

JAI NARAIN VYAS UNIVERSITY, JODHPUR

DEPARTMENT OF GEOGRAPHY



**MAJOR PAPERS SYLLABUS
(Four Year Undergraduate Programme)**

**IN
GEOGRAPHY
(As per NEP 2020)**

Semester I & II Examination Session 2026-27

Semester III & IV Examination Session 2027-28

Semester V & VI Examination Session 2028-29

Semester VII & VIII Examination Session 2029-30 (Honours)

Semester VII & VIII Examination Session 2029-30 (Honours with Research)


Head
Department of Geography
J.N.Vyas University, Jodhpur (Raj.)

Part-A Introduction	
Subject	Geography
Semester	I
Name of the Course	Physical Basis of Geography
Course Code	09/GEOG/MJR/101/T
Course Type:	MJR
Level of the course (As per Annexure-I)	100-199
Pre-requisite for the course (if any)	NA
Course Learning Outcomes (CLO)	After completing the course: CLO 1: Earth's Origin & Structure • Understand the major theories related to the origin of the Earth. • Explain the internal structure of the Earth (crust, mantle, core). • Analyze the concept of isostasy and its geographical significance. • Describe different types of earth movements. • Identify and classify folds and faults. • Classify rocks (igneous, sedimentary, metamorphic) and understand their formation. CLO 2: Endogenic Forces & Landforms • Explain the causes and distribution of earthquakes and volcanoes. • Understand the formation and characteristics of major landforms. • Differentiate between mountains, plains, plateaus, and lakes. • Analyze geomorphic processes responsible for landform development. CLO 3: Exogenic Processes & Erosion • Understand processes of weathering and denudation. • Explain the normal cycle of erosion (Davisian cycle). • Analyze the role of agents of erosion: rivers, glaciers, wind, and groundwater. • Identify landforms created by different geomorphic agents. CLO 4: Atmosphere & Weather Processes


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

	• Describe the composition and structure of the atmosphere. • Understand insolation and temperature distribution. • Explain atmospheric pressure and wind systems. • Analyze processes of humidity and precipitation. • Understand the formation and types of cyclones. CLO 5: Hydrosphere • Understand the physical properties of ocean water (temperature, salinity). • Explain the origin and types of ocean deposits. • Analyze the causes and effects of ocean tides and currents. • Evaluate the role of oceans in global climate and environmental systems.	
Credits	6	
Total Marks	30+120= 150	
Part-B Contents of the Course		
Total lecture per week	6	
Units	Topics	No. of Lecture/Contact Hours
I	Earth's Origin & Structure: ▪ Origin of the Earth; ▪ Interior of the earth; ▪ Theory of Isostasy; ▪ Earth movement; ▪ Folds and faults (their types only); ▪ Rocks and their classification. •	18
II	Endogenic Forces & Landforms: ▪ Earthquake and Volcanoes; ▪ Major land forms: mountains, Plains, Plateaus and lakes. ▪	18
III	Exogenic Processes & Erosion: ▪ Weathering and Denudation; ▪ Normal cycle of erosion; ▪ Major Work of: rivers; glaciers, ground water and winds.	18


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

IV	Atmosphere & Weather Processes: ▪ Atmosphere: Composition and structure; ▪ Insolation and Temperature; ▪ Atmospheric Pressure and winds, ▪ Humidity and precipitation, cyclones	18
V	Hydrosphere: ▪ Hydrosphere ▪ Temperature of Ocean water, ▪ Salinity, ▪ Ocean deposits, ▪ Ocean Tides and currents.	18
Part-C Learning Resources		
1. Dayal, P.A – Text book of Geomorphology, Shukla Book depot, Patna, 1996. 2. Dury, G.H – The Face of the Earth, Penguins, 1980. 3. Ernst, W.G – Earth systems – Process and Issues, Cambridge University Press, 2000. 4. ICSSR – A Survey of Research in Physical Geography, Concept, New Delhi, 1983. 5. Kale V and Gupta, A – Element of Geomorphology, Oxford University Press, Calcutta, 2001. 6. Monkhouse, F.J – Principles of Physical Geography, Hodder and Stoughton, London, 1960. 7. Pitty. A – Introduction to Geomorphology, Methuen, London, 1974. 8. Sharma, H.S – Tropical Geomorphology, Concept, New Delhi, 1987. 9. Singh, S – Geomorphology, Prayag Pustakalaya, Allahabad, 1998.		

Undergraduate Programme (Geography) Syllabus, Semester-I	
Session 2026-2027	
Part-A Introduction	
Subject	Geography
Semester	I
Name of the Course	Basics of Cartography
Course Code	09/GEO/MJR/102/P
Course Type:	MJR
Level of the course (As per Annexure-I)	100-199
Pre-requisite for the course (if any)	NA
Course Learning Outcomes (CLO)	After completing the course: CLO 1: Fundamentals of Cartography & Maps • Understand the meaning, nature, and scope of cartography. • Explain the concept, types, and uses of maps. • Analyze the importance of cartography in geographical representation and analysis. CLO 2: Map Scale • Understand different types of map scales and their applications. • Develop skills in the graphical construction of scales. • Construct and interpret plain scale, comparative scale, and diagonal scale. • Apply scale concepts in map reading and measurement. CLO 3: Map Projections • Understand the concept and need for map projections. • Analyze the criteria for selection of appropriate map projections. • Explain properties and uses of different projections: ✓ Zenithal Gnomonic (Polar case) ✓ Zenithal Stereographic (Polar case) ✓ Cylindrical Equal Area ✓ Mercator's Projection ✓ Conical Projection with Two Standard Parallels ✓ Bonne's Projection • Evaluate distortions related to area, shape, distance, and direction. CLO 4: Representation & Interpretation of Thematic Data


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

		- Understand the concept and significance of thematic maps. - Apply different methods of geographical data representation: ✓ Symbol method ✓ Dot method ✓ Choropleth method ✓ Isopleth method ✓ Flow diagrams - Interpret thematic maps for spatial patterns and relationships. - Develop skills in visual analysis of geographical data. CLO 5: Basic Surveying Techniques - Understand the concept and importance of chain and tape surveying. - Identify and use instruments involved in basic surveying. - Apply methods of chain surveying in fieldwork. - Develop skills in plotting and representation of survey data.
Credits		6
Total Marks		30+120= 150
Part-B Contents of the Course		
Total lecture per week		12
Units	Topics	No. of Lecture/Contact Hours
I	Fundamentals of Cartography and Map Scale - Meaning, nature and scope of Cartography - Maps: concept, types and uses	36
II	Map Scale - Types of scale and their applications - Graphical construction of scales: ✓ Plain Scale ✓ Comparative Scale ✓ Diagonal Scale	36


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

III	Map Projections ▪ Map Projections – Criteria for Choice of Projections; ▪ Attributes and Properties of: Zenithal Gnomonic Polar Case, Zenithal Stereographic Polar Case, Cylindrical Equal Area, Mercator's Projection, Conical Projection with Two Standard Parallel, Bonne's Projection.	36
IV	Representation and Interpretation of Thematic Data ▪ Concept and significance of thematic maps ▪ Methods of representation of geographical data: ✓ Symbol method ✓ Dot method ✓ Choropleth method ✓ Isopleth method ✓ Flow diagrams ▪ Interpretation of thematic maps	36
V	Basic Surveying Techniques ▪ Chain and Tape Survey: concept and importance ▪ Instruments used in chain and tape surveying ▪ Basic methods of chain surveying ▪ Plotting of chain survey data	36

Part-C Learning Resources

1. Anson, R. & Ormelling, F. J. (1994): *Basic Cartography*. International Cartographic Association, Pergamon Press.
2. Singh, Gopal (1998): *Map Work and Practical Geography* (4th Edition). Vikas Publishing House, Ahmedabad.
3. Gupta, K. K. & Tyagi, V. C. (1992): *Working with Maps*. Survey of India, New Delhi.
4. Misra, R. P. (2014): *Fundamentals of Cartography* (Second Revised and Enlarged Edition). Concept Publishing, New Delhi.
5. Monkhouse, F. J. & Wilkinson, H. R. (1973): *Maps and Diagrams*. Methuen, London.
6. Robinson, A. H. (2009): *Elements of Cartography* (6th Edition). John Wiley and Sons, New York.
7. Sarkar, A. (2015): *Practical Geography: A Systematic Approach*. Orient BlackSwan, New Delhi.
8. Sharma, J. P. (2010): *Prayogic Bhugol* (Hindi). Rastogi Publications, Meerut.

9. Singh, R. L. & Singh, R. P. B. (1999): *Elements of Practical Geography*. Kalyani Publishers, New Delhi.
10. Singh, R. L. & Dutta, P. K. (2012): *Prayogatmak Bhugol* (Hindi). Central Book Depot, Allahabad.
11. Steers, J. A. (1970): *An Introduction to the Study of Map Projections*. University of London Press.

GEOGRAPHY PRACTICAL

Scheme of Examination for B.A./B.Sc. Geography Semester I (NEP 2020)

CA and EoSE will be as per University NEP ordinance

NHEQ F Level	Course Type	Course Code	Course Title	P	H/W	Total Hours	Credits	Total Credits	Marks		
									C. A.	EoS E	Total
4.5	MJR	09/GEO /MJR/1 02/P	Basics of Cartography	P	12	180	6	6	30	120	150

Scheme

In each Practical Group the number of students will be 20 students

1. Continues Assessment (CA):Max. Marks CA : 30 Marks
The internal assessment is of 30 Marks which is expended to 100 Marks as follows
 - a. Practical record book evaluation and Viva : 30 Marks
 - b. Assessment of Practical conducted by the students : 70 Marks
2. EoSE (End of Semester Exam) Max. Marks **EoSE** : 120

Note: Each student is required to complete at least Twenty Exercise in the Record Book.

Practical Examination	Duration	Marks
1. Lab Work (Written paper)	01.30Hours	80 Marks
2. Record Work & Viva	30 Minutes	10+10 = 20 Marks
3. Field Survey & Viva Voce	01 Hours	10+10= 20 Marks
Total	03 Hours	120 Marks


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

Undergraduate Programme (Geography) Syllabus, Semester-II	
Session 2026-2027	
Part-A Introduction	
Subject	Geography
Semester	II
Name of the Course	Human Geography
Course Code	09/GEO/MJR/151/T
Course Type:	MJR
Level of the course (As per Annexure-I)	100-199
Pre-requisite for the course (if any)	NA
Course Learning Outcomes (CLO)	After completing the course: CLO 1: Fundamentals of Human Geography • Understand the definition, scope, and principles of human geography. • Analyze the relationship between human geography and other social sciences. • Evaluate major schools of human geography. • Differentiate between Environmental Determinism, Possibilism, and Neo-determinism. CLO 2: Human-Environment Interaction • Analyze the influence of landforms, climate, and water bodies on human activities. • Understand different forms of human adaptation to the environment. • Examine human life in major environmental regions: ✓ Equatorial regions ✓ Tropical deserts ✓ Monsoon lands ✓ Temperate grasslands ✓ Mediterranean regions ✓ Polar regions • Evaluate the role of environment in shaping livelihood and culture. CLO 3: Population and Races of Mankind • Understand the concept and criteria for classification of races.


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

		- Analyze classification schemes proposed by Kroeber, Haddon, and G. Taylor. - Examine population growth, distribution, and density patterns at the global level. - Interpret factors influencing population distribution. CLO 4: Human Settlements - Understand the concept of site and situation of settlements. - Classify types and forms of rural and urban settlements. - Analyze house types with special reference to India. - Evaluate factors influencing settlement patterns and structures. CLO 5: Urbanization and Its Issues - Understand the meaning, growth, and causes of urbanization. - Analyze major urban agglomerations of the world. - Classify Indian cities based on functional characteristics. - Examine the problem of slums in India and associated socio-economic issues. - Evaluate problems of urbanization and suggest remedial measures.
Credits		6
Total Marks		30+120= 150
Part-B Contents of the Course		
Total lecture per week		6
Units	Topics	No. of Lecture/Contact Hours
I	Definition, scope and principles of human geography; its relationship with other Social Science; Schools of human geography; Environmentalism, Possibilism and Neo-determinism.	18
II	Geographic environment and man: Influence of major	18


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

	land forms, climate and water bodies on human activities; Forms of adaptation to environment; Human life in principle environments: Equatorial regions, Tropical deserts, Monsoon lands, Temperate grasslands, Mediterranean lands and Polar region.	
III	Races of Mankind: Criteria for classification; Classification schemes of Krober, Haddon and G. Taylor; Population: growth, distribution and density in the world.	18
IV	Human settlements: Site, forms and types: House types with special reference to India.	18
V	Urbanization: Meaning, growth and causes of Urbanization; Principal agglomerations of world functional classification of Indian cities; slums and associated problems with reference to India, Problems of urbanization and remedies.	18

Part-C Learning Resources

1. Brunches, J.: Human Geography
2. Huntington, E.; The principles of Human Geography, John Wiley & Sons, N. Y.
3. Eperillou, A. V. Human Geography, Longmans, 1965
4. Money, D. C.: An Introduction to human Geography, U. I. P., London
5. Karan, M. P.: Manav bhugol ke sidhant, kitabghar, Kanpur.
6. Mamoria, C. B.: Principles of Human Geography.
7. Dwivedi, R.L. & Singh R.L.: Manav Bhugol Ki Samiksha
8. Blache Vidal de la: Manav Bhugol Ke Siddhant (in Hindi)
9. Jain, J.K. & Bohra, D.M.: Vishwa ka Sanskritik Bhugol, Academic Publishers, Jaipur, 1983
10. Leong, G.C. & Morgan, G.C. & Morgan, G.C.: Human and Economic Geography, O.U.P., Oxford, 1986.
11. Husain, Majid: Human Geography, Rawat Publications, Jaipur and Delhi.

Undergraduate Programme (Geography) Syllabus, Semester-II	
Session 2026-2027	
Part-A Introduction	
Subject	Geography
Semester	II
Name of the Course	Thematic Cartography
Course Code	09/GEO/MJR/152/P
Course Type:	MJR
Level of the course (As per Annexure-I)	100-199
Pre-requisite for the course (if any)	NA
Course Learning Outcomes (CLO)	After completing the course: CLO 1: Fundamentals of Cartography and Map Design • Understand the nature, scope, and significance of cartography. • Explain the concept and development of thematic cartography. • Identify key elements of map design such as scale, projection, direction, lettering, and symbols. • Apply principles of effective map construction and visualization. CLO 2: Cartographic Data and Processing • Understand various sources and types of cartographic data. • Differentiate between qualitative and quantitative data. • Apply methods of data classification, tabulation, and generalization. • Prepare data appropriately for thematic map construction. CLO 3: Methods of Thematic Representation • Apply different methods of thematic mapping: ✓ Dot maps ✓ Choropleth maps ✓ Chorochromatic maps ✓ Isopleth maps ✓ Flow maps


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

			✓ Proportional circles and spheres • Select appropriate methods based on data type and purpose. • Interpret spatial patterns using different cartographic techniques. CLO 4: Diagrammatic Representation in Cartography • Understand various diagrammatic techniques: ✓ Bar diagrams ✓ Pie diagrams ✓ Divided circles ✓ Cartograms ✓ Statistical graphs • Evaluate the suitability, merits, and limitations of each method. • Apply diagrammatic tools for effective data visualization. CLO 5: Modern Cartography and Applications • Understand the concepts of computer-assisted and digital cartography. • Analyze the role of GIS and Remote Sensing in thematic mapping. • Interpret thematic maps for regional planning and geographical analysis. • Evaluate the importance of modern cartographic techniques in decision-making.
Credits			6
Total Marks			30+120= 150
Part-B Contents of the Course			
Total lecture per week			6
Units	Topics	No. of Lecture/Contact Hours	
I	Nature, scope and significance of cartography; concept and development of thematic cartography; elements of map design; scale, projection, direction, lettering and symbols.	18	


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

II	Sources and types of cartographic data; qualitative and quantitative data; data classification, tabulation and generalization for thematic mapping.	18
III	Methods of thematic representation: dot maps, choropleth maps, chorochromatic maps, isopleth maps, flow maps, proportional circles and spheres.	18
IV	Diagrammatic representation in cartography: bar diagrams, pie diagrams, divided circles, cartograms and statistical graphs; suitability, merits and limitations of different techniques.	18
V	Computer-assisted cartography; digital cartography; GIS and remote sensing support in thematic mapping; interpretation and uses of thematic maps in regional planning and geographical analysis.	18

Part-C Learning Resources

1. Monkhouse, F.J. and Wilkinson, H.R. : Maps and Diagrams
2. Raisz, E. : General Cartography
3. Robinson, A.H. : Elements of Cartography
4. Lawrence, G.R.P. : Cartographic Methods
5. Dickinson, G.C. : Statistical Mapping and the Presentation of Statistics
6. Lewis, P. : Maps and Statistics
7. Gregory, S. : Statistical Methods and the Geographers
8. Singh, R.L. : Elements of Practical Geography
9. Singh, R. and Kanujia, L.R.S. : Map Work and Practical Geography
10. Kellaway, J. : Map Projections
11. Sharma, J.P. : प्रयोगिकभूगोल
12. Zuylen, L. Van : Computer Assisted Cartography
13. Misra, R.P. and Ramesh, A. : Fundamentals of Cartography
14. Dent, B.D. : Cartography: Thematic Map Design
15. Sarkar, A. : Practical Geography: A Systematic Approach

GEOGRAPHY PRACTICAL

Scheme of Examination for B.A./B.Sc. Geography Semester II (NEP 2020)

CA and EoSE will be as per University NEP ordinance

NHEQ F Level	Course Type	Course Code	Course Title	P	H/ W	Total Hours	Credits	Total Credits	Marks		
									C.A	EoS E	Total
4.5	MJR	09/GEO/MJR/15 2/P	Thematic Cartography	P	12	180	6	6	30	120	150

Scheme

In each Practical Group the number of students will be 20 students

1. Continues Assessment (CA):Max. Marks CA : 30 Marks
The internal assessment is of 30 Marks which is expended to 100 Marks as follows
 - a. Practical record book evaluation and Viva : 30 Marks
 - b. Assessment of Practical conducted by the students : 70 Marks
2. EoSE (End of Semester Exam) Max. Marks **EoSE** : 120

Note: Each student is required to complete at least Twenty Exercise in the Record Book.

Practical Examination	Duration	Marks
1. Lab Work (Written paper)	01.30Hours	80 Marks
2. Record Work & Viva	30 Minutes	20+20 = 40 Marks
Total	02 Hours	120 Marks


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

Undergraduate Programme (Geography) Syllabus, Semester-III	
Session 2027-2028	
Part-A Introduction	
Subject	Geography
Semester	III
Name of the Course	Geography of India
Course Code	01/GEO/MJR/201/T
Course Type:	MJR
Level of the course (As per Annexure-I)	200-299
Pre-requisite for the course (if any)	NA
Course Learning Outcomes (CLO)	After completing the course, students will be able to: • CLO–1 (Remember & Understand): Learners will understand India's physiography, drainage, climate, and soil types along with their distribution. They will analyse environmental issues like soil degradation and deforestation and suggest conservation measures. • CLO–2 (Understand & Appreciate): Learners will identify major minerals and power resources and explain their distribution and significance. They will also understand the development and importance of key industries in India. • CLO–3 (Analyse): Learners will describe the characteristics and challenges of Indian agriculture and the distribution of major crops. They will also evaluate irrigation sources and major irrigation projects in India. • CLO–4 (Apply): Learners will analyse population growth, distribution, and density patterns in India. They will examine population-related issues and assess the role of population policies and human development indicators. • CLO–5 (Evaluate): Learners will understand different modes of transport and their economic significance. They will also analyse India's trade policy and trends in national and international trade.
Credits	6
Total Marks	30+120=150


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

Part-B Contents of the Course		
Total lecture per week	6	
Units	Topics	No. of Lecture/Contact Hours
I	A study of India with reference to its Physiography, Drainage, Climate and Climate Divisions; Soils classification, Problems associated with soil and its remedies in India; Natural vegetation: types and distribution; Forest resources its Importance, Deforestation and measures of forest conservation in India.	18
II	Principal Minerals: Iron ore, Manganese, Mica; Power resources: Coal, Petroleum, Natural gas, Uranium, Thorium and Hydroelectric; Major Industries: Iron and Steel, Cotton Textile, Sugar, Cement, Pulp and Paper	18
III	Agriculture: Main characteristics and problem of Indian agriculture; Principal Agriculture crops: wheat, rice, sugarcane, tea and cotton; Irrigation-irrigation sources, Their distribution and major Irrigation Project of India: Bhakra Nangal Project, Damodar Valley corporation	18
IV	Population: Growth, Distribution and Density; Population problems - Poverty, Migration, Dependency Ratio, Human Development Index and population policies	18
V	Transportation and trade-different modes of transport (Rail, Road, Water and Airways) and their functional significance; India's Trade Policy, India's foreign trade composition and trends; International trade composition and trends	18
Part-C Learning Resources		
1. Chauhan, V.S. : <i>Bharat Vistrit Bhugol</i> , Rastogi & Co., Meerut, 1985 2. Chaudhuri, M.R. : <i>An Economic Geography of India</i> , Oxford And IBH, Calcutta Das, gupta and Kapur : <i>Bharat va Pakistan ka Arthikva Vanijya Bhugol</i> , Premier Publishing, Delhi		

3. Dubey, R.N. : *Bharat ka Arthik Bhugol*, Kitab Mahal, Allahabad
4. Jain, P. ; *Bharat Mahan*, Agra book store, Agra
5. Mamoria, C.B. : *Bharat ka Bhugol*, Sahitya Bhawan, Agra, 1988
6. Publications Division, *Government of India Year Book*, 1998
7. Singh, B. : *Bharat ka Bhugol*, Rajsthan Hindi Granth Academy, Jaipur
8. Sharma, T.C. and Coutinho, O. : *Economic And Commercial Geography of India*, Vikas Pub.House New Delhi, 1987
9. Singh. R.L. (ed.) : *India A Regional Geography*, National Geographical Society of India, Varanasi, 1981
10. Singh, U. : *Bharat Ka Nawin Arithik Bhugol*, Students, Friends, Varanasi

Undergraduate Programme (Geography) Syllabus, Semester-III	
Session 2027-2028	
Part-A Introduction	
Subject	Geography
Semester	III
Name of the Course	Cartography Techniques
Course Code	09/GEO/MJR/202/P
Course Type:	MJR
Level of the course (As per Annexure-I)	200-299
Pre-requisite for the course (if any)	NA
Course Learning Outcomes (CLO)	After completing the course, students will be able to: • CLO–1 (Remember & Understand): Learners will understand various methods of representing relief such as spot heights, contours, hachures, form lines, and benchmarks. They will develop the ability to interpret topographical features using these techniques. • CLO–2 (Understand & Appreciate): Learners will apply contour interpolation techniques and analyze intervisibility through section drawing. They will also understand concepts like dead ground and slope calculation using contour maps. • CLO–3 (Analyse): Learners will identify and draw different landforms such as valleys, ridges, plateaus, and dunes using contour sections. They will interpret terrain features through graphical representation. • CLO–4 (Apply): Learners will represent socio-cultural and economic data using various diagrams like bar, line, circle, and pyramid. They will also apply appropriate scales (square root, cube root) with reference to Rajasthan. • CLO–5 (Evaluate): Learners will classify and tabulate statistical data effectively. They will construct frequency distributions and graphical representations for data analysis and interpretation.
Credits	6
Total Marks	30+120=150
Part-B Contents of the Course	


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

Total lecture per week		6
Units	Topics	No. of Lecture/Contact Hours
I	Cartographic representation of Relief : Spot Height, Hachure, Contours, Form lines, Bench mark.	18
II	Interpolation on Contours. Intervisibility by drawing section with a Knowledge of Dead Ground, Scale of slope of Contours.	18
III	Sections Drawing : Slopes, Conical Hill, Ridge, 'V' Shape Valley, Gorge, Waterfall, Pass, Saddle, Plateau, Escarpment, Sand dune, 'U' Shaped Valley, Hanging Valley, Cliff and Lake.	18
IV	Representation of socio-cultural and economic data by diagrams, Types of diagrams – (i) Line (ii) Bar (iii) Pyramid (iv) Rectangular (v) Square (vi) Block Pile (vii) Wheel (viii) Circle and scale of Square root and Cube root special reference to Rajasthan.	18
V	Statistical Methods: Classification and Tabulation of Statistical data, Frequency Distribution and graphs	18
Part-C Learning Resources		
1. Singh, R.L. : Elements of Practical Geography, Students Friends, Varanasi, 1987. 2. Singh, R. and Kanaujia, L.R.S. : Map Work and Practical Geography, Central Book Depot, Allahabad. 3. Monkhouse, F.J. and Wilkinson, H.R. : Map and Diagrams, Methuen, London 1994. 4. Robinson, A.H.: Elements of Cartography, John Wiley & Sons, New York. 5. Mishra, R.P.: Fundamental of Cartography, Macmillan, New Delhi. 6. Kellay, George : Map Projections, Mathuen & Co., London. Steers. 7. J.K. : Map Projections, University of London Press, London. 8. Sharma, J.P.: Prayogik Bhugol, Rastogi Prakashan, Meerut. 9. Jain, S.M.: Prayogatmak, Bhogol, Sahitya Bhagwan, Agra. 10. शर्मा , जे.पी. : .प्रायोगिकभूगोल , रस्तोगीपब्लिकेशन , मेरठ 11. खुल्लर , डी.आर. : .प्रायोगिकभूगोल , कल्याणीपब्लिशर्स , नईदिल्ली		

GEOGRAPHY PRACTICAL

Scheme of Examination for B.A./B.Sc. Geography Semester III (NEP 2020)

CA and EoSE will be as per University NEP ordinance

NHEQ F Level	Course Type	Course Code	Course Title	P	H/ W	Total Hours	Credits	Total Credits	Marks		
									C.A	EoS E	Total
5	MJR	09/GEO/MJR/20 2/P	Cartography Techniques	P	12	180	6	6	30	120	150

Scheme

In each Practical Group the number of students will be 20 students

1. Continues Assessment (CA):Max. Marks CA : 30 Marks
The internal assessment is of 30 Marks which is expended to 100 Marks as follows
 - a. Practical record book evaluation and Viva : 30 Marks
 - b. Assessment of Practical conducted by the students : 70 Marks
2. EoSE (End of Semester Exam) Max. Marks **EoSE** : 120

Note: Each student is required to complete at least Twenty Exercise in the Record Book.

Practical Examination	Duration	Marks
1. Lab Work (Written paper)	01.30Hours	80 Marks
2. Record Work & Viva	30 Minutes	20+20 = 40 Marks
Total	02 Hours	120 Marks


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

Undergraduate Programme (Geography) Syllabus, Semester-IV	
Session 2027-2028	
Part-A Introduction	
Subject	Geography
Semester	IV
Name of the Course	Geography of Rajasthan
Course Code	09/GEO/MJR/251/T
Course Type:	MJR
Level of the course (As per Annexure-I)	200-299
Pre-requisite for the course (if any)	NA
Course Learning Outcomes (CLO)	After completing the course, students will be able to: CLO–1 (Remember & Understand): Learners will understand the physical environment of Rajasthan including physiography, climate, soils, and vegetation. They will analyse how geological structure influences natural resources and environmental conditions. CLO–2 (Understand & Appreciate): Learners will examine drainage systems, irrigation sources, and major irrigation projects of Rajasthan. CLO–3 (Analyse): Learners will understand agricultural patterns, major crops, and regional variations along with key problems. They will also evaluate mineral resources, industries, energy, transport, and trade in Rajasthan. CLO–4 (Apply): Learners will analyse demographic characteristics, tribal distribution, and population-related issues. They will also understand rural settlement patterns and the geographical significance of tourism. CLO–5 (Evaluate): Learners will identify major geographical regions of Rajasthan and their characteristics. They will evaluate environmental issues like drought, desertification, and regional development programmes.
Credits	6
Total Marks	30+120=150


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

Part-B Contents of the Course		
Total lecture per week	6	
Units	Topics	No. of Lecture/Contact Hours
I	Rajasthan - Introduction, Physiography and Physiographic divisions, Geological Structure, Climate, Soils and Natural Vegetation and Forest Resources.	18
II	Drainage System of Rajasthan, Irrigation - Sources and types, Spatial aspects of development of ground water, Principal Irrigation Projects - Indira Gandhi Canal, Chambal Valley Project, Mahi Bajaj Sagar and Narmada Canal Project, Animal Husbandry: Numbers, types, Spatial Pattern and Principal breeds.	18
III	Agriculture-types, Cropping Pattern, Agriculture Land use, Principal crops: Wheat, Maize, Bajra, Oil Seeds and Cotton, Problems of Agriculture, Agriculture regions of Rajasthan. Mineral resources: Distribution and reserves of important minerals. Industries-Textile, Sugar, Cement, Marble, Zinc, Copper and Petroleum. Conventional and non-conventional resources of Energy, Transport and Trade.	18
IV	Culture and demography aspects - Population, Number, Growth, Distribution and Density, Literacy, Sex ratio, Occupational structure and Population problems, Tribal population-Distribution, Principal tribes - Bhils, Meena, Garasia and Sahariya. Rural Settlement: Growth, Pattern, Types and Building material, Tourism in Rajasthan - Geographical perspective.	18
V	Geographical Regions of Rajasthan, A detailed study of Marusthali, Aravali Region, Eastern Agro Industrial Region and Hadauti Region. Problem of Drought and Desertification. Special Area	18


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

	development programmes. Hazards management in Rajasthan.	
Part-C Learning Resources		
1. Gupta & Prakash (ed.): Environmental Analysis of Thar Desert, English Books Depot, Dehradun, 1979. 2. Misra, V.C.: Geography of Rajasthan, NBT, New Delhi, 1967 (also available in Hindi). 3. Roonwal, M.L. (ed.): Natural Resources of Rajasthan, Vols. I & II, University of Jodhpur, 1977. 4. Sharma, R.C.: Settlement Geography of the India Desert, Korwar Brother, New Delhi. 1972. 5. Singh, R.L. (ed.): India: A Regional Geography, National Geographical Society of India, Varanasi, 1917. 6. Chouhan, T.S.: Geography of Rajasthan, Jaipur. 7. Bhalla, L.R.: Geography of Rajasthan, Kuldeep Publication. 8. Mishra, V.C.: Geography of Rajasthan. 9. शर्मा, बी. एल: राजस्थानकाभूगोल, कॉलेजबुकडिपो, जयपुर। 10. शर्मा, एच. एस. एवंशर्मा: राजस्थानकाभूगोल, पंचशीलप्रकाशन, जयपुर। 11. तिवारी, ए. के. एवंसक्सेना, एच. एमराजस्थानकाभूगोल, राजस्थानहिन्दीग्रंथअकादमी, जयपुर।		

Undergraduate Programme (Geography) Syllabus, Semester-IV	
Session 2027-2028	
Part-A Introduction	
Subject	Geography
Semester	IV
Name of the Course	Basics of Survey Equipment's
Course Code	09/GEO/MJR /252/P
Course Type:	MJR
Level of the course (As per Annexure-I)	200-299
Pre-requisite for the course (if any)	NA
Course Learning Outcomes (CLO)	After completing the course, students will be able to: CLO 1 • Understand the meaning, definition, and scope of surveying in geography. • Explain the importance of surveying in geographical studies and planning. • Differentiate between various types of surveying (plane, geodetic, etc.). • Apply the basic principles of surveying in field situations. • Classify different survey instruments and their uses. • Analyze the role of surveying in map-making and fieldwork. CLO 2 • Explain the concept and significance of chain and tape surveying. • Identify and differentiate between types of chains and tapes. • Describe the instruments used in chain surveying and their functions. • Apply various methods of chain surveying (triangulation, offsets, etc.). • Identify common errors in chain surveying and suggest


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

	corrections. • Develop basic skills for conducting field surveys using chains and tapes. CLO 3 • Understand the principles and applications of compass surveying. • Distinguish between types of compasses (prismatic, surveyor's compass). • Measure and interpret bearings (whole circle and quadrantal systems). • Explain magnetic declination and its adjustment techniques. • Identify local attraction and apply necessary corrections. • Apply compass surveying techniques in field mapping and navigation. CLO 4 • Explain the concept and importance of levelling in surveying. • Identify different types of levelling instruments and their components. • Describe levelling staff types and their uses. • Apply various methods of levelling (simple, differential, fly levelling). • Detect and correct errors in levelling procedures. • Develop skills to conduct accurate elevation measurements in the field. CLO 5 • Understand the need and evolution of modern survey instruments. • Explain the parts and working of a theodolite. • Analyze the features and applications of total station technology. • Understand basic concepts of Global Positioning System (GPS). • Apply modern tools in geographical data collection and mapping.
--	--

	Evaluate the advantages of modern surveying techniques over traditional methods.	
Credits	6	
Total Marks	30+120=150	
Part-B Contents of the Course		
Total lecture per week	6	
Units	Topics	No. of Lecture/Contact Hours
I	Introduction to Surveying: Meaning, Definition and Importance of Surveying in Geography, Types of Surveying, Principles of Surveying, Classification of Survey Instruments, Role of Surveying in Map-Making and Field Studies.	18
II	Chain and Tape Surveying: Concept and Uses, Types of Chains and Tapes, Study of Instruments used in Chain Survey. Methods of Chain Surveying, Errors in Chain Surveying and their Corrections.	18
III	Compass Survey: Introduction to Compass Surveying, Types of Compass, Measurement of Bearings, Magnetic Declination and Its Adjustment, Local Attraction and Correction.	18
IV	Levelling Instruments: Concept and Importance of Levelling, Types of Levels, Levelling Staff and Its Types, Methods of Levelling, Errors in Levelling and Precautions.	18
V	Modern Survey Equipments: Introduction to	18


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

	Modern Survey Instruments, Theodolite: Parts and Uses, Total Station: Features and Applications, GPS: Basic Concepts and Uses in Geography.	
Part-C Learning Resources		
1. B.C. Punamia - Surveying (Vol. 1) 2. S.K. Roy - Fundamentals of Surveying 3. K.R. Arora -Surveying 4. R. Agor -Surveying and Levelling 5. Wolf & Ghilani - Elementary Surveying 6. David Clark - Plane and Geodetic Surveying (vol.1) 7. डी. एस. लाल- सर्वेक्षणएवंमानचित्रण 8. रामकुमारसिंह-भौगोलिकसर्वेक्षणकेसिद्धान्त 9. एस.के.राय- सर्वेक्षणकेमूलसिद्धान्त 10. हरिशंकरशर्मा – सर्वेक्षणकेसिद्धान्तएवंप्रयोग 11. आर.पी. मिश्रा - भौगोलिकसर्वेक्षणकेसिद्धान्त 12. के.के. वर्मा - सर्वेक्षणएवंप्रायोगिकभूगोल		

GEOGRAPHY PRACTICAL

Scheme of Examination for B.A./B.Sc. Geography Semester IV (NEP 2020)

CA and EoSE will be as per University NEP ordinance

NHEQ F Level	Course Type	Course Code	Course Title	L	P	H/ W	Total Hours	Credits	Total Credits	Marks		
										C. A.	EoS E	Total
5	MJR	09/GEO/MJR/25 2/P	Basics of Survey Equipment's	-	P	12	180	6	6	30	120	150

Scheme

In each Practical Group the number of students will be 20 students

1. Continues Assessment (CA):Max. Marks CA : 30 Marks
The internal assessment is of 30 Marks which is expended to 100 Marks as follows
 - a. Practical record book evaluation and Viva : 30 Marks
 - b. Assessment of Practical conducted by the students : 70 Marks
2. EoSE (End of Semester Exam) Max. Marks **EoSE** : 120

Note: Each student is required to complete at least Twenty Exercise in the Record Book.

Practical Examination	Duration	Marks
1. Lab Work (Written paper)	01.30Hours	80 Marks
2. Record Work & Viva	30 Minutes	10+10 = 20 Marks
3. Field Survey & Viva Voce	01 Hours	10+10= 20 Marks
Total	03 Hours	120 Marks


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

Undergraduate (Honours) Programme (Geography) Syllabus, Semester-V	
Session 2028-2029	
Part-A Introduction	
Subject	Geography
Semester	V
Name of the Course	Environmental Geography
Course Code	09/GEO/MJR/301/T
Course Type:	MJR
Level of the course (As per Annexure-I)	300-399
Pre-requisite for the course (if any)	NA
Course Learning Outcomes (CLO)	After successful completion of the course, students will be able to: CLO–1 (Environmental geography) -Understand the nature, scope, and importance of environmental geography. - Analyze different man–environment relationships and theoretical approaches. .-Apply environmental study approaches to interpret human–nature interactions. CLO–2 (Structure and functioning of ecosystems) - Explain the structure and functioning of ecosystems. - Understand energy flow, food chains/webs, and biogeochemical cycles. - Evaluate how ecosystems maintain ecological balance. CLO–3 (Environmental problems:) -Identify major environmental issues like pollution and resource depletion. -Analyze causes and impacts of deforestation, land degradation, and urban issues. -Assess consequences of biodiversity loss and suggest solutions. CLO–4 (Global environmental concerns) -Understand key issues like climate change, global warming, and ozone depletion. -Explain causes and effects of acid rain and desertification.


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

	-Evaluate the concept and importance of sustainable development. CLO–5 (Environmental management and conservation) - Understand principles of environmental management and conservation. -Explain Environmental Impact Assessment (EIA) and its role. -Analyze environmental laws in India and geography’s role in planning.	
Credits	6	
Total Marks	30+120= 150	
Part-B Contents of the Course		
Total lecture per week	6	
Units	Topics	No. of Lecture/Contact Hours
I	Environmental geography nature, scope and significance; man-environment relationship; approaches to environmental studies.	18
II	Structure and functioning of ecosystems; energy flow, food chain, food web, biogeochemical cycles and ecological balance.	18
III	Environmental problems: resource depletion, pollution, deforestation, land degradation, urban environmental issues and loss of biodiversity.	18
IV	Global environmental concerns: climate change, global warming, ozone depletion, acid rain, desertification and sustainable development.	18
V	Environmental management and conservation; environmental impact assessment; environmental legislation in India; role of geography in environmental	18


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

	planning.	
Part-C Learning Resources		
1. Singh, Savindra : Environmental Geography 2. Odum, E.P. : Fundamentals of Ecology 3. Goudie, A. : The Human Impact on the Natural Environment 4. Miller, G.T. : Environmental Science 5. Cunningham and Cunningham : Principles of Environmental Science 6. Strahler, A.N. and Strahler, A.H. : Environmental Geoscience 7. Saxena, H.M. : Environmental Geography 8. Singh, R.B. : Environmental Geography 9. Chandna, R.C. : Environmental Awareness 10. Khoshoo, T.N. : Environmental Concerns and Strategies 11. SavindraSingh : पर्यावरणभूगोल 12. Sharma, P.D. : Ecology and Environment 13. UNEP Reports 14. IPCC Reports 15. Government of India documents on environment and EIA		

Undergraduate (Honours) Programme (Geography) Syllabus, Semester-V	
Session 2028-2029	
Part-A Introduction	
Subject	Geography
Semester	V
Name of the Course	Principles of Cartography
Course Code	09/GEO/MJR/302/P
Course Type:	MJR
Level of the course (As per Annexure-I)	300-399
Pre-requisite for the course (if any)	NA
Course Learning Outcomes (CLO)	After successful completion of the course, students will be able to: CLO-1 (Cartography) -Understand the meaning, nature, and historical evolution of cartography. -Recognize maps as analytical tools in geography. -Identify the essential elements that make a map accurate and effective CLO-2 (Scale) - Explain the concept and types of map scales and their conversions. -Apply principles of enlargement, reduction, and assess mapping accuracy. -Interpret and use conventional signs and symbols correctly. CLO-3 (Map projections) - Understand the concept, classification, and properties of map projections. -Differentiate between cylindrical, conical, and zenithal projections. -Select appropriate projections based on map purpose and area. CLO-4 (Relief representation) -Comprehend various methods of relief representation such as contours and hachures. -Interpret terrain features using different relief techniques.


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

	-Analyze profiles and evaluate their geographical significance. CLO–5 (Modern cartography) - Understand modern mapping techniques like aerial photography, satellite imagery, and GIS. -Apply digital tools in map preparation and analysis. -Evaluate contemporary trends and advancements in cartographic practices.	
Credits	6	
Total Marks	30+120= 150	
Part-B Contents of the Course		
Total lecture per week	12	
Units	Topics	No. of Lecture/Contact Hours
I	Cartography: meaning, nature and scope; history of cartography; map as a tool of geographical analysis; essentials of a good map.	36
II	Scale: meaning, types and conversion; enlargement and reduction; accuracy and errors in maps; conventional signs and symbols	36
III	Map projections: concept, classification and properties; cylindrical, conical and zenithal projections; choice of suitable projection.	36
IV	Relief representation: contours, hachures, hill shading, layer tinting and spot heights; profiles and their geographical significance.	36
V	Modern cartography: aerial photographs, satellite imagery, digital cartography, GIS mapping and contemporary trends in map preparation and interpretation.	36
Part-C Learning Resources		

1. Raisz, E. : General Cartography
2. Robinson, A.H. : Elements of Cartography
3. Monkhouse, F.J. and Wilkinson, H.R. : Maps and Diagrams
4. Lawrence, G.R.P. : Cartographic Methods
5. Singh, R.L. : Elements of Practical Geography
6. Singh, R. and Kanujia, L.R.S. : Map Work and Practical Geography
7. Kellaway, J. : Map Projections
8. Misra, R.P. and Ramesh, A. : Fundamentals of Cartography
9. Dickinson, G.C. : Maps and Air Photographs
10. Sharma, J.P. : प्रयोगिकभूगोल
11. Sarkar, A. : Practical Geography
12. Singh, Gopal : Map Work and Practical Geography
13. Anson, R. and Ormeling, F. : Basic Cartography
14. Robinson et al. : Elements of Cartography
15. Cuff, D.J. and Mattson, M.T. : Thematic Maps Social.

GEOGRAPHY PRACTICAL
Scheme of Examination for B.A./B.Sc. Geography Semester V (NEP 2020)

CA and EoSE will be as per University NEP ordinance

NHEQ F Level	Course Type	Course Code	Course Title	P	H/ W	Total Hours	Credits	Total Credits	Marks		
									C.A	EoS E	Total
5.5	MJR	09/GEO/MJR/302 /P	Principles of Cartograph y	P	12	180	6	6	30	120	150

Scheme

In each Practical Group the number of students will be 20 students

1. Continues Assessment (CA):Max. Marks CA : 30 Marks
The internal assessment is of 30 Marks which is expended to 100 Marks as follows
 - a. Practical record book evaluation and Viva : 30 Marks
 - b. Assessment of Practical conducted by the students : 70 Marks
2. EoSE (End of Semester Exam) Max. Marks **EoSE** : 120

Note: Each student is required to complete at least Twenty Exercise in the Record Book.

Practical Examination	Duration	Marks
1. Lab Work (Written paper)	01.30Hours	80 Marks
2. Record Work & Viva	30 Minutes	20+20 = 20 Marks
Total	02 Hours	120 Marks


Head
Department of Geography
J.N.Vyas University, Jodhpur (Raj.)

Undergraduate (Honours) Programme (Geography) Syllabus, Semester-VI	
Session 2028-2029	
Part-A Introduction	
Subject	Geography
Semester	VI
Name of the Course	Economic Geography
Course Code	09/GEO/MJR/351/T
Course Type:	MJR
Level of the course (As per Annexure-I)	300-399
Pre-requisite for the course (if any)	NA
Course Learning Outcomes (CLO)	After successful completion of the course, students will be able to: CLO–1 -Understand the nature, scope, and methods of economic geography. -Classify and evaluate economic resources and their conservation. -Analyze fundamental occupations such as fishing and livestock raising. CLO–2 (Agriculture) - Examine major types of agriculture and their characteristics. -Analyze the distribution and production of principal crops. -Evaluate factors influencing agricultural practices and productivity. CLO–3 (Minerals) -Understand the distribution and importance of major minerals. -Analyze sources of power such as coal, petroleum, hydroelectricity, and nuclear energy. -Assess their role in economic development. CLO–4 (Industries) - Study major industries and their characteristics. -Analyze key industrial regions of the world. -Evaluate factors influencing industrial location and growth CLO–5 (Transportation) - Understand different modes of transportation and global trade routes.


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

	-Analyze factors affecting air and water transport. - Evaluate the patterns, bases, and barriers of international trade.	
Credits	6	
Total Marks	30+120= 150	
Part-B Contents of the Course		
Total lecture per week	6	
Units	Topics	No. of Lecture/Contact Hours
I	Nature, scope and methods of economic geography; economic resources; their classification and conservation; fundamental occupations of man: fishing and livestock raising.	18
II	Agriculture: subsistence, intensive commercial grain farming, plantation agriculture and mixed farming, dairying; Principal agricultural crops: wheat. rice, maize, tea, coffee, rubber, cotton, sugarcane and sugar beet.	18
III	Minerals: Iron ore, Manganese and Copper ore; Sources of power: Coal, Petroleum, Hydroelectricity and Nuclear.	18
IV	Industries: Iron and Steel, Cotton Textile, Pulp and Paper, Major Industrial Regions: The Lake region of U.S.A., Ruhr basin of Germany and Manufacturing belts of Japan.	18
V	Transportation: Rail, Water-major ocean routes and inland waterways of Europe, former USSR; Air-factors affecting air transportation. Principal air-routes of the world; International trade: Bases of international trade: barriers to trade and pattern of world trade.	18
Part-C Learning Resources		
1. Hartshorne, T.A. and Alexander, J. W.: Economic Geography, Prentice-Hall of India Pvt. Ltd., New Delhi, 1988.		


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

2. Das, Gupta and Kapur: Adhunik Arithik va Vanijiya Bhugol, Premier Publishing Company, Delhi.
3. Dubey, R.N.: Economic and Commercial Geography Kitab Mahal, Allahabad.
4. Leong, G.C. and Morgan, G.C.: Human and Economic Geography, OUP, Oxford, 1986.
5. Wheeler and Muller: Economic Geography, Jonh Wiley and Sons, N.Y. II Edition.
6. Mamoria, C.B.: Arithik Vanijiya Bhugol, Gaye Prasad and Sons, Agra.
7. Negi, B.S.: Geography of Resources. Kedarnath Ramnath, Meerut, 1980.
8. Ranner, G.T.: World Economic Geography.
9. Singh, A and Raza: Parkratik Sansadhan, 1980
10. Singh, K.N. and Singh J.: Arithik Bhugol ke Mooltatva, Gyanodaya Prakashan, Gorakhpur, 1996.
11. कौशिक, एस. डी.: आर्थिकभूगोलकेसरलसिद्धान्त, रस्तोगी, पब्लिकेशन्स, मेरठ।
12. सिंह, जगदीश:संसाधनभूगोल, ज्ञानोदयप्रकाशन, गोरखपुर।

Undergraduate (Honours) Programme (Geography) Syllabus, Semester-VI	
Session 2028-2029	
Part-A Introduction	
Subject	Geography
Semester	VI
Name of the Course	Cartography and surveying
Course Code	09/GEO/MJR/352/P
Course Type:	MJR
Level of the course (As per Annexure-I)	300-399
Pre-requisite for the course (if any)	NA
Course Learning Outcomes (CLO)	After successful completion of the course, students will be able to: CLO–1 (Graphical representation of geographical data) -Understand graphical techniques for representing geographical data. -Construct and interpret various graphs and statistical curves. -Apply principles of effective data presentation and analysis CLO–2 (Diagrammatic representation) - Understand diagrammatic methods for spatial data representation. - Construct and interpret bar, pie, and proportional diagrams. -Select appropriate techniques for clear visualization of data. CLO–3 (Thematic and climatic maps) -Understand the construction of thematic and climatic maps. -Interpret choropleth, isopleth, dot, and choroschematic maps. -Analyze spatial patterns using mapping techniques. CLO–4 (Climatic graphs and spatial interpretation) -Analyze climatic data using graphs and diagrams. -Interpret rainfall patterns, variability, and spatial distribution. -Apply techniques for transport and accessibility analysis. CLO–5 (Surveying techniques) - Understand principles and methods of surveying techniques. -Use instruments like plane table, compass, and theodolite. -Prepare and interpret contour and field survey maps.


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

Credits		6
Total Marks		30+120= 150
Part-B Contents of the Course		
Total lecture per week		12
Units	Topics	No. of Lecture/Contact Hours
I	Graphical representation of geographical data: simple, compound and percentage graphs; smoothed and cumulative curves; frequency curves and triangular graphs; principles of graphical presentation and interpretation of statistical data.	36
II	Diagrammatic representation: bar and pie diagrams; proportional bars, circles, spheres and cubes; thematic diagrams; principles of diagram construction and selection of suitable techniques for spatial data representation.	36
III	Thematic and climatic maps: construction and interpretation of choroschematic, choropleth, isopleth and dot maps.	36
IV	Climatic graphs and spatial interpretation: rainfall distribution, variability, intensity and duration; hythergraph, climograph and wind rose diagram; dispersion diagrams and accessibility mapping; interpretation of climatic and transport data.	36
V	Surveying techniques: principles and methods of plane table, prismatic compass and theodolite survey; leveling by dumpy level and clinometer; contouring of small areas; preparation and interpretation of field survey maps.	36
Part-C Learning Resources		
1. Singh, R.L. (ed.): <i>Applied Geography</i> , Dept. of Geography, B.H.U., Varanasi. 2. Monkhouse, F.J. & Wilkinson, H.R.: <i>Maps and Diagrams</i> , Methuen, London. 3. Singh, Gopal: <i>Map Work and Practical Geography</i> , Vikas Publishing, New Delhi. 4. Robinson, A.H.: <i>Elements of Cartography</i> , John Wiley & Sons, New York.		


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

5. Raisz, E.: *General Cartography*, McGraw Hill, New York.
6. Sarkar, A.: *Practical Geography: A Systematic Approach*, Orient Longman, Kolkata.
7. Khan, Z.A.: *Textbook of Practical Geography*, Concept Publishing, New Delhi.
8. Mishra, R.P. & Ramesh, A.: *Fundamentals of Cartography*, Concept Publishing.
9. Survey of India Manuals on Surveying and Topographical Mapping.
10. Journal: *Cartographic Journal* (Selected Articles).
11. Journal: *Applied Geography* (Selected Research Papers).

GEOGRAPHY PRACTICAL

Scheme of Examination for B.A./B.Sc. Geography Semester VI (NEP 2020)

CA and EoSE will be as per University NEP ordinance

NHEQ F Level	Course Type	Course Code	Course Title	L	P	H/ W	Total Hours	Credits	Total Credits	Marks		
										C. A.	EoS E	Total
5.5	MJR	09/GEO/MJR/35 2/P	Cartography and surveying	-	P	12	180	6	6	30	120	150

Scheme

In each Practical Group the number of students will be 20 students

1. Continues Assessment (CA):Max. Marks CA : 30 Marks
The internal assessment is of 30 Marks which is expended to 100 Marks as follows
 - a. Practical record book evaluation and Viva : 30 Marks
 - b. Assessment of Practical conducted by the students : 70 Marks
2. EoSE (End of Semester Exam) Max. Marks **EoSE** : 120

Note: Each student is required to complete at least Twenty Exercise in the Record Book.

Practical Examination	Duration	Marks
1. Lab Work (Written paper)	01.30Hours	80 Marks
2. Record Work & Viva	30 Minutes	10+10 = 20 Marks
3. Field Survey & Viva Voce	01 Hours	10+10= 20 Marks
Total	03 Hours	120 Marks


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

Undergraduate (Honours) Programme (Geography) Syllabus, Semester-VII		
Session 2029-2030		
Part-A Introduction		
Subject	Geography	
Semester	VII	
Name of the Course	Geography of Arid lands	
Course Code	09/GEO/MJR/401/T	
Course Type:	MJR (Major)	
Level of the course (As per Annexure-I)	400-499	
Pre-requisite for the course (if any)	NA	
Course Learning Outcomes (CLO)	After successful completion of the course, students will be able to: CLO–1 -Understand the concept, causes, and classification of arid and semi-arid regions. -Identify climate, landforms, soils, water and mineral resources of arid lands. -Apply aridity indices to analyze arid environments. CLO–2 -Classify types of deserts and explain aeolian processes. -Identify major landforms formed by wind action in arid regions. -Understand biodiversity issues in desert environments. CLO–3 -Understand the concept, causes, and indicators of desertification. -Analyze the impact of climate change, drought, and global warming on drylands. -Evaluate measures to control and manage desertification. CLO–4 -Compare physiography, climate, soils, and water resources of major arid regions. -Understand agriculture, irrigation, and land reclamation methods. -Analyze arid land management practices in Israel, Egypt, and the USA. CLO–5 -Understand origin, physiography, and climate of the Thar Desert. -Analyze agriculture, irrigation, pastoralism, and settlement patterns. -Evaluate desert development programmes in the Thar Desert.	
Credits	6	
Total Marks	30+120= 150	
Part-B Contents of the Course		
Total lecture per week	6	
Units	Topics	No. of Lecture/Contact Hours


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

I	Meaning and concept of aridity; classification of arid and semi-arid; causes of aridity (subtropical high pressure, continentality, cold currents, rain-shadow effect); indices of aridity; climate characteristics; topography (erg, reg, hamada, wadis, playas); soils; water resources and minerals of arid lands of the world.	18
II	Types of deserts; aeolian processes (deflation, abrasion, transportation and deposition); landforms of arid regions (barchans, longitudinal dunes, parabolic dunes, yardangs, pediments, pediplains, bajadas, inselbergs); biodiversity challenges in arid regions.	18
III	Desertification—concept and indicators (UNCCD definition); extent of desertification in the world and India; causes of desertification (natural and anthropogenic); parameters and measurement of desertification; climate change and its impact on drylands; drought and global warming; measures to control desertification.	18
IV	Comparative study of major arid regions of the world—Physiography, climate, soils, water resources, agriculture, irrigation and land reclamation of (i) Israel (Negev Desert), (ii) Egypt (Western Desert and Nile irrigation system), and (iii) Western arid interior of the U.S.A.	18
V	The Great Indian Desert (Thar Desert)—origin and evolution; physiography and climate; soils and water resources; agriculture and irrigation (Indira Gandhi Canal); livestock raising and pastoralism; settlement and population characteristics; desert development programmes.	18
Part-C Learning Resources		

1. Goudie, A.: *Desert Environments: Physical and Human*, John Wiley & Sons, London, 2002.
2. Goudie, A. & Wilkinson, J.: *The Warm Desert Environment*, Cambridge University Press, Cambridge, 1977.
3. Hillel, D.: *Negev: Land, Water and Life in a Desert Environment*, Praeger, New York, 1982.
4. Heathcote, R.L.: *Arid Lands: Their Uses and Abuses*, Longman, London, 1983.
5. Dregne, H.E.: *Desertification of Arid Lands*, Harwood Academic Publishers, 1983.
6. Biswas, M.R. & Biswas, A.K.: *Desertification: Environmental Degradation in and Around Arid Lands*, Pergamon Press, New York, 1982.
7. Mann, H.S. (ed.): *Arid Zone Research and Development*, Scientific Publishers, Jodhpur, 1980.
8. Mann, H.S. (ed.): *Scientific Reviews on Arid Zone Research*, Scientific Publishers, Jodhpur, 1981.
9. Bhandari, M.M.: *Flora of the Indian Desert*, Scientific Publishers, Jodhpur, 1978.
10. Sharma, S.S.: *The Thar Desert: Environment and Ecology*, Pointer Publishers, Jaipur, 1998.
11. ICAR: *Desertification and its Control in India*, Indian Council of Agricultural Research, New Delhi.
12. CAZRI (Central Arid Zone Research Institute): *Research Bulletins and Technical Reports on Arid Zone Development*, Jodhpur.
13. ISRO (Space Applications Centre): *Desertification and Land Degradation Atlas of India*, Ahmedabad (Latest Edition).
14. UNCCD: *Global Land Outlook Reports*, United Nations Convention to Combat Desertification.
15. Journal of Arid Environments (Elsevier): *Selected Research Papers on Arid Land Ecology and Geomorphology*.
16. Arid Land Research and Management (Taylor & Francis): *Selected Articles on Desert Management and Sustainability*.
17. Singh, S.: *Physical Geography*, Prayag Pustak Bhawan, Allahabad (Relevant chapters on Arid Geomorphology).

Undergraduate (Honours) Programme (Geography) Syllabus, Semester-VII	
Session 2029-2030	
Part-A Introduction	
Subject	Geography
Semester	VII
Name of the Course	Introduction to Geographical Thought
Course Code	09/GEO/MJR/402/T
Course Type:	MJR
Level of the course (As per Annexure-I)	400-499
Pre-requisite for the course (if any)	NA
Course Learning Outcomes (CLO)	After successful completion of the course, students will be able to: CLO-1 Understand the definition, scope and nature of Geography. Explain Geography's place in the classification of knowledge. Describe major geographical traditions. Identify branches of Geography and their areas of study. CLO-2 Explain the contributions of Greek geographers. Describe the contribution of Roman geographers. Understand the nature of geographical thought in ancient India. CLO-3 Understand the status of Geography during the Dark Age. Explain the contribution of Arab geographers to geographical knowledge. Describe the development of geographical thought during the medieval period. CLO-4 Explain the contribution of Alexander von Humboldt and Carl Ritter. Describe the contribution of Ratzel, Vidal de la Blache, Jean Brunhes. Understand the contribution of W. M. Davis and Carl O. Sauer to modern Geography. CLO-5 Understand Environmental Determinism, Possibilism and Neo-determinism. Explain the concept of Region and Areal Differentiation.


Head
Department of Geography
J.N.Vyas University, Jodhpur (Raj.)

	Understand dichotomies in Geography. Differentiate between Systematic & Regional Geography and Qualitative & Quantitative Geography.	
Credits	6	
Total Marks	30+120= 150	
Part-B Contents of the Course		
Total lecture per week	6	
Units	Topics	No. of Lecture/Contact Hours
I	Definition, Scope and Nature of Geography, Geography and its place in the classification of knowledge, Geographical Traditions, Branches of Geography	18
II	Contribution of Greek and Roman Geographers, Nature of geographical thought in ancient India.	18
III	Dark Age and the Arab Geographical Thought.	18
IV	Development of geography in classical period: contribution of Humbolt and Ritter. Development of geography in modern period: contribution of Ratzel, Paul Vidal de la Blache, Jean Brunhes W. M. Davis, Carl O. Sauer.	18
V	Environmental determinism, possibilism and neo-determinism , Concept of Region, study of aerial differentiation, Dichotomies in geography, systematic and regional, qualitative and quantitative geography.	18
Part-C Learning Resources		
1. Dikshit R. D., Geographical Thought: A Contextual History of Ideas, Prentice Hall of India Pvt. Ltd. 2000 2.Hussain Majid, Introduction to Geographical Thought, Rawat Publication, Jaipur 3. Dikshit R. D., The Art and Science of Geography: Integrated Readings, Prentice Hall of India, New Delhi, 1994 4. Dohrs, F. E. and Sommers, L. W. (eds.) Introduction to Geography, Thomas Y. Crowell Co., New York, 1967 5. Hartshorne, Richard, The Nature of Geography, Association of American Geographers, Lancaster, Pennsylvania, 1939 6. Hartshorne, Richard, Perspective on the Nature of Geography, Rand McNally and Co., Chicago,1959 7. Harvey, M. E. and B. P. Holly (eds.), Themes in Geographic Thought, Rawat Publications, Jaipur, 1999		


Head
Department of Geography
J.N.Vyas University, Jodhpur (Raj.)

Undergraduate (Honours) Programme (Geography) Syllabus, Semester-VII		
Session 2029-2030		
Part-A Introduction		
Subject	Geography	
Semester	VII	
Name of the Course	Cartography & Social Economic survey of a Village	
Course Code	09/GEO/MJR/403/P	
Course Type:	MJR	
Level of the course (As per Annexure-I)	400-499	
Pre-requisite for the course (if any)	NA	
Course Learning Outcomes (CLO)	After successful completion of the course, students will be able to: CLO-1 Graph climatic data and interpret aerial photographs to identify landforms and human features CLO-2 Calculate aerial photo scale and flying height; understand basics of remote sensing and image processing. CLO-3 Understand GIS, digital cartography and use of geospatial technology in planning. CLO-4 Apply statistical techniques (correlation, regression, chi-square, t-test) in geographical research. CLO-5 Conduct socio-economic village survey and prepare field report.	
Credits	6	
Total Marks	30+120= 150	
Part-B Contents of the Course		
Total lecture per week	12	
Units	Topics	No. of Lecture/Contact Hours
I	Graphical representation of climatic data (pressure and relative humidity); interpretation of aerial photographs using pocket and mirror stereoscope; identification of	36


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

	landforms, settlements, communication networks, vegetation and land use patterns through photo-interpretation techniques.	
II	Numerical exercises related to aerial photographs— calculation of flying height, scale and number of strips; fundamentals of digital image processing; introduction to remote sensing techniques and basic principles of spatial data acquisition.	36
III	Geographic Information System (GIS)—concept, components and applications in geography; digital cartography and thematic mapping; mapping organizations and services in India (Survey of India, NATMO, NRSC and state agencies); role of geospatial technology in regional planning.	36
IV	Statistical techniques in geographical research— correlation (Karl Pearson and Spearman’s rank), simple linear regression and residual analysis; chi-square and student ‘t’ test; application of statistical methods in socio-economic and spatial studies.	36
V	Socio-economic survey of a village—objectives and methodology; analysis of population density and distribution, caste structure, literacy, workforce participation, landholding pattern, occupational structure, income disparities and poverty; preparation and presentation of village survey report (field-based study).	36

Part-C Learning Resources

1. Monkhouse, F.J. & Wilkinson, H.R.: *Maps and Diagrams*, Methuen, London.
2. Raisz, E.: *General Cartography*, McGraw Hill, New York.
3. Robinson, A.H.: *Elements of Cartography*, John Wiley & Sons, London.
4. Gregory, S.: *Statistical Methods and the Geographer*, Longman, London.
5. King, L.J.: *Statistical Analysis in Geography*, Prentice Hall, New Jersey.
6. Kanetkar, T.P.: *Surveying and Levelling*, Vol. I & II.
7. Sarkar, A.: *Practical Geography: A Systematic Approach*, Orient Longman.
8. Laeder, D.R.: *Aerial Photographic Interpretation*, McGraw Hill.
9. Unwin, D.J. & Dawson, J.A.: *Computer Programming for Geographers*, Longman.
10. Zuylen, L. Van: *Computer Assisted Cartography*, Wiley, New York.
11. Sharma, J.P.: *Prayogic Bhoogol*, Rastogi & Co., Meerut.
12. NRSC/ISRO: Manuals on Remote Sensing and GIS Applications.
13. Survey of India: Topographical Mapping and Survey Manuals.
14. Journal: *Cartographic Journal* (Selected Articles).


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

GEOGRAPHY PRACTICAL

Scheme of Examination for B.A./B.Sc. Geography Semester VII (75% & Below) (NEP 2020)

CA and EoSE will be as per University NEP ordinance

NHEQ F Level	Course Type	Course Code	Course Title	L	P	H/ W	Total Hours	Credits	Total Credits	Marks		
										C. A.	EoS E	Total
6	MJR	09/GEO/MJR/40 3/P	Cartography & Social Economic survey of a Village	P	1 2	180	6	6	30	120	150	P

Scheme

In each Practical Group the number of students will be 20 students

1. Continues Assessment (CA):Max. Marks CA : 30 Marks
The internal assessment is of 30 Marks which is expended to 100 Marks as follows
 - a. Practical record book evaluation and Viva : 30 Marks
 - b. Assessment of Practical conducted by the students : 70 Marks
2. EoSE (End of Semester Exam) Max. Marks **EoSE** : 120

Note: Each student is required to complete at least Twenty Exercise in the Record Book.

Practical Examination	Duration	Marks
1. Lab Work (Written paper)	01.30Hours	80 Marks
2. Record Work & Viva	30 Minutes	10+10 = 20 Marks
3. Field Survey & Viva Voce	01 Hours	10+10= 20 Marks
Total	03 Hours	120 Marks


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

Undergraduate (Honours) Programme (Geography) Syllabus, Semester- VIII	
Session 2029-2030	
Part-A Introduction	
Subject	Geography
Semester	VIII
Name of the Course	Regional Planning & Development
Course Code	09/GEO/MJR/451/T
Course Type:	MJR
Level of the course (As per Annexure-I)	400-499
Pre-requisite for the course (if any)	NA
Course Learning Outcomes (CLO)	After successful completion of the course, students will be able to: CLO 1: Concept of Region and Regional Planning • Understand the concept of region in geography and its evolution. • Analyze the merits and limitations of regional concepts in planning and development. • Classify regions based on typology and characteristics. • Apply methods of regional delineation. • Explain the concept, nature, and scope of regional planning. CLO 2: Regional Development Theories and Disparities • Analyze indicators of development and regional disparities, with reference to India. • Understand major theories of regional development: ○ Albert O. Hirschman ○ Gunnar Myrdal ○ John Friedman ○ Walt Whitman Rostow • Explain Growth Pole Theory by François Perroux. • Evaluate the Dependency Theory of underdevelopment. • Assess strategies for reducing regional disparities. CLO 3: Regional Development in India • Understand short-term and long-term planning approaches in a national context. • Analyze regional development in India: problems and prospects.


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

	• Evaluate planning strategies for: ✓ Tribal regions ✓ Agricultural regions ✓ Industrial regions ✓ Urban (metropolitan) regions • Assess challenges in balanced regional development. CLO 4: Planning Process and Decentralization • Understand the planning process and its sectoral, temporal, and spatial dimensions. • Explain the concept of multi-level and decentralized planning. • Evaluate the role of people’s participation in planning processes. • Analyze governance structures involved in regional planning implementation. CLO 5: Regional Imbalances and Contemporary Development • Analyze regional economic imbalances and inequalities in India. • Evaluate development strategies in the 21st century. • Understand the role of regional development in shaping social movements. • Assess policy measures for inclusive and sustainable regional development.	
Credits	6	
Total Marks	30+120= 150	
Part-B Contents of the Course		
Total lecture per week	6	
Units	Topics	No. of Lecture/Contact Hours
I	Regional concept in Geography, merits and limitations for application to regional planning and development; changing concept of the region, Regions: Typology, characteristics, regional delineation methods; Concept, nature and scope of Regional Planning;	18
II	Indicators of development and disparities - case study of India. Regional development Strategies, Theories of Regional Development - Albert O. Hirschman, Gunnar Myrdal, John Friedman, Walter Whitman Rostow, Growth centres and Growth pole theory of Perroux. Dependency	18


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

	theory of Underdevelopment	
III	Short- term and long-term planning in a national context. Regional development in India - problems and prospects, Planning for tribal, agricultural, industrial and urban (metropolitan) regions	18
IV	Planning process - sectoral, temporal and spatial dimensions, Concept of Multi-level planning: Decentralized planning; Peoples participation in the planning process,	18
V	Regional economic imbalances and inequalities in India; Development Strategies in the 21st century; Regional Development and Social Movements in India.	18

Part-C Learning Resources

1. Abler, R. et.al : Spatial Organisation : The Geographer's View of the World, Prentice Hall, Englewood Cliffs, N.J., 1971
2. Bhat, L.S. : Regional Planning in India, Statistical Publishing Society, Calcutta, 1973
3. Bhat, L.S. : Micro-Level Planning : A Case Study of Karnal Area, Haryana, K.B. Publications, New Delhi, 1976
4. Chorley, R.J. & Hagget, P.: Models in Geography, Methuen, London, 1967
5. Christaller, W. : Central Places in Southern Germany, Translated by C.W. Baskin, Prentice Hall, Englewood Cliffs, New jersey, 1966
1. Friedmann, J. & Alonso, W.: Regional Development Policy - A Case Study of Venezuela, M.I.T. Press Cambridge, Mass, 1966
2. Friedmann, J. & Alonso, W.: Regional Development and Planning - A Reader, M.I.T. Press Cambridge, Mass, 1967
3. Glikson, Arthur : Regional Planning and Development, Netherlands Universities Foundation for International Co-operation, London, 1955
4. Gosal, G.S. & Krishan, G.: Regional Disparities in Levels of Socio-Economic Development in Punjab, Vishal Publications, Kurukshetra, 1984
5. Govt. of India, Planning Commission - Third Five Year Plan, Chapter on Regional Imbalances in Development, New Delhi, 1961
6. Indian Council of Social Science Research - Survey of Research in Geography, Popular Prakashan, Bombay, 1972
7. Johnson, E.A.J. : The Organisation of Space in Developing Countries, Harvard University Press, Cambridge, 1970
8. Kuklinski, A.R. (ed.) : Growth Poles and Growth Centres in Regional Planning, Mouton, The Hague, 1972
9. Kundu, A. & Raza, Moonis: Indian Economy - The Regional Dimension, Spectrum Publishers,


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

New Delhi, 1982

10. Losch, A. : The Economics of Location, University Press, Yale, New Haven, 1954
11. Misra, R.P. : Regional Planning Concepts, Techniques and Policies, University of Mysore, Mysore, 1969
12. Misra, R.P. & Others (eds.): Regional Development Planning in India - A Strategy, Institute of Development Studies, Mysore 1974
13. Mitra, A. : Levels of Regional Development, Census of India, Vol.I, Part1A (I) and (II) New Delhi 1965
14. Myrdal, G : Economic Theory and under Development Regions Gereld Ducjworth, London, 1957
15. Nangia, Sudesh : Delhi Metrololitan Region, Rajesh Publication, Delhi, 1976
16. Richardson, H.W. : Regional Economics, Weidenfeld and Nicolson, London, 1969
17. Sundaram, K.V. (ed.): Geography and Planning, Essays in Honour of V.L.S. Prakasa Rao, Concept Publishing Co., New Delhi, 1985
18. TarlokSingh : India's Development Experience, McMillan, New Delhi, India, 1974
19. RazaMoonis (ed.) : Regional Development, Heritage Publishers, Delhi 1988
20. Mishra, R.P. et.al : Multi - Level Planning, Heritage Publishers, Delhi, 1980
21. Sundram, K.V. (1977), Urban and Regional Planning in India, VikasPublishig House, New Delhi.

Undergraduate (Honours) Programme (Geography) Syllabus, Semester- VIII	
Session 2029-2030	
Part-A Introduction	
Subject	Geography
Semester	VIII
Name of the Course	Cartography & Project
Course Code	09/GEO/MJR/452/P
Course Type:	MJR
Level of the course (As per Annexure-I)	400-499
Pre-requisite for the course (if any)	NA
Course Learning Outcomes (CLO)	After successful completion of the course, students will be able to: CLO 1: Topographical Maps and Interpretation - Understand the scheme and structure of Indian topographical sheets. - Interpret topo-sheets of hilly and plain regions of India. - Analyze features such as relief, drainage, settlement patterns, and transport & communication networks. - Develop skills in map reading and spatial analysis. CLO 2: Remote Sensing and GIS - Understand the use and importance of aerial photographs. - Explain the historical development of remote sensing. - Analyze space programmes in India, particularly contributions of Indian Space Research Organisation. - Understand the concept, definition, and applications of GIS. - Apply geospatial tools for mapping and geographical analysis. CLO 3: Survey Instrument – Indian Clinometer - Identify the parts and working of the Indian clinometer. - Apply methods for measuring slope and determining height of distant objects. - Develop practical skills in field-based surveying techniques. CLO 4: Statistical Techniques in Geography - Understand the concept of correlation in geographical analysis. - Apply Karl Pearson's and Spearman's methods of correlation. - Interpret the significance of correlation coefficients.


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

	• Calculate and analyze the coefficient of determination. • Use statistical methods for quantitative geographical studies. CLO 5: Environmental Field Study and Report Writing • Understand the importance of field-based environmental studies. • Conduct a six-day environmental issues camp in a village/town/city of Rajasthan. • Collect, classify, and analyze field data related to environmental issues. • Prepare a comprehensive project report with proper structure and presentation. • Develop skills in field observation, teamwork, and practical problem-solving.	
Credits	6	
Total Marks	30+120= 150	
Part-B Contents of the Course		
Total lecture per week	12	
Units	Topics	No. of Lecture/Contact Hours
I	Study of Topographical sheets – Scheme of Indian topo-sheets. Interpretation of a hilly and a plain area of India in respects of relief, drainage, Human settlement, Transport & Communication Pattern.	36
II	Remote sensing and GIS: Use and importance of air photos; Historical development, space programmes in India; GIS-meaning, definition, importance and its applications.	36
III	Indian clinometer – Its parts, methods and determining the height of distant points.	36
IV	Correlation (Karl Pearson and Spearman); significance testing of correlation and co-efficient of	36
V	Six days Environmental Issues Camp of any village/ town/ City in Rajasthan state. Project Report should be prepared by	36


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

	each student separately and should be submitted in the form of hardcopy.	
Part-C Learning Resources		
1. Monkhouse E.J. : Maps and diagrams, Methuen Co. London. 2. Robinson, A.H. : Maps and diagrams, John Willey & Sons, New York. 3. Mishra R.P. : Fundamental of Cartography, MacMilon, New Delhi. 4. Singh R.L. : Elements of Practical Geography, Kalyani Publishers, New Delhi.		

GEOGRAPHY PRACTICAL

Scheme of Examination for B.A./B.Sc. Geography Semester VII (75% & Below) (NEP 2020)

CA and EoSE will be as per University NEP ordinance

NHEQ F Level	Course Type	Course Code	Course Title	L	P	H/ W	Total Hours	Credits	Total Credits	Marks		
										C. A.	EoS E	Total
6	MJR	09/GEO/MJR/45 2/P	Cartography & Project	-	P	12	180	6	6	30	120	150

Scheme

In each Practical Group the number of students will be 20 students

1. Continues Assessment (CA):Max. Marks CA : 30 Marks
The internal assessment is of 30 Marks which is expended to 100 Marks as follows
 - a. Practical record book evaluation and Viva : 30 Marks
 - b. Assessment of Practical conducted by the students : 70 Marks
2. EoSE (End of Semester Exam) Max. Marks **EoSE** : 120

Note: Each student is required to complete at least Twenty Exercise in the Record Book.

Practical Examination	Duration	Marks
1. Lab Work (Written paper)	01.30Hours	80 Marks
2. Record Work & Viva	30 Minutes	10+10 = 20 Marks
3. Field Survey & Viva Voce	01 Hours	10+10= 20 Marks
Total	03 Hours	120 Marks


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

Undergraduate (Honours) Programme (Geography) Syllabus, Semester- VIII		
Session 2029-2030		
Part-A Introduction		
Subject	Geography	
Semester	VIII	
Name of the Course	Advanced Climatology	
Course Code	09/GEO/DSE/451/T	
Course Type:	DSE	
Level of the course (As per Annexure-I)	400-499	
Pre-requisite for the course (if any)	NA	
Course Learning Outcomes (CLO)	After successful completion of the course, students will be able to: learn about the advanced climatology: Meteorological instruments, cyclonic system and related phenomena, weather forecasting, various climatic classification of the world etc.	
Credits	4	
Total Marks	20+80=100	
Part-B Contents of the Course		
Total lecture per week	4	
Units	Topics	No. of Lecture/Contact Hours
I	Construction and use of chief meteorological instruments, physical process of atmosphere, radiation and head balance	12
II	condensation, stability and instabilityOrigin, Characteristics and transformation of air masses, fronts and cyclones, general circulation of atmosphere,	12
III	weather forecasting, classification of climates	12
IV	Modification of atmosphere by surface features; evidence of climatic changes during geological and historical times and critical assessment of such evidences	12


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

V	Reaction of man to climatic environment, modification of terrestrial climates by human agency	12
---	---	----

Part-C Learning Resources

1. Benstead, C.R. : The Weather Eve
2. Conard, V. and Plok, L.W. : Methods in Climatology
3. Finch. V.C., Trewartha, G.T., Shearer and Candler: Eklementary Meteorology
4. Geiger, H. : The Climate Near the Ground
5. Haynes, B.G. : Techniques of Observing the Weather
6. Hole, P.X. : The Restless Atmosphere
7. Kendrew, W.G. : Climatology
8. Middleton, W.G. : Meteorological Instruments
9. Miller, A.A. : Climatology
10. Petterson, S. : Introduction to Meteorology
11. Petterson, S. : Weather Analysis and Forecasting
12. Richi, H. : Tropical Meteorology
13. Saucier , M.J. : Principles of Meteorological Analysis
14. Sutton, O.G. : Micrometeorology
15. Tannehill, I.R. : Hurricanes
16. Trewartha, G.T.: An Introduction to Weather and Climate
17. Trewartha, G.T.: The Earth's Problem Climate, 1962
18. Walths, J.E.S. : Equatorial Air
19. Willett H.C. &Sandars, F. : Descriptive meteorology
20. Crowe, P.R. : Concepts in Climatology, Longmans, London, 1971
21. McBoyle, G.(ed.) : Climate in Review, Houghton Mifflin Comp. Boston, 1973

Undergraduate (Honours) Programme (Geography) Syllabus, Semester- VII	
Session 2029-2030	
Part-A Introduction	
Subject	Geography
Semester	VII
Name of the Course	Biogeography
Course Code	09/GEO/MJR/401/T
Course Type:	MJR
Level of the course (As per Annexure-I)	400-499
Pre-requisite for the course (if any)	NA
Course Learning Outcomes (CLO)	After successful completion of the course, students will be able to: CLO-1 Understand the meaning, development and significance of biogeography and learn the evolutionary and ecological approaches used in biogeographical studies. CLO-2 Learn different types of ecosystems (forest, grassland, marine, mountain), energy flow, bio-energy cycles, and concepts of food chain, food web and ecological pyramid. CLO-3 Understand the concept, measurement and conservation of biodiversity, ecological succession, biodiversity hotspots, environmental ethics and deep ecology. CLO-4 Students will learn the global distribution of major plants and animals, world biomes, and soil characteristics and their biogeographical importance. CLO-5 Understand the ecology, plant and animal life, interrelationships, problems, conservation and management of Indian ecological regions: mangroves, tropical rainforests, deserts and mountains (especially Aravallis).
Credits	6
Total Marks	30+120= 150


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

Part-B Contents of the Course		
Total lecture per week	6	
Units	Topics	No. of Lecture/Contact Hours
I	Biogeography : meaning, development and significance; Approaches in biogeography: evolutionary and ecological	18
II	Forms of ecosystem: Forest, grassland, marine and mountain, Bio- energy cycles in the terrestrial ecosystem, energy flux in the ecosystem, concept of food chain, food web and ecological pyramid	18
III	Concept of biodiversity, biodiversity measures, conservation of biodiversity, ecological succession, Biodiversity hotspots of the world, environmental ethics and deep ecology.	18
IV	Global distribution of major plants and animals, Biomes of the world, Soil characteristics and their biogeographical significance.	18
V	Study of the following ecological regions of India in relation to their plant and animal life, their interrelations, problems, conservation and management: (a) Mangrove (b) Tropical rainforest (c) Desert (d) Mountain with particular reference to Aravallis	18
Part-C Learning Resources		
1. Robinson M.H. : Bio Geography, E.L.B.S. McDonal Evans, London. 2. Symmons, I.G. : Bio-geographical Processes, George Allen and Unwi, London. 3. Berry, C. : Biogeography – An ecological and Evolutionary Approach, Cox Blackwell, Oxford, 1977. 4. Joy, T. : Biogeography – A Study of Plants in 1971 the Ecosphere, Oliver and Boyd. Edinburgh. 5. Mathur, H.S. : Essentials of Bio Geography, Jaipur. 6. Seddon, B : Biogeography, Duckworth, London, 1971. 7. Martin, C. : Plant Geography, Mathuen, 1975. 8. Philip, J. : Zoo Geography- The Geographical Distribution of Animals, John Willey, New York, 1957.		

Undergraduate (Honours) Programme (Geography) Syllabus, Semester- VII	
Session 2029-2030	
Part-A Introduction	
Subject	Geography
Semester	VII
Name of the Course	Geography of Population
Course Code	09/GEO/MJR/402/T
Course Type:	MJR
Level of the course (As per Annexure-I)	400-499
Pre-requisite for the course (if any)	NA
Course Learning Outcomes (CLO)	After successful completion of the course, students will be able to: CLO–1 Understand the nature, scope and sources of population data, distribution, density, growth of world population and major population theories. CLO–2 Learn the components of population change (fertility, mortality, migration), their determinants, measurement methods and migration theories. CLO–3 Understand population composition such as age, sex, literacy, occupation, rural-urban structure, dependency ratio and workforce structure. CLO–4 Learn about population growth, distribution, density, sex ratio, literacy and regional population patterns of India and Rajasthan. CLO–5 understand population problems and policies, population-resource relationship, human development, welfare programmes and future population challenges.
Credits	6
Total Marks	30+120= 150
Part-B Contents of the Course	
Total lecture per week	6


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

Units	Topics	No. of Lecture/Contact Hours
I	Nature and scope of population geography; sources of population data; distribution, density and growth of world population; major population theories.	18
II	Components of population change: fertility, mortality and migration; determinants and measures; laws and theories of migration.	18
III	Population composition: age, sex, literacy, occupation and rural-urban structure; dependency ratio and workforce structure.	18
IV	Population geography of India and Rajasthan: growth, distribution, density, sex ratio, literacy and regional patterns.	18
V	Population problems and policies; population-resource relationship; human development, welfare programmes and future population challenges.	18

Part-C Learning Resources

1. Bhinde, A. and Kimitkar, T. : Principles of Population Studies
2. Bose, Ashish and Gupta, D. : Population Studies in India
3. Agarwal, S.N. : India's Population Problems
4. Chandna, R.C. : Geography of Population
5. Clarke, J.I. : Population Geography
6. Garnier, J.B. : Geography of Population
7. Zelinsky, W. : A Prologue to Population Geography
8. Mehta, B.C. : Regional Population Growth: A Case Study of Rajasthan
9. Mamoria, C.B. : India's Population Problems
10. Census of India Publications
11. Premi, M.K. : Population of India
12. Pathak, K.B. and Ram, F. : Techniques of Demographic Analysis
13. UN Demographic Yearbook
14. Woods, R. : Population Analysis in Geography
15. Srivastava, O.S. : Population Geography


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

Undergraduate (Honours) Programme (Geography) Syllabus, Semester- VII	
Session 2029-2030	
Part-A Introduction	
Subject	Geography
Semester	VII
Name of the Course	Instrumental Survey of physical landscape (place) / Geographical Tour
Course Code	09/GEO/MJR/403/P
Course Type:	MJR
Level of the course (As per Annexure-I)	400-499
Pre-requisite for the course (if any)	NA
Course Learning Outcomes (CLO)	After successful completion of the course, students will be able to: CLO 1: Fundamentals of Instrumental Survey and Field Techniques • Understand the meaning, nature, and scope of instrumental survey in geography. • Analyze the importance of field surveys in physical landscape studies. • Explain principles of surveying such as accuracy, precision, scale, and errors. • Differentiate between types of surveys (physical and environmental). • Apply knowledge of stages of field survey: reconnaissance, planning, data collection, and reporting. CLO 2: Traditional Survey Instruments and Techniques • Measure distance, height, and slope using conventional methods. • Use the Indian Clinometer for slope measurement. • Apply Dumpy Level techniques for levelling and contouring. • Understand basic concepts of the Theodolite. • Conduct open and closed traversing surveys. • Develop skills in plotting field data and preparing maps and profiles. CLO 3: Modern Survey Techniques and Geospatial Tools • Understand the use of GPS and mobile-based geo-tagging techniques. • Apply basics of GIS in field data collection and mapping.


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

		• Explain the role of Remote Sensing in landscape analysis. • Use digital tools for data collection and mapping. • Integrate field data within GIS environment for analysis. • Evaluate applications in resource mapping and environmental monitoring. CLO 4: Field Study of Physical Landscape (Rajasthan Focus) • Understand the concept and components of physical landscape. • Analyze arid and semi-arid geomorphology. • Identify major landforms of Rajasthan (sand dunes, pediments, playas, rocky uplands). • Examine drainage, soil, and vegetation patterns in arid regions. • Conduct micro-level analysis of slope, relief, and land use. • Evaluate human-environment interaction in desert landscapes. • Apply field techniques such as observation, sketching, and recording. CLO 5: Geographical Tour and Field Report Preparation • Understand the concept and significance of geographical tours. • Plan and organize field tours and select study areas with defined objectives. • Apply techniques of field observation (transect walk, field notes, photography). • Collect, classify, and tabulate field data systematically. • Prepare maps, diagrams, and profiles from field data. • Develop structured field reports (introduction, methodology, analysis, conclusion). • Present and interpret field findings effectively.
Credits		6
Total Marks		30+120= 150
Part-B Contents of the Course		
Total lecture per week		12
Units	Topics	No. of Lecture/Contact Hours
I	Unit I: Fundamentals of Instrumental Survey and Field Techniques Meaning, nature and scope of instrumental survey in Geography Importance of field survey in physical landscape analysis Principles of surveying: accuracy, precision, scale and	36


Head
Department of Geography
J.N.Vyas University, Jodhpur (Raj.)

	errors Types of surveys: physical and environmental surveys Stages of field survey: reconnaissance, planning, data collection and reporting	
II	Traditional Survey Instruments and Techniques Measurement of distance, height and slope Use of Indian Clinometer for slope measurement Dumpy Level: levelling and contouring techniques Introduction to Theodolite (basic concepts) Traversing methods: open and closed traverse Plotting and preparation of field maps and profiles	36
III	Modern Survey Techniques and Geospatial Tools Introduction to GPS and its applications in field survey Use of mobile-based GPS and geo-tagging techniques Basics of GIS in field data collection and mapping Introduction to Remote Sensing in landscape analysis Digital data collection and mapping tools Integration of field data with GIS environment Applications in resource mapping and environmental monitoring	36
IV	Field Study of Physical Landscape (with special reference to Rajasthan) Concept and components of physical landscape Study of arid and semi-arid geomorphology Landforms of Rajasthan: sand dunes, pediments, playas and rocky uplands Drainage characteristics in arid regions Soil types and vegetation patterns in Rajasthan Micro-level analysis of slope, relief and land use Human-environment interaction in desert landscape Field techniques: observation, sketching and recording	36
V	Geographical Tour and Field Report Preparation Concept and significance of geographical tour Planning and organization of field tour Selection of study area and formulation of objectives	36


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

	Techniques of field observation: transect walk, field notes and photography Data collection, classification and tabulation Preparation of maps, diagrams and profiles Structure of field report: introduction, methodology, analysis and conclusion Presentation and interpretation of field findings	
Part-C Learning Resources		
1. Singh, R.L. & Singh, R.P.B. – Elements of Practical Geography, Kalyani Publishers, New Delhi. 2. Sarkar, A. – Practical Geography: A Systematic Approach, Orient BlackSwan, New Delhi. 3. Mishra, R.P. & Ramesh, A. – Fundamentals of Cartography, Concept Publishing, New Delhi. 4. Monkhouse, F.J. & Wilkinson, H.R. – Maps and Diagrams, Methuen, London. 5. Khan, Z.A. – Textbook of Practical Geography, Concept Publishing, New Delhi. 6. Singh, Savindra – Geomorphology, Prayag Pustak Bhawan, Allahabad. 7. Kent, M., Gilbertson, D.D. & Hunt, C.O. – Fieldwork in Geography, Routledge. 8. Matthews, J.A. & Herbert, D.T. – Unifying Geography: Common Heritage, Shared Future, Routledge. 9. Survey of India – Manual of Topographical Surveying, Government of India. 10. NRSC/ISRO – Manuals on GPS and Field Data Collection. Additional References 11. Government of Rajasthan – District Census Handbook and Statistical Abstracts 12. Topographical Sheets (Survey of India) 13. Satellite Imagery (Bhuvan / Google Earth)		

GEOGRAPHY PRACTICAL

Scheme of Examination for B.A./B.Sc. Geography Semester VII (75% & Above) (NEP 2020)

CA and EoSE will be as per University NEP ordinance

NHEQ F Level	Course Type	Course Code	Course Title	L	P	H/ W	Total Hours	Credits	Total Credits	Marks		
										C. A.	EoS E	Total
6	MJR	09/GEO/MJR/403/P	Instrumental Survey of physical landscape (place) / Geographical Tour	-	P	12	180	6	6	30	120	150

Scheme

In each Practical Group the number of students will be 20 students

1. Continues Assessment (CA):Max. Marks CA : 30 Marks
The internal assessment is of 30 Marks which is expended to 100 Marks as follows
 - a. Practical record book evaluation and Viva : 30 Marks
 - b. Assessment of Practical conducted by the students : 70 Marks
2. EoSE (End of Semester Exam) Max. Marks **EoSE** : 120

Note: Each student is required to complete at least Twenty Exercise in the Record Book.

Practical Examination	Duration	Marks
1. Lab Work (Written paper)	01.30Hours	80 Marks
2. Record Work & Viva	30 Minutes	10+10 = 20 Marks
3. Field Survey & Viva Voce	01 Hours	10+10= 20 Marks
Total	03 Hours	120 Marks


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

Undergraduate (Honours) Programme (Geography) Syllabus, Semester- VIII	
Session 2029-2030	
Part-A Introduction	
Subject	Geography
Semester	VIII
Name of the Course	Research Methodology in Geography
Course Code	09/GEO/MJR/451/T
Course Type:	MJR
Level of the course (As per Annexure-I)	400-499
Pre-requisite for the course (if any)	NA
Course Learning Outcomes (CLO)	After successful completion of the course, students will be able to: CLO 1: Fundamentals of Geographical Research • Understand the nature and scope of geographical research. • Differentiate between regional and systematic geography problems. • Identify and formulate research problems in geography. • Analyze sources and types of data (primary and secondary). • Develop hypotheses, models, and sampling techniques for geographical studies. CLO 2: Research Design and Methodology • Understand the concept and structure of research design. • Prepare a research project with clear objectives and methodology. • Apply methods of data collection (survey, questionnaire, interview, field observation). • Classify and tabulate collected data systematically. • Develop skills in report writing, including referencing, bibliography, and plagiarism ethics. CLO 3: Quantitative Techniques and Cartographic Representation • Apply cartographic techniques for representing geographical data (agricultural, transport, industrial, population). • Understand spatial analysis techniques. • Calculate and interpret measures of central tendency and dispersion. • Analyze concentration of economic activities.


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

		- Develop basic understanding of quantitative methods in geography. CLO 4: Spatial Analysis and Regionalization - Apply Nearest Neighbor Analysis and gravity model in geographical studies. - Understand concepts of regional interaction and spatial organization. - Delimit different types of regions: - Resource regions - Economic regions - Industrial regions - Planning regions - Analyze spatial patterns and regionalization techniques. CLO 5: Advanced Spatial Analysis and Applications - Conduct population projection and migration analysis. - Apply network analysis and accessibility measures. - Delimit urban and market spheres of influence. - Use statistical tools and software (SPSS) in geographical research. - Integrate statistical and spatial techniques for advanced geographical analysis.
Credits		6
Total Marks		30+120= 150
Part-B Contents of the Course		
Total lecture per week		6
Units	Topics	No. of Lecture/Contact Hours
I	Nature and scope of geographical research; problems of regional and systematic geography; identification and formulation of research problems; sources and types of data (primary and secondary); hypothesis formulation, models and sampling techniques in geographical studies.	18
II	Research design and preparation of research project; methods of data collection (survey, questionnaire, interview, field observation); data classification and tabulation; report writing—structure, referencing, bibliography and plagiarism ethics.	18


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

III	Cartographic representation of geographical data (agricultural, transport, industrial and population); techniques of spatial analysis; measures of central tendency, dispersion and concentration of economic activities; introduction to quantitative methods in geography.	18
IV	Nearest Neighbor Analysis, regional interaction and gravity model; methods of delimiting regions (resource, economic, industrial and planning regions); spatial pattern analysis and regionalization techniques.	18
V	Regional population analysis—population projection and migration analysis; network analysis and accessibility measures; delimiting urban and market spheres of influence; use of statistical tools and software (SPSS) in geographical research.	18

Part-C Learning Resources

1. Unwin, D.: *Introductory Spatial Analysis*, Methuen, London.
2. Gregory, S.: *Statistical Methods and the Geographer*, Longman, London.
3. Mahmood, A.: *Statistical Methods in Geographical Studies*, Rajesh Publications, New Delhi.
4. Yeates, M.: *An Introduction to Quantitative Analysis in Human Geography*, McGraw Hill, New York.
5. Haggett, P.: *Locational Analysis in Human Geography*, Edward Arnold, London.
6. Haggett, P., Cliff, A. & Frey, A.: *Locational Models*, Edward Arnold, London.
7. Kothari, C.R.: *Research Methodology: Methods and Techniques*, New Age International, New Delhi.
8. Creswell, J.W.: *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*, Sage Publications.
9. Singh, Savindra: *Research Methodology in Geography*, Prayag Pustak Bhawan, Allahabad.
10. Johnston, R.J.: *Multivariate Statistical Analysis in Geography*, Longman.
11. Journal: *Geographical Analysis* (Selected Research Papers).
12. Journal: *Annals of the Association of American Geographers* (Selected Articles on Spatial Methods).
13. ISRO & NRSC Manuals on GIS and Remote Sensing Applications.

Undergraduate (Honours) Programme (Geography) Syllabus, Semester- VIII	
Session 2029-2030	
Part-A Introduction	
Subject	Geography
Semester	VIII
Name of the Course	Climate Change Vulnerability and adaption
Course Code	09/GEO/MJR/452/T
Course Type:	MJR
Level of the course (As per Annexure-I)	400-499
Pre-requisite for the course (if any)	NA
Course Learning Outcomes (CLO)	After successful completion of the course, students will be able to: CLO 1: Fundamentals of Climate Change • Understand the concept and causes of climate change. • Explain the role of greenhouse gases in global warming. • Analyze global climate assessments, especially reports of the Intergovernmental Panel on Climate Change (IPCC). • Evaluate trends and patterns of global climate change. CLO 2: Climate Change and Vulnerability • Understand the concept of vulnerability in the context of climate change. • Analyze different dimensions of vulnerability: ✓ Physical vulnerability ✓ Economic vulnerability ✓ Social vulnerability • Evaluate the impacts of vulnerability on communities and regions. CLO 3: Impacts of Climate Change • Analyze the impact of climate change on agriculture and water resources. • Examine effects on flora and fauna (biodiversity). • Evaluate implications for human health and livelihoods. • Assess regional and global variations in climate change impacts. CLO 4: Adaptation and Mitigation Strategies • Understand concepts of adaptation and mitigation in climate change. • Analyze global initiatives and agreements related to climate


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)

	change. • Evaluate adaptation and mitigation strategies with special reference to South Asia. • Assess the role of international cooperation in climate governance. CLO 5: Climate Policy and Institutional Framework in India • Understand the structure and objectives of the National Action Plan on Climate Change (NAPCC). • Analyze the role of local institutions such as Urban Local Bodies and Panchayats. • Evaluate the implementation of climate policies at national and local levels. • Assess the importance of decentralized governance in climate action.
Credits	6
Total Marks	30+120= 150
Part-B Contents of the Course	
Total lecture per week	6
Units	Topics No. of Lecture/Contact Hours
I	Climate Change: Understanding Climate Change; Greenhouse Gases and Global Warming; Global Climatic Assessment- IPCC 18
II	Climate Change and Vulnerability: Physical Vulnerability; Economic Vulnerability; Social Vulnerability 18
III	Impact of Climate Change: Agriculture and Water; Flora and Fauna; Human Health 18
IV	Adaptation and Mitigation: Global Initiatives with Particular Reference to South Asia. 18
V	National Action Plan on Climate Change; Local Institutions (Urban Local Bodies, Panchayats) 18
Part-C Learning Resources	

1. IPCC (2014): Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.
2. IPCC (2007): Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change.
3. OECD (2008): Climate Change Mitigation: “What do we do?” (Organisation and Economic Co-operation and Development).
4. Sen, Roy, S., and Singh, R.B., (2002): Climate Variability, Extreme Events and Agricultural Productivity in Mountain Regions, Oxford & IBH Pub., New Delhi. UGC DOCUMENT ON LOCF GEOGRAPHY 85
5. Singh, M., Singh, R.B., and Hassan, M.I., (Eds.) (2014): Climate change and biodiversity, Proceedings of IGU Rohtak Conference, Volume 1. Advances in Geographical and Environmental Studies, Springer
6. Singh, R.B., Mal, Suraj, and Huggel, Christian (2018): Climate Change, Extreme Events and Disaster Risk Reduction, Springer, Switzerland, pages 309.
7. UNEP (2007): Global Environment Outlook: GEO4: Environment for Development, United Nations Environment Programme.

NHE QF Level	Se m	Cour se Type	Course Code	Course Title	L	P	H/ W	Tota l Hou rs	Credi ts	Total Credi ts	Marks		
											C. A.	EoS E	Tot al
6	VII I	MJR	09/GEO/PRJ/ 451	Dissertatio n (Six Months, Minimum 100 Pages) • Internal Evaluation: 20 Marks • End Semester Examinatio n: 80 Marks • Assessmen t: 50 Marks (Content), 15 Marks (Presentati on), 15 Marks (Viva- Voce)	L	-	12	-	12	12	-	-	300

Dissertation= 4 Credits (100 marks) for internal or continuous assessment, 8 Credits EoSE (100 marks for content, 50 marks for viva and 50 marks for presentation)


Head
 Department of Geography
 J.N.Vyas University, Jodhpur (Raj.)