Curriculum and Credit Framework

For the

Four Year Under Graduate Programme (FYUGP)

As per provisions of NEP-2020

Vinoba Bhave University, Hazaribag

Subject: **Geography**

BOCS for the Four Year Under Graduate Programme (FYUGP) under NEP-2020

SUBJECT - GEOGRAPHY

List of Subject Expert

Chairman

1. Dr. Saroj Kumar Singh, Associate Professor, HOD, Dept. of Geography, VBU, Hazaribag

External Expert-

1. Prof. Ravi Shekhar , CSRD, J.N.U, North Delhi.
2. Dr. Sarvottam Kumar, Shyama Prasad Mukherjee University, Ranchi.

Internal Expert-

Members

1. Sri Amit Soren, Assistant Professor, Dept. of Geography, Dept. of Geography, St.C.C. Hazaribag.
2. Dr. Ranjeet Kumar Das, Assistant Professor, Dept. of Geography, Markham College of Commerce Hazaribag.
3. Dr. Sunil Kumar, Assistant Professor, Dept. of Geography, Annada College, Hazaribag.
4. Dr. S.P. Pandey, Assistant Professor, , Dept. of Geography, Jubilee College, Bhurkunda.

Semester 1

Paper MJ-01 Introduction to Physical Geography

Marks (Theory): 15 (5 + 10 SIE: 1Hr) + 60 (ESE: 3Hrs) = 75 Pass Marks: Th (SIE + ESE) = 30

Marks (Practical) =25 Pass Marks: = 10

(Credits: Theory- 03, Practical- 01) 60 +30 Hours

Instruction to Question Setter for

Semester Internal Examination (SIE 10+5=15 marks):

The Semester Internal Examination shall have two components. (a) One Semester Internal Examination Written Test (SIE) of 10 Mark (b) Day to day assessment including the behaviour of the student towards teachers and other students of the College of 5 marks.

End Semester Examination (ESE 60 marks):

There will be two group of questions **A** and **B**. **Group A is compulsory** which will contain three questions. **Question No.1 will be very short answer type** consisting of five questions of 1 mark each. **Question No. 2 & 3 will be short answer type** of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to be answered.

Course Objectives:

1. To understand the Origin and Evolution of the Earth.
2. To study various Landforms and Geomorphic process.
3. To understand various Atmospheric condition and responsible factors.
4. To study the various characters of Oceans and ocean dynamics.

Learning outcome:

After the completion of the course the understanding of different aspects of Earth's surface and formation of landform will be clear as well as different climatic phenomena and ocean dynamics.

Module – I:

Origin of the Earth with particular reference to Big Bang Theory; Geological time scale; Interior of Earth; Plate Tectonics; Earthquake, Vulcanicity; Evolution of Landforms- IInd Order; Types of Weathering; Landforms – Fluvial, Glacial.

Module – II:

Atmosphere- Structure and Composition; Insolation; Heat Budget; Factors affecting the horizontal distribution of Temperature; Types of Humidity and Precipitation, Process and types of rainfall and snowfall; Atmospheric pressure Belts.

Module – III:

Distribution of Land and Water; Distribution of Oceanic Salinity, Temperature, Marine Resources, Impact of Human Activities on Marine Environment.

Module IV (Practical)

Unit 1- Construction of Scale- Simple and Diagonal and Concept of R.F., Contour Line, Maps : Reduction and Enlargement ; Identification of Rocks and Minerals **8**

Unit 2- Representation by Unit/scales for Atmospheric Features (Temperature, Air Pressure, Wind Speed and Rain Fall) Wind Rose Diagram. **8**

Unit 3- PNB+ Viva 4+ **5**

Suggested Books

1. Ahmad, E. (1999). *Geomorphology*. New Delhi: Kalyani Publishers.
2. Dayal, P. (2019). *A textbook of geomorphology*. Delhi: Rajesh Publications.
3. Dayal, P. (2019). भूआकृतिविज्ञान. नई दिल्ली राजेश प्रकाशन.
4. Gautam, A. (2015). *Geomorphology*. Allahabad: Sharda Pustak Bhawan.
5. Holmes, A. (1978). *Principles of physical geology* (3rd ed.). UK: ELBS Nostrand Reinhold Co. Ltd.
6. Husain, M. (2021). *Fundamentals of physical geography*. New Delhi: Rawat Publications.
7. Khullar, D. R. (2022). *Physical geography*. New Delhi: Kalyani Publishers.
8. Sharma, J. P. (2016). *भूअकृतिविज्ञान. मेरठरू रस्तोगी प्रकाशन*
9. Sidartha, K. (2018). *The Earth's dynamic surface (A book of geomorphology)*. New Delhi: Kitab Mahal.
10. Singh, S. (2021). *Physical geography*. Allahabad: Pravalika Publication.
11. Singh, Savidra. (2021). *Geomorphology*. Allahabad: Pravalika Publication.
12. Singh, Savindra. (2021). *भूआकृतिविज्ञान. वसुंधरा प्रकाशन.*

13. Skinner, B. J., & Porter, S. C. (2000). *The dynamic Earth: An Introduction to Physical Geology*. New York: American Museum of Natural History.
14. Strahler, A. (2016). *Introducing Physical Geography*. New Delhi: Wiley India.
15. Thornbury, W. D. (2004). *Principles of Geomorphology*. New Delhi: CBS Publishers.
16. Critchfield, H. J. (2008). *General climatology*. Pearson Education India.
17. Lal, D. S. (2022). *Climatology*. Sharda Pustak Bhavan.
18. Lal, D. S. (2022). *जलवायु विज्ञान. शारदा पुस्तक भवन*

शर्मा, जे. पी. (2018): प्रायोगिक भूगोल, रस्तोगी प्रकाशन, मेरठ
19. सिंह, एल. आरः प्रायोगिक भूगोल के मूल सिद्धांत, शारदा पुस्तक भवन, इलाहाबाद
20. Singh, L. R. (2013): Fundamentals of Practical Geography, Sharda Pustak
21. Bhawan, Allahabad
22. Singh and Singh (1999): Elements of Practical Geography, Kalyani Publishers, New Delhi

Semester II

Paper MJ-02 Human Geography

Marks (Theory): 15 (5 + 10 SIE: 1Hr) + 60 (ESE: 3Hrs) = 75 Pass Marks: Th (SIE + ESE) = 30

Marks (Practical) =25 Pass Marks: = 10

(Credits: Theory- 03, Practical- 01) 60 +30 Hours

Instruction to Question Setter for

Semester Internal Examination (SIE 10+5=15 marks):

The Semester Internal Examination shall have two components. (a) One Semester Internal Examination Written Test (SIE) of 10 Mark (b) Day to day assessment including the behaviour of the student towards teachers and other students of the College of 5 marks.

End Semester Examination (ESE 60 marks):

There will be two group of questions **A** and **B**. **Group A is compulsory** which will contain three questions. **Question No.1 will be very short answer type** consisting of five questions of 1 mark each. **Question No. 2 & 3 will be short answer type** of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to be answered.

Course Objectives:

1. Know the changing human and cultural landscape at different levels.

2. Understand patterns and processes of population growth and its implications.

3. Appreciate the nature, quality of human landscapes and methods of data collection

Learning outcome:

The student will be able to grasp the concept of human and cultural landscape, different approaches, different aspects of population including migration, agglomeration, urbanisation and various methods of data collection`

Module 1

Meaning, nature and scope of human geography; Principles of human geography; Evolution of man : Classification of races; Characteristics of races and their broad distribution.

Module 2

Human adaptation to Environment: Eskimo and Bushman; World – Growth and Distribution of population; Major human Agglomerations of the World;

Migration: Types and Theories (Lee and Raventien); Trends & Pattern of Urbanization.

Module 3

Settlement structure rural and urban: Social, Economic, Cultural factors influencing the dynamics of settlement structure; Rural settlements: characteristics, types and regional pattern.

Module 4 (Practical)

Unit 1 Bar Diagram – Simple, Multiple, Compound; Pie Diagram 8

Unit -2 Statistical Techniques- Measures of Central Tendency; Mean, Median & Mode ; Measures of dispersion; Mean and standard deviation. 8

Unit -3 PNB+ Viva 4+**5**

Suggested books:

1. कौ ाक, एस. डी. मानव भूगोल रस्तोगी प्रका ान
2. राव एवं दीक्षित, बी. पी.., एस. के. मानव भूगोल वसुन्धरा प्रका ान
3. सिंह, डी. पी., मनव भूगाल के मूल तत्व, कल्याणी प्रका ान
4. Mourya, S.D. (2017): Human Geography, Prayag Pustak Bhawan.
5. Singh, LekhRaj (2005): Fundamental of Human Geography, Sarda Publication
6. Hussain, M. (2021): Human Geography, Rawat Publication
7. Negi, B.S., Human Geography, Rastogi Publication, Meerut.
8. शर्मा, जे. पी. (2018): प्रायोगिक भूगोल, रस्तोगी प्रकाशन, मेरठ
9. सिंह, एल. आरः प्रायोगिक भूगोल के मूल सिद्धांत, शारदा पुस्तक भवन, इलाहाबाद
10. Singh, L. R. (2013): Fundamentals of Practical Geography, Sharda Pustak Bhawan, Allahabad
11. Singh and Singh (1999): Elements of Practical Geography, Kalyani Publishers, New Delhi

Semester III

Paper MJ-03 Geography of India and Jharkhand

Marks (Theory): 15 (5 + 10 SIE: 1Hr) + 60 (ESE: 3Hrs) = 75 Pass Marks: Th (SIE + ESE) = 30

Marks (Practical) =25 Pass Marks: = 10

(Credits: Theory- 03, Practical- 01) 60 +30 Hours

Instruction to Question Setter for

Semester Internal Examination (SIE 10+5=15 marks):

The Semester Internal Examination shall have two components. (a) One Semester Internal Examination Written Test (SIE) of 10 Mark (b) Day to day assessment including the behaviour of the student towards teachers and other students of the College of 5 marks.

End Semester Examination (ESE 60 marks):

There will be two group of questions **A** and **B**. **Group A is compulsory** which will contain three questions. **Question No.1 will be very short answer type** consisting of five questions of 1 mark each. **Question No. 2 & 3 will be short answer type** of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to be answered.

Course Objectives:

1. Learn the differences in terms of varied physical and demographic features of India and Jharkhand

2. To study the economy and various types of resources in India and Jharkhand

3. To study the Toposheet Analysis under various heading.

Learning outcome:

After the completion of the course the understanding of different aspect of India will be clear. This will include Physical, demographic, economy (industrial and agricultural), mineral wealth and also Toposheet Analysis

Module 1

India- Physiography, Drainage, Climatic Regions and Vegetation ; Biodiversity (Flora & Fauna) of India; Indian Forests and their Environmental and Economic Importance; Soil Types in India, Agro-Climatic Regions of India Natural Hazards in India.

Module 2

Green Revolution and its consequences; Distribution and Production of Major Crops: Paddy, Wheat and Tea . Minerals: Distribution of Iron ore, Bauxite; Power Resources- Coal, Atomic Minerals; Status and Importance of Alternative (Renewable) energy in India. Industries: Cotton, Sugar, Mineral based; Iron and steel, Major Industrial Region of India. Population: Distribution and Growth; Migration and Urbanization; Transportation System.

Module 3

Jharkhand :Physiography, Climate, Agricultural Landscape, Forest resource; Minerals – Coal, Iron Ore. Population: Growth and Distribution, Trends of Urbanisation.

Module 4 (Practical)

Unit 1- Importance of toposheet analysis and indexing in geographical studies and methods of toposheet indexing. 8

Unit 2- Toposheet Analysis – Interpretation under the Head (Relief, drainage, Settlement, Transport and Communication). 8

Unit 3- PNB+ Viva 4+**5**

Suggested books:

1. Hussain, M., (1992): Geography of India, Tata McGraw Hill Education, New York.
2. Nag, P. and Sengupta, S., (1992): Geography of India, Concept Publishing, New Delhi.
3. Khullar, D R (2018): India: A Comprehensive Geography, Kalyani publishers, New Delhi
4. Gautam, Alka (2022): An advance Geography of India, Rastogi Prakashan, Meerut
5. Singh, R L Edt (1993): India: A Regional Geography, National Geographical Society of India, Varanasi
6. R, Tirtha (2002): Geography of India, Rawat Publications, New Delhi
7. राव एवं त्यागी: भारत की भौगोलिक समीक्षा, वसुंधरा प्रकाशन , गोरखपुर
8. बंसल, सुरेश (1999): भारत का बृहत भूगोल, मीनाक्षी प्रकाशन, मेरठ
9. चौहान एवं गौतम(2022): भारत का भूगोल, रस्तोगी प्रकाशन, मेरठ
10. शर्मा, जे. पी. (2018): प्रायोगिक भूगोल, रस्तोगी प्रकाशन, मेरठ
11. सिंह, एल. आरः प्रायोगिक भूगोल के मूल सिद्धांत, शारदा पुस्तक भवन, इलाहाबाद
12. Singh, L. R. (2013): Fundamentals of Practical Geography, Sharda Pustak
13. Bhawan, Allahabad

14. Singh and Singh (1999): Elements of Practical Geography, Kalyani Publishers, New Delhi

Semester III

Paper MJ-04 World Regional Geography

Marks (Theory): 15 (5 + 10 SIE: 1Hr) + 60 (ESE: 3Hrs) = 75 Pass Marks: Th (SIE + ESE) = 30

Marks (Practical) =25 Pass Marks: = 10

(Credits: Theory- 03, Practical- 01) 60 +30 Hours

Instruction to Question Setter for

Semester Internal Examination (SIE 10+5=15 marks):

The Semester Internal Examination shall have two components. (a) One Semester Internal Examination Written Test (SIE) of 10 Mark (b) Day to day assessment including the behaviour of the student towards teachers and other students of the College of 5 marks.

End Semester Examination (ESE 60 marks):

There will be two group of questions **A** and **B**. **Group A is compulsory** which will contain three questions. **Question No.1 will be very short answer type** consisting of five questions of 1 mark each. **Question No. 2 & 3 will be short answer type** of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to be answered.

Course Objectives:

1. To develop an understanding of the concept, scope, and methods of regional geography and regionalisation.
2. To provide comprehensive regional accounts of key world regions, including South East Asia, West Asia, USA, UK, Australia, and others.
3. To impart practical skills in map projections and spatial representation techniques.

Learning Outcome :

Learners will understand regional geography concepts, analyze major global regions geographically, and apply practical skills in map projections for spatial interpretation of regional characteristics and patterns.

Module I

Meaning and scope of regional geography, concept of region and regionalisation, Changing world scenario of world Island and Antarctica.

Module II

Regional Account of South East Asia and West Asia. Regional Account of USA and UK.

Module III

Geographical account of Australia and New Zealand. Regional Account of Amazon Basin and Sahara Desert.

Module IV (Practical)

Unit 1: Simple Conical Projection: one standard parallel and two standard parallel. 8

Unit 2: Polar Zenithal Projection: Equal area and Equi- Distant. 8

Unit 3- PNB+ Viva 4+ **5**

Suggested Books

1. Singh, K. (2021): Teen Uttari Mahadweepon Ka Bhugol, SPBD Publication.
2. Jat.B.C., (2020) Vishwa Ka Praadeshik Bhugol, Punchshil Publication
3. **Singh, S. (2021).** *Geography of Northern Continents*. Pravalika Prakashan.
4. **Singh, S. (2018).** *Geography of Three Northern Continents*. SBPD Publications
5. Singh, R. (2017): Teen Dakshini Mahadesh: Australia Ek Bhaugolik Adhyan, Bihar Hindi Granth Academy, Patna.
6. Singh, J.: Teen Dakshini Mahadweepon ka bhugol, Vasundhara prakashan, Gorakhpur
7. Memoria Chaturbhuj & Jain S.M. (2015): Geographical thought and three southern continents, SPBD Publication
8. Bhardwaj, R. K. (2017). *Geography of Africa*. Rawat Publications.
9. Gupta, R. P. (2019). *South America: Geography and Development*. Arya Publishing House.
10. Singh, S. (2020). *Geography of Australia and Oceania*. Pravalika Prakashan.

11ण शर्मा, जे. पी. (2018): प्रायोगिक भूगोल, रस्तोगी प्रकाशन, मेरठ
12. सिंह, एल. आरः प्रायोगिक भूगोल के मूल सिद्धांत, शारदा पुस्तक भवन, इलाहाबाद
13. Singh, L. R. (2013): Fundamentals of Practical Geography, Sharda Pustak
14. Bhawan, Allahabad
15. Singh and Singh (1999): Elements of Practical Geography, Kalyani Publishers, New Delhi

Semester IV

Paper MJ-05 Indian Knowledge System (IKS)

Marks (Theory): 15 (5 + 10 SIE: 1Hr) + 60 (ESE: 3Hrs) = 75 Pass Marks: Th (SIE + ESE) = 30

Marks (Practical) =25 Pass Marks: = 10

(Credits: Theory- 03, Practical- 01) 60 +30 Hours

Instruction to Question Setter for

Semester Internal Examination (SIE 10+5=15 marks):

The Semester Internal Examination shall have two components. (a) One Semester Internal Examination Written Test (SIE) of 10 Mark (b) Day to day assessment including the behaviour of the student towards teachers and other students of the College of 5 marks.

End Semester Examination (ESE 60 marks):

There will be two group of questions **A** and **B**. **Group A is compulsory** which will contain three questions. **Question No.1 will be very short answer type** consisting of five questions of 1 mark each. **Question No. 2 & 3 will be short answer type** of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to be answered.

Course Objectives :

1. To understand the scope, origin, and significance of the Indian Knowledge System and its contributions to cosmology, astronomy, and geography.
2. To explore ancient Indian civilization, literature, and scriptures for insights into geographical, socio-political, and economic perspectives.
3. To examine scientific, mathematical, and cultural advancements in ancient India and their practical applications in contemporary studies.

Learning Outcome

After that students will gain an integrated understanding of India's traditional knowledge, cultural geography, astronomical concepts, and historical contributions, enabling them to critically appreciate ancient wisdom and its relevance in present-day academic and practical contexts.

Module 1:

Indian Knowledge System: Definition of Indigenous/ Traditional Knowledge; Scope, and Importance of Traditional Knowledge; Origin Of Cosmos and Earth, Basis of India's naming, Akhand Bharat I ; Geographical Development of

Indian Knowledge System; Earth's Revolution in Astronomical Knowledge: Sun, Earth, Moon, Planetary System and its Motion; Revolution and Rotation of Earth;: Eclipse; Nakshatras and Zodiacs,.

Module 2:

Extent of Indus Valley Civillisation; Geographical Discourses in Vedic Age, Epic Age: Ramayana and Mahabharata; Puranic Age: Natural Landscape described in Puranas and Other Scriptures, Our Nature: Types of Seasons Proverbs by Ghagh and Dhadhri and Naming of Months; Festivals Related in reference to Earth's Revolution – reference to Surya Kund and Itkhori

Module 3:

Kal- ganana(Time calculation), Concepts of Zero and Pi, Mining Techniques. Contribution of Aryabhatta and Bhaskaracharya to Observation of Earth's Movement, Determination of Latitudes and Longitudes in Ancient India. Geographical Places of Ancient Period: Harappa, Mohenjodaro, Nalanda, Isko Caves , Megalithic (Pakri Barwadih)

Module 4 (Practical)

(Prepare report on following heads selecting one from each unit)

Unit-1 Char-Dham Yatra of India(Route) in context of Natural and Cultural Landscape, Locate the Ancient Indian Universities on Map , 8

Unit-2 Map Reading in Further India (Vrihattar Bharat) during Chola Empire. Map Work-Mountain, Rivers and Forest in Ancient India. 8

Unit- 3 PNB+ Viva 4+**5**

Suggested Books

1. Bhattacharya, N. N. (2015). *Indian geography and traditional knowledge systems*. Rajesh Publications.
2. Mishra, R. (2018). *Geographical thought in ancient India*. Rawat Publications.
3. Singh, R. B. (2017). *Traditional ecological knowledge and Indian geography*. Pravalika Prakashan.

4. Tripathi, A. (2016). *Vedic geography and environmental studies*. Arya Publishing House.
5. Verma, S. P. (2019). *Ancient Indian geography: Concepts and practices*. Chaitanya Publishing House.
6. Yadav, D. P. (2020). *Indian environmental geography: Traditional and modern perspectives*. Vinod Publications.
7. Zaveri, H. (2014). *Cultural geography of India: Roots and reflections*. Sage Publications India.

Semester IV

Paper MJ-06 Economic Geography

Marks (Theory): 15 (5 + 10 SIE: 1Hr) + 60 (ESE: 3Hrs) = 75 Pass Marks: Th (SIE + ESE) = 30

Marks (Practical) =25 Pass Marks: = 10

(Credits: Theory- 03, Practical- 01) 60 +30 Hours

Instruction to Question Setter for

Semester Internal Examination (SIE 10+5=15 marks):

The Semester Internal Examination shall have two components. (a) One Semester Internal Examination Written Test (SIE) of 10 Mark (b) Day to day assessment including the behaviour of the student towards teachers and other students of the College of 5 marks.

End Semester Examination (ESE 60 marks):

There will be two group of questions **A** and **B**. **Group A is compulsory** which will contain three questions. **Question No.1 will be very short answer type** consisting of five questions of 1 mark each. **Question No. 2 & 3 will be short answer type** of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to be answered.

Course Objectives

1. Appreciate the basic concepts and approaches of economic geography;
2. Examine the significance and relevance of theories in relation to the location of different economic activities and mode of resource utilization.
3. Distinguish different types of human activities and their inter and intra relationships.

Learning outcome:

The student will get to know about the economic aspect in geography. They will also get acquainted with new concepts like sustainable development, major trade blocs, different resources of world and traditional theories that forms the base of economic geography**.**

Module 1

Meaning and approaches to economic geography; Main concepts of economic geography; Resource: concept and classification; Resource conservation. Sustainable Development Approaches. Natural resources: Soil, Forest and

water; Mineral resources: iron ore and bauxite; Power resources: coal and petroleum;

Module 2

Principal crops: wheat, rice and cotton. Agricultural regions of the world (Derwent Whittlesey); Theory and relevance of agricultural location (Von Thunen), Theory of Industrial Location (Weber); Major Industries of World: Iron and steel, Cotton Textiles and IT industries.

Module 3

World Transport: Major Trans-Continental Railways, Sea Routes (North-Atlantic and Malacca Strait) and International trade: patterns and trends; Major trade blocs: ASEAN& EU.

Module 4 (Practical)

Unit -1 Methods of data collection: questionnaire and schedule ; secondary sources. 8

Unit -2 Proportionate diagram (Ring), Band Graph and Cube Diagram, Ergograph. 8

Unit 3- PNB+ Viva 4+**5**

Suggested books:

1ण श्रीवास्तव, लोकेशः आर्थिक भूगोल, शारदा प्रकाशन
2ण मौर्या, एस. डी.: मानव एवं आर्थिक भूगोल, शारदा प्रकाशन
3ण सिंह, काशीनाथ एवं सिंह, जगदीशः आर्थिक भूगोल के मूलतत्व, ज्ञानोदय प्रकाशन
4. Alexander, J. W., (1963): Economic Geography, Prentice-Hall Inc., Englewood Cliffs, New Jersey
5. Gillian Morgan & Cheng Leong Goh, (2021) Human and Economic Geography, Oxford University Press, Singapore.
6ण शर्मा, जे. पी. (2018): प्रायोगिक भूगोल, रस्तोगी प्रकाशन, मेरठ
7. सिंह, एल. आरः प्रायोगिक भूगोल के मूल सिद्धांत, शारदा पुस्तक भवन, इलाहाबाद
8. Singh, L. R. (2013): Fundamentals of Practical Geography, Sharda Pustak
9. Bhawan, Allahabad
10. Singh and Singh (1999): Elements of Practical Geography, Kalyani Publishers, New Delhi

Semester IV

Paper MJ-07 Population Geography

Marks (Theory): 15 (5 + 10 SIE: 1Hr) + 60 (ESE: 3Hrs) = 75 Pass Marks: Th (SIE + ESE) = 30

Marks (Practical) =25 Pass Marks: = 10

(Credits: Theory- 03, Practical- 01) 60 +30 Hours

Instruction to Question Setter for

Semester Internal Examination (SIE 10+5=15 marks):

The Semester Internal Examination shall have two components. (a) One Semester Internal Examination Written Test (SIE) of 10 Mark (b) Day to day assessment including the behaviour of the student towards teachers and other students of the College of 5 marks.

End Semester Examination (ESE 60 marks):

There will be two group of questions **A** and **B**. **Group A is compulsory** which will contain three questions. **Question No.1 will be very short answer type** consisting of five questions of 1 mark each. **Question No. 2 & 3 will be short answer type** of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to be answered.

Course Objectives:

1. To understand the Census Process in India.
2. To analyse the Population Distribution in World and India.
3. To understand the Population Dynamics and Important Theories of Population Geography.

Learning outcome:

Students will gain knowledge about collection of population data, Population policies and the burning issues regarding population and population dynamics and structure**.**

Module -1

Nature and scope of population geography; Sources and types of population data: Census, National sample survey (NSS) and vital registration system,

Module -2

Population dynamics: Birth rate, Death rate, MMR, IMR, Sex-ratio, age and sex structure; Migration: Types and Pattern; Malthusian Theory and Demographic transition theory.

Module -3

World population: growth, causes and consequences; Factors affecting population distribution; Population- Resource Region; Concept of Over-population, under-population and optimum population; Population Policies of India, Population problem of world.

Module -4 (Practical)

Unit -1 Showing Population Distribution: Pyramid Diagram and Population Dispersion Diagram. 8

Unit -2 Representation of Population Data: Dot Method, Choropleth Method. 8

Unit 3- PNB+ Viva 4+**5**

Suggested books:

1. Chandna, R.C., (2015) *Geography of Population*, Kalyani Publishers, Ludhiana.
2. Debjani, Roy., (2022) *Population Geography*, Books and Allied Private Limited, Kolkata
3. Chandna, R. C. and Sidhu, M. S., (1980): *An Introduction to Population Geography*, Kalyani Publishers.
4. मौर्य, एस. डी. (2017): जनसंख्या भूगोल, शारदा पुस्तक भवन, इलाहाबाद
5. त्रिपाठी, आर. डी (2018): जनसंख्या भूगोल, वसुन्धरा प्रकाशन, गोरखपुर
6. तिवारी, रामकुमार (2015): जनसंख्या भूगोल, प्रवालिका प्रकाशन, इलाहाबाद.
7. . शर्मा, जे. पी. (2018): प्रायोगिक भूगोल, रस्तोगी प्रकाशन, मेरठ
8. सिंह, एल. आर: प्रायोगिक भूगोल के मूल सिद्धांत, शारदा पुस्तक भवन, इलाहाबाद
9. Singh, L. R. (2013): Fundamentals of Practical Geography, Sharda Pustak
10. Bhawan, Allahabad
11. Singh and Singh (1999): Elements of Practical Geography, Kalyani Publishers, New Delhi

Semester V

Paper MJ-08 Remote Sensing and GIS

Marks (Theory): 15 (5 + 10 SIE: 1Hr) + 60 (ESE: 3Hrs) = 75 Pass Marks: Th (SIE + ESE) = 30

Marks (Practical) =25 Pass Marks: = 10

(Credits: Theory- 03, Practical- 01) 60 +30 Hours

Instruction to Question Setter for

Semester Internal Examination (SIE 10+5=15 marks):

The Semester Internal Examination shall have two components. (a) One Semester Internal Examination Written Test (SIE) of 10 Mark (b) Day to day assessment including the behaviour of the student towards teachers and other students of the College of 5 marks.

End Semester Examination (ESE 60 marks):

There will be two group of questions **A** and **B**. **Group A is compulsory** which will contain three questions. **Question No.1 will be very short answer type** consisting of five questions of 1 mark each. **Question No. 2 & 3 will be short answer type** of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to be answered.

Course Objectives:

1. To introduce the fundamentals of remote sensing, GIS, and GPS, highlighting their relevance in geographical studies.
2. To develop technical understanding of satellite systems, sensors, image interpretation, and spatial data handling.
3. To provide hands-on experience in using geospatial tools and data for geographic analysis

Learning Outcome:

By the end of the course, students will be able to understand the principles of remote sensing, GIS, and GPS; interpret satellite imagery; apply spatial data using GIS software; and utilize tools like stereoscopes and GPS devices. They will also gain familiarity with Indian space missions and data validation techniques

Module-1

Meaning and Introduction of Remote sensing, Relevance and Advantage of Remote sensing in Geography, Principle of Visual Image Interpretation (Satellite imageries and Aerial Photograph); EMR, Interaction with the

Atmosphere and Earth's Surface (reflection, absorption, transmission, scattering). Types of Platforms and Sensors, Satellite Orbits, Earth Resources Satellites (LANDSAT, SPOT, IRS), Meteorological Phenomena Sensitive Satellites.

Module-2 Introduction: Meaning of Geographical information system (GIS), Its Component and Application of GIS; Raster and Vector Data; Digital Image Processing, NDVI , GIS Software: ArcGIS, QGIS

Module-3 Aerial Photography: Principles and Applications; Concept and application of Global Positioning system (GPS), Indian Space Programme.

Module-4 (Practical)

Unit -1 Polyconic Projection, Mercator's Projection and Universal Transverse Mercator's Projection 8

Unit -2 Sources of Satellite Data; Geo-referencing of data. 8

Unit 3- PNB+ Viva 4+**5**

Suggested Books

1. Jensen, J.R. 1996, Remote sensing of the environment. An Earth resource perspective, Pearson Education, New Delhi.
2. Campbell, J.B. (1996): Introduction to remote sensing, Taylor and Francis, London.
3. LIliesand, Keifer and Chipman (2004): Remote sensing and image interpretation, John Wiley and Sons, Singapore.
4. Reddy, M. Anji (2008): Remote sensing and Geographical Information system, B.S. publication,
5. Chauniyal, D.D, (2016):सुदूर संवेदन एवं भौगोलिक सूचना प्रणाली के सिद्धांत, Sharda Pustak Bhawan, Prayagraj
6. शर्मा, जे. पी. (2018): प्रायोगिक भूगोल, रस्तोगी प्रकाशन, मेरठ
7. सिंह, एल. आरः प्रायोगिक भूगोल के मूल सिद्धांत, शारदा पुस्तक भवन, इलाहाबाद

8. Singh, L. R. (2013): Fundamentals of Practical Geography, Sharda Pustak
9. Bhawan, Allahabad
10. Singh and Singh (1999): Elements of Practical Geography, Kalyani Publishers, New Delhi
11. शर्मा, जे. पी. (2018): प्रायोगिक भूगोल, रस्तोगी प्रकाशन, मेरठ
12. सिंह, एल. आरः प्रायोगिक भूगोल के मूल सिद्धांत, शारदा पुस्तक भवन, इलाहाबाद
13. Singh, L. R. (2013): Fundamentals of Practical Geography, Sharda Pustak
14. Bhawan, Allahabad
15. Singh and Singh (1999): Elements of Practical Geography, Kalyani Publishers, New Delhi

Semester V

Paper MJ-09 Regional Planning and Development

Marks (Theory): 15 (5 + 10 SIE: 1Hr) + 60 (ESE: 3Hrs) = 75 Pass Marks: Th (SIE + ESE) = 30

Marks (Practical) =25 Pass Marks: = 10

(Credits: Theory- 03, Practical- 01) 60 +30 Hours

Instruction to Question Setter for

Semester Internal Examination (SIE 10+5=15 marks):

The Semester Internal Examination shall have two components. (a) One Semester Internal Examination Written Test (SIE) of 10 Mark (b) Day to day assessment including the behaviour of the student towards teachers and other students of the College of 5 marks.

End Semester Examination (ESE 60 marks):

There will be two group of questions **A** and **B**. **Group A is compulsory** which will contain three questions. **Question No.1 will be very short answer type** consisting of five questions of 1 mark each. **Question No. 2 & 3 will be short answer type** of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to be answered.

Course Objectives:

1. To understand the regional approaches to development
2. To analyse the level of regional planning in reference to India
3. To assess the various region with respect to development and planning

Learning outcome:

After the completion of course the student will gain knowledge about the varied aspects of regional development. The study will further carry towards the development and planning of regions in Indian context.

Module - 1

Meaning, Concepts and Scope of regional development and planning; Approaches to Regional Development; Approaches to Regional Planning; Theories of Regional Development: Growth Pole Theory, Core Periphery Model.

Module - 2

Concepts and types of regions; Schemes of regionalization; Macro Planning regions of India; Multi-level planning; Local-level planning and Panchayati Raj

Module - 3

Regional development in India: patterns and imbalances; Role of agriculture, industry in regional development. Area development and planning: DVC

Module - 4 (Practical)

Socio-economic Field Survey Report (Rural): (Meaning, types and objectives of fieldwork; Fieldwork methods and techniques; Importance of fieldwork in geography and Sampling Techniques) Allotted by HOD 20+5

Suggested books:

1. V. K. Puri and Chand Mahesh (1983): Regional Planning in India, Allied Publishers Limited, New Delhi
2. Ray, Jayasri (2001): Introduction to Development & Regional Planning, Orient BlackSwan, New Delhi
3. Chandna , R. C. (2016): Regional Planning and development, Kalyani Publishers
4. चंदना, आर. सी. (2016): प्रादेशिक नियोजन एवं विकास, कल्याणी पब्लिशर्स, नई दिल्ली
5. श्रीवास्तव, चौहान एवं शर्मा (1996): प्रादेशिक नियोजन एवं संतुलित विकास, वशुन्धरा प्रकाशन, गोरखपुर

6ᵑ शर्मा, जे. पी. (2018): प्रायोगिक भूगोल, रस्तोगी प्रकाशन, मेरठ

7. सिंह, एल. आरः प्रायोगिक भूगोल के मूल सिद्धांत, शारदा पुस्तक भवन, इलाहाबाद
8. Singh, L. R. (2013): Fundamentals of Practical Geography, Sharda Pustak
9. Bhawan, Allahabad
10. Singh and Singh (1999): Elements of Practical Geography, Kalyani Publishers, New Delhi

Semester V

Paper MJ-10 Geomorphology

Marks (Theory): 15 (5 + 10 SIE: 1Hr) + 60 (ESE: 3Hrs) = 75 Pass Marks: Th (SIE + ESE) = 30

Marks (Practical) =25 Pass Marks: = 10

(Credits: Theory- 03, Practical- 01) 60 +30 Hours

Instruction to Question Setter for

Semester Internal Examination (SIE 10+5=15 marks):

The Semester Internal Examination shall have two components. (a) One Semester Internal Examination Written Test (SIE) of 10 Mark (b) Day to day assessment including the behaviour of the student towards teachers and other students of the College of 5 marks.

End Semester Examination (ESE 60 marks):

There will be two group of questions **A** and **B**. **Group A is compulsory** which will contain three questions. **Question No.1 will be very short answer type** consisting of five questions of 1 mark each. **Question No. 2 & 3 will be short answer type** of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to be answered.

Course Objectives:

1. To introduce the nature, scope, and fundamental concepts of geomorphology.
2. To examine major theories of landform development, including erosion cycles and isostasy.
3. To develop practical skills in geological mapping and slope analysis techniques.

Learning Outcome:

Students will grasp geomorphological principles, understand landform development processes, and gain hands-on experience in geological cross-section drawing, map interpretation, and slope analysis using established geomorphic methods.

Module I

Nature and Scope of Geomorphology, Fundamental concept of Geomorphology.

Module II

Cycle of Erosion by W. M. Davis and W. Penck, Isostasy, Seismicity.

Module III

Mass wasting and associated landforms, Landforms associated with Wind, Karst and waves.

Module IV(Practical)

Unit I Geological Cross Section, Interpretation of Geological Maps. 8

Unit II Slope analysis by Smith, Profile. 8

Unit III- PNB+ Viva 4+ **5** =9

Suggested Books

1. Singh, S. (2019). *Geomorphology* (9th ed.). Allahabad: Prayag Pustak Bhawan.
2. Sharma, H. S. (2002). *Perspectives in Geomorphology* (Vol. 1–3). Jaipur: Rawat Publications.
3. Kale, V. S., & Gupta, A. (2001). *Introduction to Geomorphology*. Hyderabad: Orient Blackswan.
4. Ahmad, E. (2003). *Geomorphology*. New Delhi: Rawat Publications.
5. **Singh, S.** (2020). *Physical Geography* (Revised ed.). Prayag Pustak Bhawan
6. **Sharma, J. P.** (2018). *Physical Geography*. Rastogi Publications.
7. **Hussain, M.** (2015). *Physical Geography*. Rawat Publications

Semester V

Paper MJ-11 Oceanography and Hydrology

Marks (Theory): 15 (5 + 10 SIE: 1Hr) + 60 (ESE: 3Hrs) = 75 Pass Marks: Th (SIE + ESE) = 30

Marks (Practical) =25 Pass Marks: = 10

(Credits: Theory- 03, Practical- 01) 60 +30 Hours

Instruction to Question Setter for

Semester Internal Examination (SIE 10+5=15 marks):

The Semester Internal Examination shall have two components. (a) One Semester Internal Examination Written Test (SIE) of 10 Mark (b) Day to day assessment including the behaviour of the student towards teachers and other students of the College of 5 marks.

End Semester Examination (ESE 60 marks):

There will be two group of questions **A** and **B**. **Group A is compulsory** which will contain three questions. **Question No.1 will be very short answer type** consisting of five questions of 1 mark each. **Question No. 2 & 3 will be short answer type** of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to be answered.

Course Objectives:

1. To provide foundational knowledge of oceanographic and hydrological processes and their interrelationships.
2. To explore oceanic and hydrological features such as currents, tides, the hydrological cycle, and water resources.
3. To develop practical skills in interpreting marine and hydrological data using diagrams and remote sensing techniques.

Learning Outcome

Students will understand oceanographic and hydrological systems, assess human impacts on water resources, and apply analytical tools like hypsometric curves, salinity diagrams, and cyclone naming scales in practical studies.

Module I

Nature and scope of Oceanography. Bottom relief of Atlantic and Indian Ocean. Coral Reefs, Ocean Current, Waves and Tides, Tsunami, Ocean Deposit.

Module II

Concept and Scope of Hydrology, Hydrological Cycle, Evaporation and Surface runoff, Application of Remote Sensing in Hydrological studies.

Module III

Surface water resource of Jharkhand and India, Human impact on hydrological cycle, water pollution, need for water management.

Module IV(Practical)

Unit 1 Hypsometric Curve, Temperature and Salinity Diagrams, Naming of Cyclones and cyclone scale. 8

Unit II Rainfall dispersion diagram. Ombrothermic Diagram 8

Unit III- PNB+ Viva 4+ **5** =9

Suggested books:

1. Sharma, R. C., & Vatal, M. (2018). *Oceanography for geographers*. Chaitanya Publishing House.
2. Trujillo, A. P., & Thurman, H. V. (2011). *Essentials of oceanography*. Pearson Education India.
3. **Raghunath, H. M.** (2006). *Hydrology: Principles, Analysis and Design* (2nd ed.). New Age International Publishers.
4. **Singh, V. P.** (1994). *Elementary Hydrology*. Prentice-Hall of India.
5. Lal, D. S. (2018). *Oceanography*. Sharda Pustak Bhawan.
6. Gautam, A. (2021 जलवायु एवं समुद्र विज्ञान. रस्तोगी प्रकाशन
7. Upadhyay, D. P. (n.d.). *समुद्र विज्ञान. वसुन्धरा प्रकाशन.*
8. Singh, S. (n.d.). *समुद्र विज्ञान. प्रवालिका प्रकाशन.*
9. Singh, S. (2020). *Oceanography*. Pravalika Prakashan.
10. शर्मा, जे. पी. (2018): प्रायोगिक भूगोल, रस्तोगी प्रकाशन, मेरठ
11. सिंह, एल. आरः प्रायोगिक भूगोल के मूल सिद्धांत, शारदा पुस्तक भवन, इलाहाबाद
12. Singh, L. R. (2013): Fundamentals of Practical Geography, Sharda Pustak
13. Bhawan, Allahabad
14. Singh and Singh (1999): Elements of Practical Geography, Kalyani Publishers, New Delhi

Semester VI

Paper MJ-12 Climatology

Marks (Theory): 15 (5 + 10 SIE: 1Hr) + 60 (ESE: 3Hrs) = 75 Pass Marks: Th (SIE + ESE) = 30

Marks (Practical) =25 Pass Marks: = 10

(Credits: Theory- 03, Practical- 01) 60 +30 Hours

Instruction to Question Setter for

Semester Internal Examination (SIE 10+5=15 marks):

The Semester Internal Examination shall have two components. (a) One Semester Internal Examination Written Test (SIE) of 10 Mark (b) Day to day assessment including the behaviour of the student towards teachers and other students of the College of 5 marks.

End Semester Examination (ESE 60 marks):

There will be two group of questions **A** and **B**. **Group A is compulsory** which will contain three questions. **Question No.1 will be very short answer type** consisting of five questions of 1 mark each. **Question No. 2 & 3 will be short answer type** of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to be answered.

Course Objectives:

1. To introduce the nature, scope, and fundamental concepts of climatology and atmospheric science.
2. To explain major atmospheric phenomena including wind systems, air masses, cyclones, monsoons, and climatic variability.
3. To develop students' ability to analyze and interpret climatic data using graphs, maps, and weather symbols.

Learning Outcome

Learners will understand atmospheric processes and climatic systems, assess global climate patterns and changes, and apply practical tools like climatographs and weather maps for interpreting climatic and weather-related information.

Module I

Nature and scope of Climatology, General circulation of Wind, Local Winds, Humidity, Precipitation

Module II

Air Mass, Fronts, Tropical Cyclone, Anticyclone, Monsson- Mechanism , El-Nino, La- Nina; SO; NO

Module III

Classification of climatic region by Koppen, Thornthwaite, Climate Change; world , Extreme weather Phenomena.

Module IV(Practical)

Unit I Hythergraph, Climograph, Climatograph	8
Unit II Weather symbols, Interpretation of Weather Map	8
Unit III- PNB+ Viva	4+ **5** =9

Suggested Books

1. Barry, R. G., & Chorley, R. J. (2009). *Atmosphere, weather and climate*. Routledge India.
2. Critchfield, H. J. (2008). *General climatology*. Pearson Education India.
3. Lal, D. S. (2022). *Climatology*. Sharda Pustak Bhavan.
4. Lal, D. S. (2022). *जलवायु विज्ञान. शारदा पुस्तक भवन*
5. Lutgens, F. K., Tarbuck, E. J., & Tasa, D. (2018). *The atmosphere*. PHI Learning Pvt.
6. Sidartha, K. (2021). *Atmosphere, weather and climate*. Kitab Mahal.
7. Singh, S. (2021). *Climatology*. Allahabad: Pravalika Publication.
8. Singh, S. (2021). *जलवायु विज्ञान.* Allahabad: Pravalika Publication.

शर्मा, जे. पी. (2018): प्रायोगिक भूगोल, रस्तोगी प्रकाशन, मेरठ

9. सिंह, एल. आरः प्रायोगिक भूगोल के मूल सिद्धांत, शारदा पुस्तक भवन, इलाहाबाद
10. Singh, L. R. (2013): Fundamentals of Practical Geography, Sharda Pustak
11. Bhawan, Allahabad
12. Singh and Singh (1999): Elements of Practical Geography, Kalyani Publishers, New Delhi

Semester VI

Paper MJ-13 Agriculture Geography

Marks (Theory): 15 (5 + 10 SIE: 1Hr) + 60 (ESE: 3Hrs) = 75 Pass Marks: Th (SIE + ESE) = 30

Marks (Practical) =25 Pass Marks: = 10

(Credits: Theory- 03, Practical- 01) 60 +30 Hours

Instruction to Question Setter for

Semester Internal Examination (SIE 10+5=15 marks):

The Semester Internal Examination shall have two components. (a) One Semester Internal Examination Written Test (SIE) of 10 Mark (b) Day to day assessment including the behaviour of the student towards teachers and other students of the College of 5 marks.

End Semester Examination (ESE 60 marks):

There will be two group of questions **A** and **B**. **Group A is compulsory** which will contain three questions. **Question No.1 will be very short answer type** consisting of five questions of 1 mark each. **Question No. 2 & 3 will be short answer type** of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to be answered.

Course Objectives:

1. To understand the scope, approaches, and factors influencing agricultural geography.
2. To analyze spatial patterns and regional variations in agriculture
3. To evaluate the impact of agricultural on environment, society, and economy.

Learning Outcome

Students will gain spatial understanding of agriculture, analyze regional patterns, assess development impacts, and develop practical skills through fieldwork on changing agricultural landscapes.

Module I

Meaning and scope of Agricultural Geography ; Approaches to agricultural geography; Physical, cultural and institutional Factors Affecting Agriculture.

Module II

Crop combination and crop diversification; Delineation of crop combination regions, Agricultural regions of the world (Whitlessy) Land use pattern with special reference to India;

Module III

Measures of Agricultural Efficiency and Agricultural Productivity in Jharkhand. Agricultural Pattern in Jharkhand. Major Crops of Jharkhand: Paddy and Maize. Agricultural regions of India.

Module IV (Practical)

A field Report based on Land Use Pattern of any area allotted by H.O.D. 20+5

Suggested Books:

1. Husain, M. (1979). *Agricultural Geography*. Inter-India Publications.
2. Husain, M. (n.d.). *Systematic Agricultural Geography*. Rawat Publications. Note: Edition details not specified.
3. Husain, M. (2000). *Krishi Bhugol (Agriculture Geography)*. Rawat Publications.
4. Singh, A. L., & Fazal, S. (1997). *Agriculture and Rural Development*. B.R. Publishing Corporation
5. Sinha, B. N. (1972). *Industrial Geography of India*. World Press.
6. Joshi, H. L. (1990). *Industrial Geography of India: A Case Study of Fertiliser Industry*.
7. Lodha, R., & Maheshwari, D. (2023). *Aodhiyodhik Bhugol – Industrial Geography* Rajasthan Hindi Granth Academy

Semester VI

Paper MJ-14Social and Tribal Geography

Marks (Theory): 15 (5 + 10 SIE: 1Hr) + 60 (ESE: 3Hrs) = 75 Pass Marks: Th (SIE + ESE) = 30

Marks (Practical) =25 Pass Marks: = 10

(Credits: Theory- 03, Practical- 01) 60 +30 Hours

Instruction to Question Setter for

Semester Internal Examination (SIE 10+5=15 marks):

The Semester Internal Examination shall have two components. (a) One Semester Internal Examination Written Test (SIE) of 10 Mark (b) Day to day assessment including the behaviour of the student towards teachers and other students of the College of 5 marks.

End Semester Examination (ESE 60 marks):

There will be two group of questions **A** and **B**. **Group A is compulsory** which will contain three questions. **Question No.1 will be very short answer type** consisting of five questions of 1 mark each. **Question No. 2 & 3 will be short answer type** of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to be answered.

Course Objectives:

1. To understand the concepts and aspects of society.
2. To analyse the social planning and policies prevalent in India.
3. To understand the various aspects of tribes of India and Jharkhand.

Learning outcome:

The student will know about the different facets of social geography. Also know about development of society, human development indicators, policies and planning

Module - I

Meaning and scope of social geography; Concept of social space; Human development: concept and measurements; Social differentiation and stratification; Social morphology.

Module - II

Evolution of socio-cultural regions of India; India — unity in diversity: Role of caste, tribe, religion and languages; Concept of social wellbeing. Geographical

distribution of Indian tribes, groups and sub-groups: Major Tribes of **India**: Tharu; **Jharkhand**: Snathal & Munda

Module – III

Tribal Geography- Meaning, Concept, and Scope of Tribal Geography and defining Tribe, Tribal rights- Land, forests, water; Emerging social problems- Health and education, malnutrition, illiteracy, Alcoholism, mining and tribes, displacement

Module - IV (Practical)

Unit I : Instrument Survey : Radiation and Intersection method, Prismatic survey: Open and Closed Traverse Method. 8

Unit II: Dumpy Level Survey, Clinometer 8

Unit III : PNB+ Viva 4+ **5** =9

Suggested Books:

1. Maurya, S. D. (2020). *Social geography*. Sharda Pustak Bhawan.
2. Singh, B. N. (n.d.). *Social geography*. Prayag Pustak Bhawan.
3. Srinivas, M. N. (2021). *Caste in modern India and other essays*. Asia Publishing House.
4. Vidyarthi, L. P., & Rai, B. K. (1985). *The tribal culture of India*. Concept Publishing Company.
5. Hasnain, N. (2022). *Tribal India*. Palaka Publication.
6. Magrey, B. (2008). *Tribal geography of India: Jammu & Kashmir*. Oberoi Book Service.
7. Prasad, S. (2004). *The Birhors of Chotanagpur region: A case study of Jharkhand*. Rajesh Publication.
8. Sharda, M., & Kumar, I. (2021). *Tribal India: Issues and challenges*. Rawat Publication.

Semester VI

Paper MJ-15 Evolution to Geographical Thought

Marks (Theory): 15 (5 + 10 SIE: 1Hr) + 60 (ESE: 3Hrs) = 75 Pass Marks: Th (SIE + ESE) = 30

Marks (Practical) =25 Pass Marks: = 10

(Credits: Theory- 03, Practical- 01) 60 +30 Hours

Instruction to Question Setter for

Semester Internal Examination (SIE 10+5=15 marks):

The Semester Internal Examination shall have two components. (a) One Semester Internal Examination Written Test (SIE) of 10 Mark (b) Day to day assessment including the behaviour of the student towards teachers and other students of the College of 5 marks.

End Semester Examination (ESE 60 marks):

There will be two group of questions **A** and **B**. **Group A is compulsory** which will contain three questions. **Question No.1 will be very short answer type** consisting of five questions of 1 mark each. **Question No. 2 & 3 will be short answer type** of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to be answered.

Course objective:

1. To understand the Conceptual framework of geography.
2. To study the historical development and contributions of geography.
3. To study the methods and techniques in geography ,scale and history of maps

Learning outcome:

After completion of this course the student will be able to understand the theme of the geography and its development through time as well as changing man-environment relationship and also about scale and history of maps, voyages routes of famous discoveries etc.

Module-1

Nature and Scope of Geography; Place of Geography in the Classification of Sciences.

Module-2

Geography in Ancient (Greek and India) and Medieval Period; Development of Geography in Modern Period (German, French, British and American School), Contribution of Humboldt, Ritter, Ratzel & Blache in Geography.

Module-3:

Dualism in Geography; Man-Environment Relationship, Methods and Techniques in Geography- Quantitative, Behavioural, Radical, Humanistic, and Environmental, Career in Geography.

Module 4 (Practical)

Unit 1: Geographical Excursion to any distant place. 20 +5 = 25

Suggested books

1. हुसैन, मा (2001): भौगोलिक विचार धाराओं का उद्भव एवं विकास, रावत प्रकाशन, नई दिल्ली
2. श्रीवास्तव, वि केः भौगोलिक चिंतन के आधार, वसुंधरा प्रकाशन, गोरखपुर
3. कौशिक एवं रावतः भौगोलिक विचार धारायें एवं विधितंत्र, रस्तोगी प्रकाशन, मेरठ
4. दीक्षित, एसः भूगोल की प्रस्तावना, वसुंधरा प्रकाशन , गोरखपुर
5. Dixit, R. D (2018): Geographical Thought a Contextual History of Ideas, Prentice Hall India, New Delhi
6. Hussain, Majid (2015): Evolution of Geographical Thought, Rawat Publication, New Delhi
7. Hartshorne, R (2002): Nature of Geography, Rawat Publication, New Delhi
8. Harvey, D. (2007): Explanation in Geography, Rawat Publication, New Delhi
9. Adhikari, S. (2015): Fundamentals of Geographical Thought, Orient Blackswan, New Delhi.
10. Peet, R. J. (1998): Modern geographical Thought, Wiley, ISBN 13; 978-1557863782
11. शर्मा, जे. पी. (2018): प्रायोगिक भूगोल, रस्तोगी प्रकाशन, मेरठ
12. सिंह, एल. आरः प्रायोगिक भूगोल के मूल सिद्धांत, शारदा पुस्तक भवन, इलाहाबाद
13. Singh, L. R. (2013): Fundamentals of Practical Geography, Sharda Pustak
14. Bhawan, Allahabad
15. Singh and Singh (1999): Elements of Practical Geography, Kalyani Publishers, New Delhi

Semester VII

Paper MJ-16 Research Methodology

Marks: 25 (5 Attd. + 20 SIE: 1Hr) + 75 (ESE: 3Hrs) = 100 Pass Marks: Th (SIE + ESE) = 40

(Credits: Theory-04) 60 Hours

Instruction to Question Setter for

Semester Internal Examination (SIE 20+5=25 marks):

The Semester Internal Examination shall have two components. (a) One Semester Internal Examination Written Test (SIE) of 20 Mark (b) Day to day assessment) including the behaviour of the student towards teachers and other students of the College of 5 marks.

End Semester Examination (ESE 75 marks):

There will be two group of questions **A** and **B**. **Group A is compulsory** which will contain three questions. **Question No.1 will be very short answer type** consisting of five questions of 1 mark each. **Question No. 2 & 3 will be short answer type** of 5 marks. Group B will contain descriptive type seven questions of f ifteen marks each, out of which any four are to be answered.

Note: *There may be subdivisions in the questions of group B.*

Course Objectives:

1. To introduce students to the fundamental concepts of geographical research
2. To familiarize students with research methods and methodologies,
3. To explore recent trends in research, such as e-research, and emphasize the importance of ethical considerations in report writing, and understanding scientific journals.

Learning Outcome:

By the end of the course, students will understand the key principles of geographical research, including the difference between methods and methodologies. They will be able to design and conduct research, analyze data, and effectively present findings while considering ethical issues, recent trends, and academic standards in research.

Module – I

Meaning and Definition of Research; Objectives of Research; Methods of Geographical Enquiry and Studies

Module – II

Types and Approaches of Research: Applied and Fundamental; Conceptual and Empirical; Descriptive and Analytical; Quantitative and Qualitative. Research methods

Module – III

Hypothesis, theories, Research Idea and Research question, Literature Review; significance of Research; Research design: data collection and analysis ; Deciding the methods, Statistical Analysis- Deviation, Correlation and Regression

Module – IV

Recent trends in Research: Determining Sample Design; Presentation of Research findings: Writing Essays & Reports; Using Research Results; Citation, Referencing Style (APA) ;Ethical Issues in Social Research;

Suggested Books

1. Kothari, C. R. (2019). *Research Methodology: Methods and Techniques* (4th ed.). New Age International Publishers.
2. Singh, Y. K. (2017). *Research Methodology in Social Sciences*. APH Publishing Corporation.
3. Gupta, S. P. (2018). *Research Methodology and Statistical Techniques*. Deep & Deep Publications.
4. Sharma, R. A. (2015). *Research Methodology: Methods and Techniques*. Atlantic Publishers & Distributors.
5. Dhanesh Kumar. (2019). *Research Methodology: A Step-by-Step Guide for Beginners*. Sage Publications India.
6. Best, J. W., & Kahn, J. V. (2016). *Research in Education* (12th ed.). Pearson India.

Semester VII

Paper MJ-17 Political Geography

Marks (Theory): 15 (5 + 10 SIE: 1Hr) + 60 (ESE: 3Hrs) = 75 Pass Marks: Th (SIE + ESE) = 30

Marks (Practical) =25 Pass Marks: = 10

(Credits: Theory- 03, Practical- 01) 60 +30 Hours

Instruction to Question Setter for

Semester Internal Examination (SIE 10+5=15 marks):

The Semester Internal Examination shall have two components. (a) One Semester Internal Examination Written Test (SIE) of 10 Mark (b) Day to day assessment including the behaviour of the student towards teachers and other students of the College of 5 marks.

End Semester Examination (ESE 60 marks):

There will be two group of questions **A** and **B**. **Group A is compulsory** which will contain three questions. **Question No.1 will be very short answer type** consisting of five questions of 1 mark each. **Question No. 2 & 3 will be short answer type** of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to be answered.

Course Objective:

1. Learn the concept of nation and state and geopolitical theories in geography

2. Understand the different dimensions of electoral geography and resource conflicts

3. To understand the various strategically geopolitical active region.

Learning Outcome:

After the completion of this course students will get to know about geopolitical theories, different dimensions of international relations and geopolitical scenario of strategically active region**.**

Module - 1

Meaning, scope, approaches of political geography, recent trends in political geography; Contribution of Ratzel in Political Geography

Module – 2

Theory of Geopolitics: Sea, Land, Air Power ; Nations, states and nation states; Frontiers boundaries and Buffer state; Electoral Geography- Gerrymandering, Issues of Voting pattern in India

Module – 3

Geographical basis of international relations; Current World Order, Geo-political and geo-economic significance of Indian Ocean; Problems of Nation Building in India

Module – 4 (Practical)

Unit I – Construction of different Political Regions of the World on the basis of socio economic variables. 8

Unit II- Voting Pattern analysis: Region; political parties based on data 8

Unit III : PNB+ Viva 4+ **5** =9

Suggested books:

1. Adhikari, S. (2009): Political Geography of India, Sharda Pustak Bhawan
2. Dikshit, R.D. (2020): Political Geography, Prentice-Hall of India, New Delhi.

3ण सक्सेना, हरिमोहन (2020): राजनीतिक भूगोल, रस्तोगी प्रकाशन

4ण चौहान, पी. आर.: राजनीतिक भूगोल, वसुन्धरा प्रकाशन

Semester VII

Paper MJ-18 Settlement Geography

Marks (Theory): 15 (5 + 10 SIE: 1Hr) + 60 (ESE: 3Hrs) = 75 Pass Marks: Th (SIE + ESE) = 30

Marks (Practical) =25 Pass Marks: = 10

(Credits: Theory- 03, Practical- 01) 60 +30 Hours

Instruction to Question Setter for

Semester Internal Examination (SIE 10+5=15 marks):

The Semester Internal Examination shall have two components. (a) One Semester Internal Examination Written Test (SIE) of 10 Mark (b) Day to day assessment including the behaviour of the student towards teachers and other students of the College of 5 marks.

End Semester Examination (ESE 60 marks):

There will be two group of questions **A** and **B**. **Group A is compulsory** which will contain three questions. **Question No.1 will be very short answer type** consisting of five questions of 1 mark each. **Question No. 2 & 3 will be short answer type** of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to be answered.

Course Objectives:

1. To introduce the concepts and theories of human settlement evolution, .
2. To examine rural and urban settlement patterns
3. To develop analytical skills using methods like nearest neighbour analysis, gravity models, and land use classification mapping.

Learning Outcome:

Students will understand the evolution and distribution of human settlements, with a focus on rural and urban patterns. They will gain knowledge of settlement theories and apply analytical techniques to study settlement morphology, urbanization, and land use mapping.

Module 1:

Meaning and scope of Settlement Geography**,** Evolution and growth of human settlement, Theories of evolution of Settlements; Spatial distribution.

Module 2:

Pattern and types of Rural settlements; Rural houses in India: types, classification and regional pattern. Traditional Tribal House Types and Pattern house types in Jharkhand. De-population of rural areas

Module 3:

Urban settlements: evolution and classification, Settlement hierarchy, Central Place Theory (Christaller). Morphological structure of cities, Empirical and Theoretical Models (Burgess, Hoyt and Harris & Ullman). Urbanisation and Contemporary Urban Issues

Module 4: (Practical)

Unit -1 Nearest Neighbour analysis	8
Unit 2 Determining the settlement types from the given toposheet.	8
Unit 3 PNB+ Viva	4+ **5** =9

Suggested book list

1. Ghosh, S. (2015): Introduction to Settlement Geography, Orient Black Swan Private Ltd., Kolkata.
2. Sinha, Sahay and Singh (2017): Introduction to Settlement Geography, Rajesh Publications, Delhi
3. Singh, R Y (1994): Geography of Settlement, Rawat Publications, New Delhi
4. सिन्हा एवं बाला (2018) : नगरीय भूगोल, राजेश प्रकाशन, नई दिल्ली
5. राव एवं शर्मा: नगरीय भूगोल, वसन्धरा प्रकाशन, गोरखपुर
6. मौर्य, एस.डी (2022): अधिवासभूगोल, शारदा पुस्तक भवन, इलाहाबाद

7ण शर्मा, जे. पी. (2018): प्रायोगिक भूगोल, रस्तोगी प्रकाशन, मेरठ

8. सिंह, एल. आरः प्रायोगिक भूगोल के मूल सिद्धांत, शारदा पुस्तक भवन, इलाहाबाद
9. Singh, L. R. (2013): Fundamentals of Practical Geography, Sharda Pustak
10. Bhawan, Allahabad
11. Singh and Singh (1999): Elements of Practical Geography, Kalyani Publishers, New Delhi

Semester VIII

Paper MJ-19 Biogeography

Marks (Theory): 15 (5 + 10 SIE: 1Hr) + 60 (ESE: 3Hrs) = 75 Pass Marks: Th (SIE + ESE) = 30

Marks (Practical) =25 Pass Marks: = 10

(Credits: Theory- 03, Practical- 01) 60 +30 Hours

Instruction to Question Setter for

Semester Internal Examination (SIE 10+5=15 marks):

The Semester Internal Examination shall have two components. (a) One Semester Internal Examination Written Test (SIE) of 10 Mark (b) Day to day assessment including the behaviour of the student towards teachers and other students of the College of 5 marks.

End Semester Examination (ESE 60 marks):

There will be two group of questions **A** and **B**. **Group A is compulsory** which will contain three questions. **Question No.1 will be very short answer type** consisting of five questions of 1 mark each. **Question No. 2 & 3 will be short answer type** of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to be answered.

Course Objectives:

1. To introduce the scope, development, and interdisciplinary nature of Bio-Geography, including ecological and hydrological systems.
2. To analyze the structure, function, and distribution of ecosystems, biomes, and biodiversity with a focus on conservation.
3. To develop interpretive skills using diagrams and graphical tools related to ecological and soil studies.

Learning Outcome:

Students will understand ecological principles, biome types, biodiversity conservation, and soil management. They will be able to interpret food chains, energy flow, and ecological graphs. and will gain knowledge of protected areas and methods resource conservation.

Module –1

Definition, Scope & Importance of Bio-Geography in relation with other sciences; Development of Bio-Geography; Hydrological cycle; Ecology and Ecosystem; Energy Flow in Ecosystem; Bio-geo-chemical cycles.

Module - 2

Dispersal of Plants and Animals, Concept and types of Biomes: Forests Biomes (Deciduous & Mountain), Grassland Biomes (Temperate and Tropical), Desert Biomes (Hot)

Module – 3

National Parks and Sanctuaries in India and Jharkhand; Biodiversity-Degradation and Conservation; Project Tiger and Elephant's Corridor; Soil: Types and Formation, Factors Affecting Soil Erosion and Its Conservation Methods

Module – 4 (Practical)

Unit I - Environmental Degradation Map of India (Air, Water and Land), Triangular Diagram for Soil Texture. 8

Unit 2 Food Chain, Food Web 8

Unit 3- PNB+ Viva 4+5=9

Suggested Books

1. Agarwal, L. C. (2018). *Biogeography*. Rawat Publication.
2. Bhattacharyya, N. N. (n.d.). *Biogeography*. Rajesh Publication.
3. Cox, C. B., & Moore, P. D. (2000). *Biogeography*. John Wiley and Sons Ltd.
4. Garg, H. S. (2016). *Biogeography*. SBPD Publications.
5. Singh, R. B. (2009). *Biogeography and biodiversity*. Rawat Publication.
6. Singh, S. (n.d.). *सिंह , सविन्द्र प्रवालिका प्रकाशन इलाहाबाद*
7. Singh, S. (2021). *Biogeography*. Pravalika Publication.
8. शर्मा, जे. पी. (2018): प्रायोगिक भूगोल, रस्तोगी प्रकाशन, मेरठ
9. सिंह, एल. आरः प्रायोगिक भूगोल के मूल सिद्धांत, शारदा पुस्तक भवन, इलाहाबाद
10. Singh, L. R. (2013): Fundamentals of Practical Geography, Sharda Pustak
11. Bhawan, Allahabad
12. Singh and Singh (1999): Elements of Practical Geography, Kalyani Publishers, New Delhi

Semester VIII

Paper MJ-20 Geography of Tourism and Transport

Marks (Theory): 15 (5 + 10 SIE: 1Hr) + 60 (ESE: 3Hrs) = 75 Pass Marks: Th (SIE + ESE) = 30

Marks (Practical) =25 Pass Marks: = 10

(Credits: Theory- 03, Practical- 01) 60 +30 Hours

Instruction to Question Setter for

Semester Internal Examination (SIE 10+5=15 marks):

The Semester Internal Examination shall have two components. (a) One Semester Internal Examination Written Test (SIE) of 10 Mark (b) Day to day assessment including the behaviour of the student towards teachers and other students of the College of 5 marks.

End Semester Examination (ESE 60 marks):

There will be two group of questions **A** and **B**. **Group A is compulsory** which will contain three questions. **Question No.1 will be very short answer type** consisting of five questions of 1 mark each. **Question No. 2 & 3 will be short answer type** of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to be answered.

Course Objectives:

1. To introduce the concept, types, and geographical aspects of tourism and transport.
2. To examine the physical, economic, and environmental impacts of tourism along with global and national tourism organizations.
3. To explore the development of transport geography and its significance in national economic planning.

Learning Outcome

Learners will understand tourism and transport geography, evaluate their socio-economic and environmental impacts, and gain insights into tourism planning, heritage conservation, and transportation's role in national development.

Module – 1

Definition of Tourism, Types; Eco-ethno, Religious, Coastal and Adventure Tourism, National and International Tourism, Influencing Factors of Tourism. Major tourist places of India and Jharkhand

Module – 2

Problem and Prospects of Physical Economic and Social Impacts, Environmental laws and Tourism, World Tourism Organisation (WTO), India Tourism Development Corporation (ITDC), UNESCO World Heritage sites

Module – 3

Nature, Scope, Significance and Development of Transport Geography, Factors associated with the Development of Transport System, National Highway Development and Planning in India, Modes of Transportation and its role in nations economy

Module – 4 (Practical)

A Study Tour Report with traffic flow diagram to any place in India allotted by HOD**.** **20 + 5 = 25**

Suggested Books

1. कौशिक, देवेश (2012): परिवहन भूगोल, अर्जुन पब्लिशिंग हॉउस, दिल्ली
2. कौशिक, एस.डी. (2017): आर्थिक भूगोल के सरल सिद्धांत, रस्तोगी प्रकाशन, मेरठ
3. Saxena, H. M. (2010): Transport Geography, Rawat Publications, New Delhi
4. Vaidya, B. C. (2003): Geography of Transport Development in India, Concept Publishing Company, New Delhi
5. Kumar, N. (1991): Geography of transportation, Concept Publishing Company, New Delhi
6. खत्री, एच. कुमार (2019): पर्यटन भूगोल, कैलाश पुस्तक सदन, भोपाल
7. नेगी, जगमोहन (2007): पर्यटन एवं यात्रा के सिद्धांत, तक्षशिला प्रकाशन , नईदिल्ली
8. शर्मा, संजय कुमार (2005): पर्यटन में भूगोल, तक्षशिला प्रकाशन , नईदिल्ली
9. Nelson, Velvet (2017): An Introduction to the Geography of Tourism, Rawat Publications, New Delhi
10. Geetanjlee (2010): Tourism Geography, Centrum Press, New Delhi

Semester VII

Paper AMJ-1 Environmental Geography

Marks: 25 (5 Attd. + 20 SIE: 1Hr) + 75 (ESE: 3Hrs) = 100 Pass Marks: Th (SIE + ESE) = 40

(Credits: Theory-04) 60 Hours

Instruction to Question Setter for

Semester Internal Examination (SIE 20+5=25 marks):

The Semester Internal Examination shall have two components. (a) One Semester Internal Examination Written Test (SIE) of 20 Mark (b) Day to day assessment) including the behaviour of the student towards teachers and other students of the College of 5 marks.

End Semester Examination (ESE 75 marks):

There will be two group of questions **A** and **B**. **Group A is compulsory** which will contain three questions. **Question No.1 will be very short answer type** consisting of five questions of 1 mark each. **Question No. 2 & 3 will be short answer type** of 5 marks. Group B will contain descriptive type seven questions of fifteen marks each, out of which any four are to be answered.

Note: *There may be subdivisions in the questions of group B.*

Course Objectives:

1. To understand the Environmental Impact Assessment and rules and regulations.
2. To study the concept and components of Ecosystem and ecology
3. To study the contemporary issues regarding environmental degradation.

Learning outcome:

After the completion of this course the student will be able to understand the importance of environment, relationship between man- environment relationship and contemporary issues related to land degradation**.**

Module - I

Definition and Scope of Environmental Geography; Meaning and Components of Environment, Environmental Impact Assessment, Environmental Rules and Regulations in India.

Module – II

Ecology: Definition and Scope of Ecology; Eco-Systems: Meaning, Types, structure/Components and Functioning of Eco-Systems; Soil System: Meaning and Components of Soil System.

Module – III

Environmental Degradation: Meaning, causes, Sources and mitigation of Air, Water and land Pollution.

Module – IV

Environmental Issues - Depletion of Ozone Layer and its consequences, Protection of Ozone Layer; Acid Rain- Causes and Effects; A Detailed Account of the Concept of Global Warming, Environmental Programmes and Policies – Global, National and Local levels

Suggested books:

1. श्रीवास्तव एवं राव (2013): पर्यावरण एवं पारिस्थितिकी वसुन्धरा प्रकाशन
2. नेगी, पी. एस.: पारिस्थितिकी एव ंपर्यावरण भूगोल, रस्तोगी प्रकाशन
3. मौर्य, एस. डी.: पर्यावरण अध्ययन, प्रयाग पुस्तक भवन
4. राव, बी. पी.: पर्यावरण अध्ययन के आधार, वसुन्धरा प्रकाशन
5. Singh, S. (2015): Environmental Geography, Prayag Pustak Bhawan
6. Gautam, A. (2021): Environmental Geography, Sharda publication

Semester VIII

Paper AMJ-2 Urban Geography and Town Planning

Marks: 25 (5 Attd. + 20 SIE: 1Hr) + 75 (ESE: 3Hrs) = 100 Pass Marks: Th (SIE + ESE) = 40

(Credits: Theory-04) 60 Hours

Instruction to Question Setter for

Semester Internal Examination (SIE 20+5=25 marks):

The Semester Internal Examination shall have two components. (a) One Semester Internal Examination Written Test (SIE) of 20 Mark (b) Day to day assessment) including the behaviour of the student towards teachers and other students of the College of 5 marks.

End Semester Examination (ESE 75 marks):

There will be two group of questions **A** and **B**. **Group A is compulsory** which will contain three questions. **Question No.1 will be very short answer type** consisting of five questions of 1 mark each. **Question No. 2 & 3 will be short answer type** of 5 marks. Group B will contain descriptive type seven questions of fifteen marks each, out of which any four are to be answered.

Note: *There may be subdivisions in the questions of group B.*

course Objectives:

1. To understand the scope, processes, and evolution of urban geography, with an emphasis on recent trends and the patterns of urbanization.
2. To explore the characteristics and classification of urban settlements, focusing on historical and functional aspects, especially in the Indian context.
3. To examine urban planning issues, including problems and solutions related to environment, poverty, housing, and urban administration in India.

Learning Outcome

Learners will gain knowledge of urban geography concepts, urbanization patterns, and spatial models, understand the challenges of urbanization like slums and poverty, and acquire insights into urban planning, with specific focus on Indian cities like Chandigarh.

Module – I

Meaning and scope of Urban Geography, Recent trends in Urban Geography, Processes and Pattern of Urbanization, Origin and Evolution of Urban Settlements.

Module – II

Characteristics of Cities in Different Historical Period with special reference to India, Definition of Urban Places , Classification of Urban Places on the basis of Size and Function, Functional Classification of Towns.

Module – III

Spatiality and models: Size and Spacing of Cities: Rank size Rule, Law of Primate City, Nearest Neighbor Analysis; Rural Urban Fringe,Theory of Losch;

Module – IV

Urban Issues and Planning: Urban Problems-Environment, Urban Poverty, Slums, Transportation, Housing, Crime.

Meaning and Concept of Urban Planning, Planned City – Chandigarh, Master Plan, the Urban planning Administration in India; The Town and Country Planning Organization (TCPO).

Suggested Books:

1. Mandal, R. B. (2000). *Urban geography: A textbook*. New Delhi, India: Concept Publishing Company.
2. Bhattacharya, B. (1979). *Urban development in India, since pre-historic times*. Delhi, India: Shree Publishing House
3. Mohanty, B. (1993). *Urbanisation in developing countries: Basic services and community participation*. New Delhi, India: Concept Publishing Company.
4. Ramachandran, R. (1989). *Urbanization and urban systems in India*. New Delhi, India: Oxford University Press.
5. Markandey, K., & Reddy, S. *Urban growth theories and settlement system in India*. New Delhi, India: Concept Publishing Company.
6. Ahluwalia, I. J. . *Urbanization in India*. New Delhi, India: SAGE Publications India.

7ण सिंह और मौर्यए ;2022द्ध नगरीय भूगोलए शारदा पुस्तक भवन, इलाहाबाद

8ण सिंह, ओ पीए ; 2023द्ध नगरीय भूगोलए शारदा पुस्तक भवन, इलाहाबाद

9ण सिन्हा एवं बाला ए ;2018द्ध नगरीय भूगोलए राजेश प्रकाशन, नई दिल्ली

Semester VIII

Paper AMJ-3 Geography of Jharkhand

Marks: 25 (5 Attd. + 20 SIE: 1Hr) + 75 (ESE: 3Hrs) = 100 Pass Marks: Th (SIE + ESE) = 40

(Credits: Theory-04) 60 Hours

Instruction to Question Setter for

Semester Internal Examination (SIE 20+5=25 marks):

The Semester Internal Examination shall have two components. (a) One Semester Internal Examination Written Test (SIE) of 20 Mark (b) Day to day assessment) including the behaviour of the student towards teachers and other students of the College of 5 marks.

End Semester Examination (ESE 75 marks):

There will be two group of questions **A** and **B**. **Group A is compulsory** which will contain three questions. **Question No.1 will be very short answer type** consisting of five questions of 1 mark each. **Question No. 2 & 3 will be short answer type** of 5 marks. Group B will contain descriptive type seven questions of fifteen marks each, out of which any four are to be answered.

Note: *There may be subdivisions in the questions of group B.*

Course Objectives

1. To study the physical geography of the region and understand the challenges in disaster risk management.
2. To study the agriculture, population growth, and the distribution of major resources like water, soil, and minerals.
3. To analyse socio-economic factors, local tribes, and environmental issues in Jharkhand and strategise resource utilization.

Learning outcome:

By the end of the course, students will be able to analyze the physical and socio-economic features of Jharkhand, including natural resources, agriculture, and population distribution; They will understand local environmental issues, interpret topographic data, and propose sustainable solutions for the utilization of resources and development of the region.

Module 1

Physiography and Relief, Drainage Pattern, Climate, Forest Resource and its Importance; Problem and Mitigation of Disaster Risk Management: Lightening and Drought; Major Natural Resources (Water and Soil) & Mineral resources-Distribution & Development.

Module 2

Agriculture: Irrigation- Types, Distribution, Problem and Solution, Major crops-Food Crops; Population growth and distribution: Population composition- Sex, Age, Literacy, Religious Community.

Major Hydel Power Projects, Thermal Power Plants; Industries: Locational Factors-Distribution of Iron and Steel.

Module 3

Transport Roads and Development of Tourism; Eco-tourism in Jharkhand; Major tribes: Santhal, Oraon and Munda; Primitive People of Jharkhand (PVTGs): Birhor ; Social, Economic and Environmental Problems of Jharkhand.

Module 4

Problem the state is facing: Environmental Problems of Industrial closure, problems of out-migration, Problem of Tribal land acquisition.

Suggested book list:

1. Sinha and Singh (2018): Land and People: Jharkhand, Rajesh Publications, Delhi
2. Prasad Ayodhya (2021): Jharkhand Geography of Rural Settlement, Rajesh Publication, New Delhi
3. सिंह, एस.के: (2016) झारखण्ड प्रदेश की भौगोलिक व्याख्या, राजेश प्रकाशन, नई दिल्ली
4. तिवारी, आर. के: (2009) झारखण्ड का भूगोल, राजेश प्रकाशन, नईदिल्ली
5. शर्मा एवं विक्रम (2018): छोटानागपुर का भूगोल, राजेश प्रकाशन, नईदिल्ली
6ण शर्मा, जे. पी. (2018): प्रायोगिक भूगोल, रस्तोगी प्रकाशन, मेरठ
7. सिंह, एल. आरः प्रायोगिक भूगोल के मूल सिद्धांत, शारदा पुस्तक भवन, इलाहाबाद
8. Singh, L. R. (2013): Fundamentals of Practical Geography, Sharda Pustak
9. Bhawan, Allahabad
10. Singh and Singh (1999): Elements of Practical Geography, Kalyani Publishers, New Delhi

Associated Core Course (AC)

Semester – I

Paper – AC , Physical Geography (Theory)

Marks: 15 (5 Attd. + 10 SIE: 1Hr) + 60 (ESE: 3Hrs) = 75 Pass Marks: Th (SIE + ESE) = 30

(Credits: Theory-03) 45 Hours

Instruction to Question Setter for

Semester Internal Examination (SIE 10+5=15 marks):

The Semester Internal Examination shall have two components. (a) One Semester Internal Examination Written Test (SIE) of 10 Mark (b) Class Attendance Score (CAS) including the behaviour of the student towards teachers and other students of the College of 5 marks.

End Semester Examination (ESE 60 marks):

There will be two group of questions **A** and **B**. **Group A is compulsory** which will contain three questions. **Question No.1 will be very short answer type** consisting of five questions of 1 mark each. **Question No. 2 & 3 will be short answer type** of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to be answered.

Note: *There may be subdivisions in the questions of group B.*

Course Objective:

1. To understand the physical aspects of earth.
2. To study the all the environmental aspects of the earth like atmosphere, lithosphere, hydrosphere and biosphere

Learning outcome:

1. Students will understand the components of the earth system – atmosphere, lithosphere, hydrosphere and biosphere.
2. Students will study the interactions among bio-physical processes in earth space.

Module 1

Earth and solar system, Types and formation of rocks, Distribution of Earthquake and volcano, Denudation of Land Surface, Mountain, Plateau, Plain, Lake and rift valley, Landforms: Fluvial, Aeolian,

Module 2

Atmosphere: structure and composition, Atmospheric pressure and Temperature, Planetary and Local winds, types of Humidity and Precipitation,

Greenhouse gases and Global Warming- causes and effects, Cyclone: Tropical and Temperate.

Module 3

Configuration of Oceans, Salinity and Temperature of the Ocean Water, Ocean current, Sea Deposits and Resources- Mineral and Biotic. Concept of Ecology and Ecosystem, Energy flow: Food Chain and Food Web, Biomes: Grassland, Forest; Biodiversity-loss and their Conservation.

Suggested books:

1- हुसैन, माः भौगोलिक विचार धाराओं का उद्‌भव एवं विकास, रावत प्रकाशन, नई दिल्ली

2. कौशिक एवं रावतः भौगोलिक विचार धारायें एवं विधितंत्र, रस्तोगी प्रकाशन, मेरठ

3. सिंह, एस : जलवायु विज्ञान, प्रवालिका प्रकाशन इलाहाबाद

4. सिंह, सविन्द्रः समुद्र विज्ञान, प्रवालिका प्रकाशन इलाहाबाद

5. सिंह, सविन्द्रः भूआकृतिविज्ञान, वसुंधरा प्रकाशन,

6. शर्मा, जेपीः भूअकृतिविज्ञान, रस्तोगी प्रकाशन, मेरठ

7. Dixit, R D (2018): Geographical Thought a Contextual History of Ideas, Prentice Hall India, New Delhi
8. Hussain, Majid (2015): Evolution of Geographical Thought, Rawat Publication, New Delhi
9. Singh, S.(2018): Geomorphology, Pravalika publication, Allahabad
10. Singh, S. (2023): Physical Geography, Pravalika publication, Allahabad
11. Strahler, A. (2016): Introducing Physical Geography, Wiley India

Paper AC , Physical Geography (Practical),

Marks: Pr (ESE: 3Hrs) = 25 **Pass Marks: Pr (ESE) = 10**

(Credits: Practicals-01) 30 Hours

1. Meaning of Representative Fraction (R.F), Construction of scale (Simple and Comparative), Interpretation of topographical sheet

10

2. Interpretation of weather map, Rainfall and temperature graph, Hythergraph, Climograph, Weather symbols, Relief feature Representation: Contours of Landforms, Choropleth and Isopleth

10

3. Viva-voce

05

Suggested books:

1. शर्मा, जे. पी. (2018): प्रायोगिक भूगोल, रस्तोगी प्रकाशन, मेरठ

2. सिंह, एल. आरः प्रायोगिक भूगोल के मूल सिद्धांत, शारदा पुस्तक भवन, इलाहाबाद

3. Singh, L. R. (2013): Fundamentals of Practical Geography, Sharda Pustak Bhawan, Allahabad

4. Singh and Singh (1999): Elements of Practical Geography, Kalyani Publishers, New Delhi

Elective Course (ELC)

Semester – III

Paper – ELC-I, Human Geography, (Theory)

Marks: 15 (5 Attd. + 10 SIE: 1Hr) + 60 (ESE: 3Hrs) = 75 Pass Marks: Th (SIE + ESE) = 30

(Credits: Theory-03) 45 Hours

Instruction to Question Setter for

Semester Internal Examination (SIE 10+5=15 marks):
The Semester Internal Examination shall have two components. (a) One Semester Internal Examination Written Test (SIE) of 10 Mark (b) Class Attendance Score (CAS) including the behaviour of the student towards teachers and other students of the College of 5 marks.
End Semester Examination (ESE 60 marks):
There will be two group of questions **A** and **B**. **Group A is compulsory** which will contain three questions. **Question No.1 will be very short answer type** consisting of five questions of 1 mark each. **Question No. 2 & 3 will be short answer type** of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to be answered.
Note: *There may be subdivisions in the questions of group B.*

Course Objective:

1. To understand the man-environment relationship on the earth

2. To study the cultural aspects of human like settlement, functions etc.

Learning outcome:

1. Know the changing human and cultural landscape at different levels.

2. Understand patterns and processes of population growth and its implications.

3. Appreciate the nature and quality of human landscapes.

Module 1

Meaning, nature and scope of Human Geography, Schools of thought in human geography, Determinism, Possibilism, Neo- determinism, Probabilism.

Module 2

Classification and characteristics of races in world and India, Human Adaptation to Environment: Eskimo, Masai, Semang, Bushman. Rural houses in

India: types, classification and regional pattern; Evolution of urban settlements and their functional classification

Module 3

Growth and Distribution of World Population, Migration- Local, National and International, Malthusian and Demographic Transition Theory, Human and Environment Interface, Human Development Index (HDI).

Suggested books:

1ण कौ ाक, एस.डी. मानव भूगोल रस्तोगी प्रका ान
2ण राव एवं दीक्षित, बी. पी.., एस. के.ः मानव भूगोल, वसुन्धरा प्रका ान
3ण सिंह, डी. पी. मानव भूगाल के मूल तत्व, कल्याणी प्रका ान
4. Mourya, S.D. (2022): Human Geography, Prayag Pustak Bhawan.
5. Singh, Lekh Raj (2005): Fundamental of Human Geography, Sharda Publication
6. Hussain, M. (2021): Human Geography, Rawat Publication.
7. Negi, B.S. : Human Geography, Rastogi Publication, Meerut.

Paper ELC-I, Human Geography, (Practical),

Marks: Pr (ESE: 3Hrs) = 25 **Pass Marks: Pr (ESE) = 10**

(Credits: Practicals-01) 30 Hours

1. Bar Diagram (Simple, Multiple and compound), Pie diagram, Representation of population by Dot Method and Pyramid Diagram 10

2. Map projection: simple and conical map projection with one standard and two standard parallel, Mercator Projection 10

3. Viva-voce 05

Suggested books:

1-शर्मा, जे पी : 2018प्रायोगिक भूगोल, रस्तोगी प्रकाशन , मेरठ

2.सिंह, एल आरः प्रायोगिक भूगोल के मूल सिद्धांत, शारदा पुस्तक भवन, इलाहाबाद

3. Singh, L. R (2013): Fundamentalsof Practical Geography, Sharda Pustak Bhawan, Allahabad
4. Singh and Singh (1999): Elements of Practical Geography, Kalyani Publishers, New Delhi.

Semester – V

Paper – ELC II , Geographical Thought, GIS, GPS & Remote Sensing (Theory)

Marks: 15 (5 Attd. + 10 SIE: 1Hr) + 60 (ESE: 3Hrs) = 75 Pass Marks: Th (SIE + ESE) = 30

(Credits: Theory-03) 45 Hours

Instruction to Question Setter for

Semester Internal Examination (SIE 10+5=15 marks):
The Semester Internal Examination shall have two components. (a) One Semester Internal Examination Written Test (SIE) of 10 Mark (b) Class Attendance Score (CAS) including the behaviour of the student towards teachers and other students of the College of 5 marks.
End Semester Examination (ESE 60 marks):
There will be two group of questions **A** and **B**. **Group A is compulsory** which will contain three questions. **Question No.1 will be very short answer type** consisting of five questions of 1 mark each. **Question No. 2 & 3 will be short answer type** of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to be answered.
Note: *There may be subdivisions in the questions of group B.*

Course objective:

1.To understand the Conceptual framework of geography.
2.To study the historical development and contributions of geography.
3. Understanding modern techniques in geography.

Learning outcome:

After completion of this course the student will be able to understand the theme of the geography and its development through time as well as changing man-environment relationship.

Module-I:

Geography as a Discipline; Nature and Scope of Geography; place of Geography in the classification of Sciences. Methods and Approaches in Geography- Quantitative and Environmental.

Module-II:

Geography in Ancient (Greek, Rome, Arab and India) and Medieval Period; Development of Geography in Modern Period (German, French, British and

American School). Dualism in Geography; Man-Environment Relationship, Career in Geography,

Module-III:

Meaning and Introduction of Remote sensing, Advantage of Remote sensing in modern times; Interpretation of Aerial Photographs. Meaning of Geographical information system (GIS), Application of GIS, Concept and application of Global Positioning system (GPS),

Suggested books: -

1. हुसैन, मा (2001): भौगोलिक विचार धाराओं का उद्भव एवं विकास, रावत प्रकाशन, नई दिल्ली
2. श्रीवास्तव, वि केः भौगोलिक चिंतन के आधार, वसुंधरा प्रकाशन, गोरखपुर
3. कौशिक एवं रावतः भौगोलिक विचार धारायें एवं विधितंत्र, रस्तोगी प्रकाशन, मेरठ
4. Dixit, R. D (2018): Geographical Thought a Contextual History of Ideas, Prentice Hall India, New Delhi
5. Hussain, Majid (2015): Evolution of Geographical Thought, Rawat Publication, New Delhi
6. Reddy, M. Anji (2008): Remote sensing and Geographical Information system, B.S. publication,
7. Chauniyal, D. D. (2016): सुदूर संवेदन एवं भौगोलिक सूचना प्रणाली के सिद्धांत , Sharda Pustak Bhawan, Prayagraj.

Paper – ELC II, Geographical Thought, GIS, GPS & Remote Sensing

(Practical),

Marks: Pr (ESE: 3Hrs) = 25 **Pass Marks: Pr (ESE) = 10**

(Credits: Practicals-01) 30 Hours

1. Nature of data- primary and secondary, methods of data collection- Questionnaire and schedule. Statistical Techniques- Mean, Median and Mode 10

2. Principles of Visual Image interpretation: Aerial photograph and satellite imageries; Use of Pocket Stereoscope 10

3. Viva-voce 05

Suggested books:

1. शर्मा, जे पी (2018): प्रायोगिक भूगोल, रस्तोगी प्रकाशन , मेरठ

2. सिंह, एल. आरः प्रायोगिक भूगोल के मूल सिद्धांत, शारदा पुस्तक भवन, इलाहाबाद
3. Singh, L. R (2013) : Fundamentals of Practical Geography, Sharda Pustak Bhawan, Allahabad
4. Singh and Singh (1999): Elements of Practical Geography, Kalyani Publishers, New Delhi.

Semester – VII

Paper – ELC III, Regional Geography: India & Jharkhand, (Theory)

Marks: 15 (5 Attd. + 10 SIE: 1Hr) + 60 (ESE: 3Hrs) = 75 Pass Marks: Th (SIE + ESE) = 30

(Credits: Theory-03) 45 Hours

Instruction to Question Setter for

Semester Internal Examination (SIE 10+5=15 marks):
The Semester Internal Examination shall have two components. (a) One Semester Internal Examination Written Test (SIE) of 10 Mark (b) Class Attendance Score (CAS) including the behaviour of the student towards teachers and other students of the College of 5 marks.
End Semester Examination (ESE 60 marks):
There will be two group of questions **A** and **B**. **Group A is compulsory** which will contain three questions. **Question No.1 will be very short answer type** consisting of five questions of 1 mark each. **Question No. 2 & 3 will be short answer type** of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to be answered.
Note: *There may be subdivisions in the questions of group B.*

Course Objective:

1. Learn the differences in terms of varied physical and demographic features of India and Jharkhand.
2. To understand the production pattern of major crops, minerals and industrial regions in India and Jharkhand.
3. To study the indigenous people of Jharkhand and development of tourism.

Learning Outcome:

The student will be able to understand the diverse physical as well as cultural aspect of India. They will also know about the indigenous people and the tourist attractions of Jharkhand.

Module 1

India: Physiography, Drainage and Climate, Biodiversity of India, Green Revolution and its consequences, Population Growth and distribution in India, Trend of Urbanization in India.

Module 2

Jharkhand: Physiography, Drainage and Climate; Forest resources and its Economic and environmental importance Growth and Distribution of Population in Jharkhand, Out-Migration Study of tribes, Tourism in Jharkhand

Module 3

India & Jharkhand: Agricultural crops, Minerals, Energy resources , Agricultural Region, Industrial regions.

Suggested books: -

1. Hussain, M., (1992): Geography of India, Tata McGraw Hill Education, New York.
2. Khullar, D. R: India (2018): A Comprehensive Geography, Kalyani Publishers, New Delhi
3. R Tirtha (2002): Geography of India, Rawat Publications, New Delhi
4. Sinha and Singh (2018): Land and People: Jharkhand, Rajesh Publications, Delhi
5. Prasad Ayodhya (2021): Jharkhand Geography of Rural Settlement, Rajesh Publication, New delhi

6ण राव एवं त्यागीः भारत की भौगोलिक समीक्षा, वसुंधरा प्रकाशन , गोरखपुर

7ण बंसल, सुरेश (2015): भारत का बृहत् भूगोल, मीनाक्षी प्रकाशन, मेरठ

15ण श्रीवास्तव, एलः भारत का भूगोल, शारदा पुस्तक भवन, इलाहाबाद

16ण सिंह, एस. के. (2016): झारखण्ड प्रदेश की भौगोलिक व्याख्या, राजेश प्रकाशन, नई दिल्ली

17ण तिवारी, आर. के. (2009): झारखण्ड का भूगोल, राजेश प्रकाशन, नई दिल्ली

20ण शर्मा एवं विक्रम (2018): छोटानागपुर का भूगोल, राजेश प्रकाशन, नई दिल्ली

Paper ELC III, Regional Geography: India & Jharkhand, (Practical),

Marks: Pr (ESE: 3Hrs) = 25 **Pass Marks: Pr (ESE) = 10**

(Credits: Practicals-01) 30 Hours

1. Field Study of an Area nearby Institution Allotted by H.O.D. using Diagrams, GPS Maps and Photographs. 10

2. Instrumental Survey- Plane table (radiation and intersection method), Prismatic compass survey (Open and Closed traverse) 10

3. Viva-voce 05

Suggested books:

1ण शर्मा, जे पी 2018 : प्रायोगिक भूगोल, रस्तोगी प्रकाशन , मेरठ

2ण सिंह, एल आरः प्रायोगिक भूगोल के मूल सिद्धांत, शारदा पुस्तक भवन, इलाहाबाद

3. Singh, L R (2013): Fundamentals of Practical Geography, Sharda Pustak Bhawan, Allahabad
4. Singh and Singh (1999): Elements of Practical Geography, Kalyani Publishers, New Delhi