Iron & Steel, Textile (Cotton & Jute), Cement and Sugar.

खनिज संसाधन – लौह अयस्क, मैंगनीज, तांबा, टंगस्टन, बॉक्साइट, सोना, चांदी, जस्ता, सीसा

गैर–धात्विक– अभ्रक, चूना पत्थर, डोलोमाइट, अभ्रक, जिप्सम

ऊर्जा संसाधन– कोयला, पेट्रोलियम, प्राकृतिक गैस, सौर ऊर्जा, पवन ऊर्जा, बायोमास ऊर्जा

उद्योग– लोहा और इस्पात, कपड़ा (कपास और जूट), सीमेंट और चीनी।

Unit-IV

Population- Growth, Distribution, Density, Literacy, Sex-ratio, Urbanization (Trends, Patterns, Problems & Solutions), Migration (Causes & Consequences).

Agriculture- Green Revolution, Agricultural Regions, Indian Agricultural System- Problems & Solutions.

जनसंख्या– वृद्धि, वितरण, घनत्व, साक्षरता, लिंगानुपात, नगरीकरण (प्रवृत्ति, प्रारूप, समस्याएँ और समाधान), प्रवास (कारण व परिणाम)।

कृषि– हरित क्रांति, कृषि क्षेत्र, भारतीय कृषि प्रणाली– समस्याएँ और समाधान।

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Recommended Readings:

- Spare, O.H.K. and A.T.A. learmonth: Geography of India and Pakistan, Methuen London (first Indian Edition, 1984, Munshiram Manoharlal, New Delhi) 1967.
- Gautam A: Advanced Geography of India, Sharda Pustak bhawan, allahabad,2009.
- Sharma,T.C. and Coutinho, O: Economical and commercial Geography of India,Vikas publishing house Pvt. Ltd. New Delhi,1988.
- Chandna, R.C.: Geography of Population, Kalyani Publishers, 1998.
- Tirtha, Ranjt: Emerging India, Conpub. Ann Arbour, U.S.A. Michigan, 2006.

Course Learning Outcomes:

By the end of the course, students should be able to understand the relevance of geographical know ledge of India to understand the contemporary issues.

GEO-64T-256 - Agricultural Geography

Duration- 3 Hours **Max. Marks- 20+80**

Min. Marks- 8+32

Code of Course	Title of the Course	Level of the Course	Credits of the Course
GEO-64T-256	**Agricultural Geography**	6	4
Types of the Course	**Delivery type of the Course**		
Major	Lecture, 60 Lectures including diagnostic and formative assessments during lecture hours		
Prerequisites	Central Borad of Secondary Education or Equivalent		
Objectives of the Course	The course should fully acquaint the students with the understanding of agricultural geography as a developed branch of geography.		

Duration- 3 Hours **Max. Marks- 20+80**

Min. Marks- 8+32

Pattern of Examination	Bifurcation of Marks
Part A	10 × 2= 20
Part B	15 × 4=60
Total	**80**

Note:

1. *Internal assessment will be as per University Norms.*

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2. *End Semester Examination question paper will comprise of two parts: Part A and Part B.*

3. *Part A will comprise of TWO questions consisting Map Work and Multiple-Choice Questions (MCQs)/ Short Answer type questions.*
4. *Part B will comprise of FOUR descriptive questions with Internal choice from each unit.*
5. *In all student will have to attempt total 6 questions, 2 questions from Part A and 4 questions from Part B.*

Syllabus

Unit-I

Definition, Nature, Scope and Signification of Agricultural Geography

Approaches to Study the Agricultural Geography (Commodity, Deterministic, Systematic and Regional)

कृषि भूगोल की परिभाषा, प्रकृति, विषय क्षेत्र और महत्व

कृषि भूगोल के अध्ययन के दृष्टिकोण (वस्तु, नियतात्मक, व्यवस्थित और क्षेत्रीय)

Unit-II

Factors Affecting Agricultural Pattern Physical Factor (Terrain, Climate, Soil, Water)

Institutional Factor (Demographic, Land Holding, Farm Family Structure, Caste, Religion) and Infrastructural Factors (Technology, Irrigation, Mechanical Inputs).

कृषि प्रारूप को प्रभावित करने वाले भौतिक कारक (भूभाग, जलवायु, मृदा, जल), संस्थागत कारक (जनसांख्यिकी, भूमि जोत, कृषि परिवार संरचना, जाति, धर्म) और संरचनात्मक कारक (प्रौद्योगिकी, सिंचाई, यांत्रिक निवेष)।

Unit-III

Concept of Agricultural Region, Agriculture System of the World- Whitlessey's Classification, Agricultural Typology (Shifting, Plantation, Commercial Gain Farming and Mediterranean)

कृषि क्षेत्र की अवधारणा, विश्व की कृषि प्रणाली– व्हिटलेस्सी का वर्गीकरण, कृषि प्रकारिकी (स्थानांतरण, बागानी, व्यापारिक कृषि और भूमध्यसागरीय)

Unit-IV

With Reference to India- Agro Climatic Regions and their Characteristics, Agricultural Policies, Contemporary Issues (Nutrition, Hunger and Food Security)

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भारत के संदर्भ में– कृषि जलवायु क्षेत्र और उनकी विशेषताएं, कृषि नीतियां, समकालीन मुद्दे (पोषण, भूख और खाद्य सुरक्षा)

Recommended Readings:

- Alexander, J.W. 1968. Economic Geography. New Jersey: Prentice Hall.
- Grigg, D.B. 1978. The Agricultural Systems of the World: An Evolutionary Approach. Cambridge: Cambridge University Press.
- Hussain M. 1997. Systematic Agricultural Geography. Jaipur: Rawat Publications.
- Ilbery, B. W. 1985. Agricultural Geography. Oxford: Oxford University Press.
- Morgan, B.W. and Munton, J.C. 1971. Agricultural Geography. London: Methuen.
- Shafi, M. 2006. Agricultural Geography. New Delhi: Pearson Education.
- Singh, Jasbir. 2003. Agricultural Geography. 3rd edn. New Delhi: Oxford.
- Singh, Jasbir. and S.S. Dhillon. 1984. Agricultural Geography. New Delhi: Tata McGraw Hill.

Course Learning Outcomes:

By the end of the course, students should be able to learn major concepts, factors affecting agricultural land use, agricultural system of the world and the emerging scenario in agriculture.

GEO-64P-257 - Practical VII

Code of Course	**Title of the Course**	**Level of the Course**	**Credits of the Course**
GEO-64P-257	Practical VII	6	2
Types of the Course	**Delivery type of the Course**		
Major	60 contact hrs- Laboratory lectures and field study including diagnostic and formative assessments during lecture hours		
Prerequisites	Central Borad of Secondary Education or Equivalent		
Objectives of the Course	To attend the knowledge about types of maps and various projections used for different countries.		

Duration- 4 Hours **Max. Marks- 10+40**

Min. Marks- 4+16

Pattern of Examination	**Bifurcation of Marks**	**Time**
Written Test	4 × 5 = 20	2 Hours
Survey and Viva-Voce	7+3	2 Hours
Record Work and Viva-Voce	7+3	
Total	**40**	**4 Hours**

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Note-

1. *The students will have to prepare **A3 Size Record Book** which will be simultaneously checked by the Teacher in the class after teaching and evaluated during the examinations.*

2. *There will be 6 questions (3 questions from each unit) in written paper. The students have to attempt 4 questions in total (2 questions from each unit).*
3. *The student will have to prepare Survey Sheet **INVIDUALLY** during the examination.*
4. *Simple Calculator is permitted in practical examination.*

Unit-I

Map: Definition and Classification
Qualitative Maps- Chorochromatic (Color- Patch Method: Simple, International, Layer Tint), Simple Shade Method, Pictorial Method, Choro schematic (Symbol Method, Pictorial Method, Geometrical Method and Naming Method)
Quantitative Maps- Isopleth (Isotherms & Isobars), Choropleth, Dot Method (Simple, Multiple, Color)
मानचित्रः परिभाषा और वर्गीकरण, मात्रात्मक मानचित्र– रंगारेख (सरल, अंतर्राष्ट्रीय, स्तर–रंजन विधि), सरल छाया विधि, चित्रीय विधि (प्रतीक विधि/चित्रात्मक विधि/ज्यामितीय विधि और नामांकित विधि), मात्रात्मक मानचित्रः समान मानचित्र (समताप और समदाब), वर्णमात्री, बिन्दु (सरल, मिश्रित, रंग)।

Unit –II

Maps-Stil-gen-baur's and Sten-de-geer's method, Traffic -Flow Diagram.
Conical Projection (Mathematical method) - One Standard Parallel, Two Standard Parallel, Bonne's, Polyconic
मानचित्र– स्टिल–जेन– बाउर तथा स्टेन–डी–गीर विधि, यातायात प्रवाह आरेख।

शंकु प्रक्षेप (गणितिय विधि) एक मानक अक्षांश, दो मानक अक्षांश, बोन एवं बहुशंकुक।

Recommended Readings:

- Misra, R.P & Ramesh. (1986). A Fundamentals of Cartography. New Delhi: McMillan Co.
- Monkhouse, F. J. and Wilkinson, H. R. (1973). Maps and Diagrams. London: Methuen.
- Rhind, D. W. and Taylor, D. R. F. (2000). Cartography: Past, Present and Future. International Cartographic Association.
- Robinson, A. H., (2009). Elements of Cartography. New York: John Wiley and Sons.
- Robinson, A.H. (2000). Elements of Cartography. U.S.A.: John Wiley& Sons.
- Sarkar, A. K. (2005). Practical Geography: A Systematic Approach. Calcutta: Oriental Longman.
- Sharma, J. P. (2010). Prayogic Bhugol. Meerut: Rastogi Publishers.
- Singh, R.L. and Dutt, P.K. (2010). Elements of Practical Geography. New Delhi: Kalyani Publishers.

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Course Learning Outcomes:
By the end of the course, students should be able to:

- To learn knowledge about various types of qualitative and quantitative maps.
- To learn knowledge about various types of projections.

GEO-64P-258 - Practical VIII

Code of Course	Title of the Course	Level of the Course	Credits of the Course
GEO-64P-258	Practical VIII	2	2
Types of the Course	**Delivery type of the Course**		
Major	60 contact hrs- Laboratory lectures and field study including diagnostic and formative assessments during lecture hours		
Prerequisites	Central Borad of Secondary Education or Equivalent		
Objectives of the Course	To attain the knowledge about the various types of projection mathematically and the introduction to remote sensing.		

Duration- 4 Hours **Max. Marks- 10+40**

Min. Marks- 4+16

Pattern of Examination	Bifurcation of Marks	Time
Written Test	4 × 5 = 20	2 Hours
Survey and Viva-Voce	7+3	2 Hours
Record Work and Viva-Voce	7+3	
Total	**40**	**4 Hours**

Note-

1. *The students will have to prepare **A3 Size Record Book** which will be simultaneously checked by the Teacher in the class after teaching and evaluated during the examinations.*
2. *There will be 6 questions (3 questions from each unit) in written paper. The students have to attempt 4 questions in total (2 questions from each unit).*
3. *The student will have to prepare Model/Chart **INDIVIDUALLY** form the practical syllabus of Geography and have to submit during the examination.*
4. *Simple Calculator is permitted in practical examination.*

Unit I

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Cylindrical Projection (Equal Area, Equidistant, Gall's, Mercator's), Zenithal Projections (Equidistant, Equal Area, Gnomonic, Stereographic, Orthographic), Conventional Projection (Mollweide and Sinusoidal)
बेलनाकार प्रक्षेप (गणितिय विधि) – समान, समक्षेत्र, गॉल एवं मर्केटर, खमध्य प्रक्षेप (गणितिय विधि)– समदूरस्थ, समक्षेत्र, नोमोनिक, त्रिविम, लंबवत, रूढ़ प्रक्षेप (मोलवीड एवं सिनुसाइडल)

Unit II

Study of geological maps and preparation of their cross sections and interpretation. Introduction to Remote Sensing, Electromagnetic Spectrum, Types of Remote Sensing, Process & Elements of Remote Sensing, Advantages & Disadvantages of Remote Sensing.

मानचित्रकला का इतिहास, भूवैज्ञानिक मानचित्रों का अध्ययन तथा अनुप्रस्थ काट द्वारा उनकी रचना एवं व्याख्या, सुदूर संवेदन का परिचय, विद्युत–चुम्बकीय स्पेक्ट्रम, सुदूर संवेदन के प्रकार, प्रक्रिया एवं इसके तत्व, सुदूर संवेदन के लाभ व हानि

Recommended Readings:

- Misra, R.P & Ramesh. (1986). A Fundamentals of Cartography. New Delhi: McMillan Co.
- Monkhouse, F. J. and Wilkinson, H. R. (1973). Maps and Diagrams. London: Methuen.
- Rhind, D. W. and Taylor, D. R. F. (2000). Cartography: Past, Present and Future. International Cartographic Association.
- Robinson, A. H., (2009). Elements of Cartography. New York: John Wiley and Sons.
- Robinson, A.H. (2000). Elements of Cartography. U.S.A.: John Wiley& Sons.
- Sarkar, A. K. (2005). Practical Geography: A Systematic Approach. Calcutta: Oriental Longman.
- Sharma, J. P. (2010). Prayogic Bhugol. Meerut: Rastogi Publishers.
- Singh, R.L. and Dutt, P.K. (2010). Elements of Practical Geography. New Delhi: Kalyani Publishers.

Course Learning Outcomes:
By the end of the course, students should be able to:

- Student will learn how to prepare projections for various countries.
- Learn the basic knowledge about the remote sensing and its elements.

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