HAVERI UNIVERSITY, HAVERI

Syllabus for under Graduate Programme in GEOGRAPHY

B. A. GEOGRAPHY, **2024-25**

Particulars of the Semester wise Theory and Practical Papers and paper codes

Particulars of the Theory/ Practical/ OE Papers and Code.

Semester	Type of Course & Code	Title of the Papers	Theory/ Practical	Credits
III	**DSCC- T 3 033GEO011**	Human Geography	Theory	04
	DSCC-P3 **033GEO012**	Techniques in Human Geography	Practical	02
	OEC **3 003GEO051**	Geography of India	Theory	03
IV	**DSC- T IV 033GEO011**	Regional Geography of India	Theory	04
	DSCC-P4 033GEO012	Representations of Geographical Features of India	Practical	02
	OEC 4 003GEO051	Geography of Karnataka	Theory	03

Sem	Type of Course & Code	Theory/ Practical	Instructionhour per week	Total hours of Syllabus / Sem	Duration of Exam	FA Marks	SA Marks	Total Marks	Credits
III	**DSCC- T 3 033GEO011**	Theory	04hrs	56	02 hrs	40	60	100	04
	DSCC-P3 033GEO012	Practical	04 hrs	52	03 hrs	25	25	50	02
	OEC 3.1 003GEO051	Theory	03 hrs	42	02 hrs	40	60	100	03
IV	**DSC- T IV 033GEO011**	Theory	04 hrs	56	02 hrs	40	60	100	04
	DSCC-P4 033GEO012	Practical	04 hrs	52	03 hrs	25	25	50	02
	OEC 4 003GEO051	Theory	03 hrs	42	02 hrs	40	60	100	03

Name of Course (Subject): Geography

Programme Specific Outcome (PSO):

On completion of the 03/ 04 years Degree in Geography students will be able to:

PSO 1: Enrich the knowledge of understanding the relevant terms and concept of geography includingdefinitions.

PSO 2: Enhanced the capability to explain the relevant principles, theories and models in geography.

PSO 3: Conceptual clarity about the relationship between the man and environment to understand theprocess, factors and impact.

PSO 4: Know the complex and interactive nature of physical and human environments and changingProcess.

PSO 5: Enhance the skills in Map Making and Cartographical Principles.

PSO 6: Use of Geographical data to identify the trends and patterns and demonstrate through the mapsof spatio-temporal changes.

PSO 7: Demonstrate the skill of analysis of geographical information, evidences and cause andeffects.

PSO 8: Trace the trends and process of changes of physical and cultural aspects.

PSO 9: Develop the consciousness of relevance of geography to understand and solving the contemporary environmental issues.

PSO 10: Exposer in the handling the spatial and non-spatial data through Remote Sensing and GIS.

B.A Semester – III

Title of the Course: DSC. T- 3.Human Geography: 033GEO011

Semester	Type of Course & Code	Theory / Practical	Credits	Instruction hour per week	Total No. of Lectures/Hours / Semester	Duration of Exam	Formative AssessmentMarks	Summative Assessment Marks	Total Marks
III	DSC- T III **033GEO011**	Theory	04	04	56 hrs	2hrs	40	60	100

Course Objectives:

1. To Understand the basic concepts of human geography.
2. To Study the population attributes and dynamic nature of it.
3. To Introduce economic, cultural, and trade activities and their impact on the regional development.

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

1. To learn how human and physical components of the world interact.
2. To familiarized with economic processes such as globalization, trade and their impacts on economic, cultural and social activities.
3. To describe what geography and human geography are.
4. To Understand population dynamics and migration.

Content of Theory Course I	56 Hrs
Unit –1: Introduction to Human Geography	**14**
Chapter No. 1: Nature, scope and growth of human geography, Branches in human geography. Themes in Geography, man-environment debate in human Geography. **Chapter No. 2:** Approaches to man-environment relationship: Environmental Determinism and Possibilism, Neo-determinism (stop and go determinism). **Chapter No. 3:** Approaches to study human geography: Descriptive approach Regional approach, Areal Differentiation approach and spatial organization approach. Quantitative revolution and locational analysis. Welfare or Humanistic approach, Radical approach, Behavioral approach. Regional Synthesis.	
Unit – 2 : Cultural Patterns and Process:	**14**
Chapter No. 4. Concept of Culture, Material and Non-material culture Cultural Regions, culturalTraits and Complexes, cultural Hearths. Major cultural realms of the world. **Chapter No. 5.** Race: Characteristics and classification. Broad racial groups of the world and theirdistribution. Linguistic and ethnic diversity. **Chapter No. 6.** Major Religions and their Distribution: Hinduism, Christianity, Islam and Buddhism. **Assignment:** Students will have to select nearby area and study religions and their characteristics and submit the report.	
Unit – 3: Human Economic Activities:	**14**
Chapter No. 7. Primary Economic Activities. Agriculture: Primitive Subsistence, Intensivesubsistence, Plantation Agriculture, Extensive Commercial grain cultivation, Mixed Farming, Dairy Farming. Forestry, fishing and mining. **Chapter No. 8.** Secondary Activities: Manufacturing – Cotton Textile and Iron & Steel. Concept of Manufacturing Region. Industrial Regions of the world. New Industrial Policy. **Chapter No. 9.** Tertiary Activities: Trade and commerce, Retail Trading services, wholesale trading. Trade balance and trade policy. Major tribes, tribal areas and their problems.	

Unit – 4 : Population, Transport & Communication & Settlements:	14
Chapter No. 10. Population: Resource Relationships and regional resource development**.** Transport and communications: Factors, Types and Distribution of Roads, Railway, airway and waterways. Services: Formal and Informal sector. Information technology. **Chapter No. 11.** Urban Settlements: Origin and evolution, hierarchy, trends and patterns of urbansettlements. Urban morphology. Concept of Primate City and rank size rule. Functional classification of towns, Rural-urban fringe. **Chapter No. 12.** Problems and remedies ofurbanization. Central Place theory Rural Settlements – types, patterns and factors influencing on distribution. **Field Study:** Students have to study human resource development in local area and prepare a report.	

References:

1. Dickens and Pitts (1963) Introduction to Human Geography,
2. Harm D. Blij (1992) Human and Economic Geography, Macmillan Publishing Company, New York
3. Hussain M (2003) Human Geography, Rawat Publications, Jaipur
4. Nellson, Gabler Vining (1995) Human Geography, People, Cultures and Landscapes
5. Ranganath (2002) Principles of Human Geography (Kannada Version) Vidyanidhi, Gadag
6. Rubenstein J.M (2016). An Introduction to Human Geography, Macmillan Publishing Company, NewYork
7. S.D. Maurya (2012), Human Geography, Pravalika Publications, Allahabad
8. L.R.Singh(2005), Fundamentals of Human Geography, Sharda Pustak Bhawan, Allahabad

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1. https://www.indiaculture.nic.in/
2. https://dea.gov.in/
3. https://dpiit.gov.in/
4. https://www.mines.gov.in/
5. https://censusindia.gov.in/census.website/

B. A GEOGRAPHY PROGRAMME

SEMESTER III

Title of the Course: DSC.P- 3 Techniques in Human Geography: 033GEO012

Course No.	Type of Course & Code	Theory / Practical	Credits	Instructio nhour per week	Total No. of Lectures/Hours / Semester	Duration of Exam	Formative Assessment Marks	Summative Assessmen t Marks	Total Marks
Course-III	DSCC-P3 **033GEO012**	Practical	02	04	52 hrs	3hrs	25	25	50

Course Objectives:

1. To understand the basics concepts of human geography.
2. To study the population attributes and dynamic nature of it.
3. To introduce economic, cultural, and trade activities and their impact on the development to the region.

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

1. To learn how human, physical, and environmental components of the world interact.
2. To familiarized with economic processes such as globalization, trade and their impacts on economic, cultural and social activities.
3. To describe geography and human geography in an effective manner.
4. To Understand population dynamics and migration.

Content of Practical Course Conduct all exercises with Goal, Procedure, devices, findings and diagram.	**52 Hrs**
Unit –1: Maps and Maps Scales:	
Exercise-1: **Maps:** Definition, Elements of maps (scale, direction, map projection, conventional signs and symbols, legend), Types of maps, Uses of maps.	**06**
Exercise-2: **Map Scales:** Definition and Types- Verbal Scale (VS), Representative Fraction (RF),Graphical Scale.	**06**
Exercise-3: Conversion of scale - VS into RF and RF into VS (Minimum 2 examples each), Exercise on measuring distance on map and converting map distance into grounddistance.	**06**
Exercise-4: Field-based Activity: Students are to be prepared a report by reading of maps in thefield and collection of data and its representation.	**10**
Unit – 2 : Map Projections:	
Exercise-5: Meaning and purpose of latitudes and longitude. Map Projections: Classification of map projections and their properties. **Exercise-6:** Construction of Cylindrical Projections - Cylindrical Equal Area	**08**

Projection. **Exercise-7:** Construction of the Conical Projections - Conical Projection with one and two standardparallel.	**08**
Exercise-8: Construction of the Zenithal projections - Zenithal Polar Gnomonic Projection. Introduction to UTM Projection.	**08**

References:

1. Dent B.D., 1999. Cartography: Thematic Map Design, (Vol. 1), McGraw Hill
2. Gupta K.K and Tyagi V.C., 1992. Working with Maps, Survey of India, DST, New Delhi.
3. Mishra R.P. and Ramesh A., 1989. Fundamentals of Cartography, Concept Publishing.
4. Monkhouse, F.J. and Wilkinson, H.R., 1971. Maps and Diagrams. Methuen and Co. Ltd., London. K.
5. Singh, R.L., 2005. Elements of Practical Geography. Kalyani Publishers, New Delhi. India.
6. Ramamurthy, K., 1982. Map Interpretation, Rex Printers, Madras.
7. Robinson A. ,1953. Elements of Cartography, John Wiley.
8. Sharma J. P., 2010.Prayogic Bhugol, Rastogi Publishers.
9. Singh R.L. and Singh R.P.B., 1999. Elements of Practical Geography, Kalyani Publishers.
10. Singh R.L., 1998. Proyogic Bhugol Rooprekha, Kalyani Publication.
11. Singh, G., 2005. Map work and practical geography. Vikas Publishing House Pvt. Ltd., New Delhi
12. Singh, L.R. and Singh, R., 1973. Map work and practical geography, Central Book Allahabad
13. Siddhartha, K., 2006. Geography through maps, Kisalaya Publications Pvt. Ltd, Delhi
14. Singh, R.L., and Dutt, P.K., 1968. Elements of practical geography, Students' Friends, Allahabad
15. Steers, J.A., 1970. An Introduction to Study of Map Projections. University of London Press Ltd.,London.

B. A GEOGRAPHY PROGRAMME

SEMESTER III

Title of the Course: OE 3 Geography of India: 003GEO051

Course No.	Type of Course	Theory / Practical	Credits	Instruction hour per week	Total No. of Lectures/Hours / Semester	Duration of Exam	Formative Assessment Marks	Summative Assessment Marks	Total Marks
OEC-III	OEC **3** **003GEO051**	Theory	03	03	42 hrs	2hrs	40	60	100

Course Objectives:

1. To understand the basics geographical setting of India.
2. To study physiographic divisions with drainage, soil and vegetation of India.
3. To gets exact information regarding mechanism of monsoon and its impact.

Course Outcomes: After the completion of this course, students will be able :

1. To describe the holistic approach about the geography of India
2. To interpret and apply the concepts on resource distribution of India and related economic activities.
3. To demonstrate the economic development through the connectivity of transport and communication.

Content of OE 3.1 Theory Course	**42 Hrs**
Unit –1: Physical Setting:	**10**
Chapter No. 1: Location and Extension of India, Physiographic divisions, **Chapter No. 2:** Climate, Drainage system,Soil Types and its distribution. **Chapter No. 3:** Natural Vegetation, Water Disputes: River Brahmaputra and Indus. Geopolitical Issues: Indo-china, Indo-Pakistan.	
Unit – 2 : Irrigation and Agriculture:	**10**
Chapter No. 4. Need for irrigation, types and distribution. Multipurpose river valley projects Significanceof Agriculture, Types of farming. **Chapter No. 5.** Agro Climatic Regions of India Agricultural Crops: Rice, Wheat, Sugarcane, cotton, Tea and Coffee. **Chapter No. 6.** Green Revolution, White Revolution, Blue revolution, Blue Revolution. .**Assignment:** Selecting a mining / quarrying / industrial region students have to study the locational factors and prepare a report.	

Unit – 3: Minerals, Energy Resources and Industries:	10
Chapter No. 7. Significance and locational factors. Distribution of Iron ore, Manganese, Bauxite, Coal, Petrol. **Chapter No. 8.** Distribution and production of industries: Cotton Textile, Jute, Iron and Steel,Aluminum and Paper. **Chapter No. 9.** Special Economic Zones	
Unit – 4 : Transportation and Communication in Regional Development:	**12**
Chapter No. 10. Roadways, Railway, airways waterways. **Chapter No. 11.** Ports and National Water Ways **Chapter No. 12.** Indian Space Programmes.	

References:

1. Khullar DR. (2009): India: A Comprehensive Geography, kalyani Publishes, New Delhi, Hyderabad, Kolkata.
2. AlkaGautam (2009) Geography of India, Sharada pustak bhawan, University Road,
   Allahabad – UP.
3. Sharma TC &Coutinho O (2005) : Economic and Commercial geography of India, Vikas Publishing House ltd., New Delhi-14.
4. Tiwari RC. (2008) Geography of India, Prayagpustak Bhavan, 20-A, University Road, Allahabad- UP.
5. Pritivish Nag & Smita Sengupta (1992) Geography of India, Concept Publishing Company, New Delhi.
6. Ranganath (2007) Geography of India, Vidhyanidhi Prakashan, Station Road, Gadag-01.
7. PhaniDeka & Abani Bhagabati (1992) Geography: Economic and Regional, Wiley Eastern Limited, Ansari Raod, Daryaganj, N. Delhi-01.
8. Majid Husain (2008): Geography of India, Tata Mc. Graw hill publishing co. ltd. N. Delhi.
9. Singh R.L. (1971); India A Regional Geography, National Geographical Society of India, Varanasi, UP.
10. Jadish Sing (2003): India: A comprehensive systematic geography, Gyanodaya Prakashan Gorakhapur- UP.
11. Kalpana Rajaram (2012), Geography of India, Spectrum Books Pvt. Ltd.
12. Y.I. Singh (2021), Geography of India, Global Net Publication

Websites:

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3. https://www.resourcedata.org/dataset/rgi-ministry-of-minerals-energy-and-water-Resource
4. https://dpiit.gov.in/
5. http://rfrfoundation.org/nadi-ko-jano/
6. https://jalshakti-ddws.gov.in/

B. A GEOGRAPHY PROGRAMME

SEMESTER IV

Title of the Course: DSC.T- 4 Regional Geography of India: 034GEO011

Course No.	Type of Course & Code	Theory / Practical	Credits	Instruction hour per week	Total No. of Lectures/Hours / Semester	Duration of Exam	Formative Assessment Marks	Summative Assessment Marks	Total Marks
Course-III	**DSC- T IV 033GEO011**	Theory	04	04	56 hrs	2hrs	40	60	100

Course Objectives:

1. To Understand the basics geographical setting of India.
2. To Study physiographic divisions with drainage, soil and vegetation of India.
3. To Gets exact information regarding mechanism of monsoon and its impact.

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

1	To gets exact information regarding mechanism of monsoon and its impact. Interpret and apply the concepts on resource distribution of India and related economic activities.
2	To interpret and apply the concepts on resource distribution of India and related economic activities
3	To describe the locational characteristics of an industry.
4	To demonstrate the economic development through the connectivity of transport and communication.

Content of Theory Course	**56 Hrs**
Unit –1: Physical Setting:	**14**
Chapter No. 1: Location, size and extent. Major physiographical regions (northern mountains, northern great plains, peninsular plateau and coastal plains and islands) and their characteristics. **Chapter No.2:** Climate: Seasonal weather characteristics, climatic zones. Mechanism andcharacteristics of Indian monsoons; Tropical cyclones and western disturbances**.** **Chapter No. 3:** Floods and droughts. Drainage system. Soil: types, erosion and conservation. Vegetation: Types, distribution, afforestation, social forestry programs, national parks, wildlife sanctuaries, and biosphere reserves.	

Unit – 2 : Water and Agricultural Resources:	14
Chapter No. 4. Water resources of India, surface and groundwater, water demand and utilization. Irrigation: Sources, types and intensity. Issues and challenges: water resources scarcity, **Chapter No. 5.** Water conservation and management. watershed management, rain water harvesting, recycle and reuse of water. Interlinking of rivers. National water policies, national water mission, Jalashakti Abhiyaan. Command area development and water management. Central Water Commission and Water Tribunal and their role. **Chapter No. 6.** Agriculture: Landuse and cropping pattern – meaning and concepts, landuse and cropping Patten in India, agro-climatic regions, green revolution – causes and effects, hunger index and malnutrition; food security and right to food to achieve Zero hunger and Good Health and Wellbeing. **Assignment:** Selecting a region students have to study the locational factors nearby industry and prepare a report.	
Unit – 3: Industries, transportation and communication:	**14**
Chapter No. 7. Locational factors of industries, major industrial regions and their characteristics, Classification of Industries: Agro-based, mineral-based, forest-based and animal-based industries. Special Economic Zones: Industrial / economic corridor. **Chapter No. 8.** Transport & Communication: Significance, growth and development – Road ways, railway, waterway, airway and pipeline networks and their complementary andcompetition. **Chapter No. 9.** Communication: Means of communication their significance.	
Unit – 4 : Human Resource:	**14**
Chapter No. 10. Growth, distribution and density of population. **Chapter No. 11.** Composition of population: Age, sex, rural-urban population composition. Migration: meaning, factors, types, causes and consequences. **Chapter No. 12.** Human Development in India: Measures, levels of development based on HDI,Human Gender Development Index (GDI) **Field Study:** Selecting a region / district students have to examine the levels of Human Development using HDI and prepare a report.	

References

1. Khullar DR. (2009): India: A Comprehensive Geography, kalyani Publishes, New Delhi, Hyderabad,Kolkata.
2. Alka Gautam (2009) Geography of India, Sharada pustak bhawan, University Road, Allahabad – UP.
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17. Singh, RB, Schickhoff, Udo, Mal, Suraj (Eds.) (2016) Climate Change, Glacier Response, andVegetation Dynamics in the Himalaya, Springer, Japan.
18. Singh,R.B. 2014, Urban Development Challenges, Risk & Resilience in Asian Mega Cities, Springer,Tokyo.
19. Spate O. H. K. and Learmonth A. T. A., (1967): India and Pakistan: A General and RegionalGeography, Methuen.
20. Alyssa Ayres (2018.), Our Time Has Come, How India is Making Its Place in the World,
21. Panna Lal(2012), India- A Regional Geography, Anmol Publications.

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2. https://mausam.imd.gov.in/
3. https://tourism.gov.in/
4. https://www.resourcedata.org/dataset/rgi-ministry-of-minerals-energy-and-water-resources
5. https://dpiit.gov.in/
6. https://agricoop.nic.in/en
7. https://www.fao.org/soils-portal/en/

B. A GEOGRAPHY PROGRAMME

SEMESTER IV

Title of the Course: DSC.P- 4 Representations of Geographical Features of India: 034GEO012

Course No.	Type of Course & Code	Theory / Practical	Credits	Instructio nhour per week	Total No. of Lectures/Hours / Semester	Duration of Exam	Formative Assessment Marks	Summative Assessmen t Marks	Total Marks
Course-III	DSCC-P4 **033GEO012**	Practical	02	04	52 hrs	3hrs	25	25	50

Course Objectives:

1. To understand the basics geographical setting of India.
2. To study physiographic divisions with drainage, soil and vegetation of India.
3. To Gets exact information regarding mechanism of monsoon and its impact.

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

1. To Understanding t h e holistically approach about the geography of India.
2. To Interpret and apply the concepts on resource distribution of India and related economic activities.
3. To Demonstrate the economic development through the connectivity of transport and communication
4. To represent the data in the form of maps and diagrams.

Content of Practical Course Conduct all exercises with Goal, Procedure, devices, findings and diagram.	**52 Hrs**
Unit –1: Extract the data and Represent the data :	
Exercise-1: Prepare various landforms using toposheets and interpret.	**04**
Exercise-2: Construct soil fertility (NPK) and distribution (India / Karnataka District) map by using choropleth method and interpret.	**04**
Exercise-3: Construct rainfall distribution map of India / Karnataka / District by using isopleth methodand interpret.	**04**
Exercise-4: Field Activity: Candidates are to be taken for field work to nearest local place of natural/ cultural area and ask them to prepare report how natural / cultural landscape changeover the time and submit a report.	**08**
Unit – 2 : Mapping Methods:	
Exercise-5: Mapping temperature distribution in India / Karnataka / District by	**08**

using isopleth methodand interpret. **Exercise-6:** Construct a map regarding impact of industries in India by using buffer analysis digitally /manually and interpret.	**08**
Exercise-7: Prepare flow-diagrams relating to air and railway transportation of India / Karnataka /District and interpret.	**08**
Exercise-8: Construct special need and tourism interest map of India / Karnataka / District andinterpret.	**08**

References:

1. Khullar D.R. (2009): India: A Comprehensive Geography, Kalyani Publishes, New Delhi,Hyderabad, Kolkata.
2. Alka Gautam (2009) Geography of India, Sharada Pustak Bhawan, University Road, Allahabad –UP.
3. Sharma TC &Coutinho O (2005) : Economic and Commercial geography of India, Vikas PublishingHouse ltd., New Delhi-14
4. Tiwari RC. (2008) Geography of India, Prayag Pustak Bhavan, 20-A, University Road, Allahabad-UP
5. Pritivish Nag & Smita Sengupta (1992) Geography of India, Concept Publishing Company, NewDelhi.
6. Ranganath (2007) Geography of India, Vidhyanidhi Prakashan, Station Road, Gadag-01.
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10. Jadish Sing (2003): India: A comprehensive systematic geography, Gyanodaya Prakashan Gorakhapur- UP.
11. **websites:**
    http://www.mapsofindia.com/geography/

B. A GEOGRAPHY PROGRAMME

SEMESTER IV

Title of the Course: OE- 4 Geography of Karnataka: 004GEO051

Course No.	Type of Course	Theory / Practical	Credits	Instruction hour per week	Total No. of Lectures/Hours / Semester	Duration of Exam	Formative Assessment Marks	Summative Assessment Marks	Total Marks
OEC-III	OEC **4** **003GEO051**	Theory	03	03	42 hrs	2hrs	40	60	100

Course Objectives:

1. To introduce geographical settings.
2. To make students understand various physical and cultural features of Karnataka
3. To make students comprehend natural resources and their optimal use in the state

Course Outcomes: After the completion of this course, students will be able :

1	To Understand the site and situation of Karnataka.
2	To intellectual connect to the resources and economic activities of Karnataka
3	To Assess the demographic composition of Karnataka State.

Content of OE 4.1 Theory Course	**42 Hrs**
Unit –1: Introduction:	**10**
Chapter No. 1: Geographical Location, size and Administrative divisions. Coastal Regions, Western Ghats, Malanadu Regions and Maidana Regions ofKarnataka. **Chapter No. 2: Weather and Climate:** Seasons, Distribution of Rainfall and Temperature,Climatic regions, Drought prone areas in Karnataka. **Chapter No. 3: Drainage Systems:** East flowing rivers and west flowing rivers.	
Unit – 2 : Soils, Natural Vegetation and Irrigation:	**10**
Chapter No. 4. Introduction, soil types and characteristics. **Chapter No. 5. Natural Vegetation**: Types of vegetation, Distribution of forest in Karnataka, Protection and Conservations. Reserve Forest and Protected Forest in Karnataka, National Parks and Bird Sanctuaries inKarnataka. **Chapter No. 6. Irrigation**: Importance, Distribution of water resources, Irrigations – sources of irrigation, multipurpose river valley projects. River Disputes in Karnataka and River Linkages.	

Assignment: Students need to visit local fields and get to know how soil conservation plans are prepared and submit report.	
Unit – 3: Agriculture:	**10**
Chapter No. 7. Introduction, Types of Agriculture and Agro-climatic regions. **Chapter No. 8. Major Food Crops** – Paddy, Ragi, Maize, Wheat, Pulses. **Commercial Corps** – Cotton, Sugarcane, Tobacco, Coffee, Species,Mulberry crop. **Chapter No. 9.** Fishing and Nomadic Herding.	
Unit – 4 : Minerals :	
Chapter No. 10. Gold, Iron, Manganese, Lime Stone.Energy Resources - Types, Importance and their distributions. **Chapter No. 11. Industries**: Sugar Industries, Silk Industries, CottonIndustries , Iron and Steel Industries. IT and BT Industries. Industrial Policies of Karnataka. **Chapter No. 12. Transportation**: Types of Transportation, Distribution of Transportation. Population: Distribution of Population, Sex ratio, Literacy. Tourism: Potentialzones, ecotourism and tourism development. **Field Study**: Students need to observe and prepare report regarding localindustries and their role development of the region.	**12**

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2. S.S.Nanjannavar (2016), Geography of Karnataka, Prabhu publications
3. R. N. Tikka (2002),Physical Geography
4. Misra R.P(1969) Geography of Mysore State
5. Sarmah Dipak (2019), Forest of Karnataka-A Paronomic View, Notion Press
6. Director, Census Reports Published by Govt. of Karnataka
7. Karnataka State Gazetteer Volume- I & II

Websites:

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2. https://ksdma.karnataka.gov.in/english
3. https://raitamitra.karnataka.gov.in/english
4. https://www.karnatakatourism.org/tourism-department/

Details of Formative assessment (IA) for DSCC theory/OEC: 40% weight age for total marks

Type of Assessment	Weight age	Duration	Commencement
Written test-1	10%	1 hr	8th Week
Written test-2	10%	1 hr	12th Week
Seminar	10%	10 minutes	--
Case study / Assignment / Field work / Project work/ Activity	10%	------	--
Total	40% of the maximum marks allotted for the paper		

Faculty of Science
04 - Year UG Honors programme:2022-23

GENERAL PATTERN OF THEORY QUESTION PAPER FOR DSCC/ OEC

(60 marks for semester end Examination with 2 hrs duration)

Part-A

1. Question number 1-06 carries 2 marks each. Answer any 05 questions : 10marks

Part-B

2. Question number 07- 11 carries 05Marks each. Answer any 04 questions : 20 marks

Part-C

3. Question number 12-15 carries 10 Marks each. Answer any 03 questions : 30 marks
(Minimum 1 question from each unit and 10 marks question may have sub questions for 7+3 or 6+4 or 5+5 if necessary)

Total: 60 Marks

Note: Proportionate weight age shall be given to each unit based on number of hours prescribed.

Scheme of Practical Examination (distribution of marks): 25 marks for Semester endexamination

1. **Interpretation and Analysis- 15 Marks (5X3)**
2. **Viva- 05 Marks**
3. **Journal- 05Marks**

Total 25 marks

Note: Same Scheme may be used for I A (Formative Assessment) examination.

HAVERI UNIVERSITY, HAVERI

B.A. in Geography

SYLLABUS

With Effect from 2023-24

DISCIPLINE SPECIFIC CORE COURSE (DSCC) FOR SEM V & VI,

SKILL ENHANCEMENT COURSE (SEC) FOR SEM V SEM

AS PER N E P - 2020

Haveri University, Haveri

B.Sc. in **Geography**

Effective from 2024-25

Sem.	Type of Course	Theory/ Practical	Course Code	CourseTitle	Instruction hour/ week	Total hours / sem	Duration of Exam	Marks			Credits
								Formative	Summative	Total	
V	DSCC-9	Theory	**035 GEO 011**	Population Resources and Dynamics	04hrs	56	02 hrs	40	60	100	04
	DSCC-10	Practical	**035 GEO 012**	Techniques in Population Geography	04 hrs	56	03 hrs	25	25	50	02
	DSCC-11	Theory	**035 GEO 013**	Fundamentals of Remote Sensing	04hrs	56	02 hrs	40	60	100	04
	DSCC-12	Practical	**035 GEO 014**	Interpretation of Aerial Photos and Satellite Images	04 hrs	56	03 hrs	25	25	50	02
	SEC-3	Practical	**035 GEO 061**	Fundamentals of Cartography	04hrs	56	03 hrs	25	25	50	02
	Total										**26**
VI	DSCC-13	Theory	**036 GEO 011**	Environmental Geography	04hrs	56	02 hrs	40	60	100	04
	DSCC-4	Practical	**036 GEO 012**	Methods in Environmental Geography	04 hrs	56	03 hrs	25	25	50	02
	DSCC-15	Theory	**036 GEO 013**	Fundamentals of Geographic Information Systems	04hrs	56	02 hrs	40	60	100	04
	DSCC-16	Practical	**036 GEO 014**	GIS for Map-Making	04 hrs	56	03 hrs	25	25	50	02
	Internship-1		**036 GEO 091**	Internship/ Mini Project/ Field Based Report				50	0	50	02
	Total										**26**

Haveri University, Haveri

B.A. in **Geography**

Effective from 2023-24

Sem.	Type of Course	Theory/ Practical	Course Code	CourseTitle	Instruction hour/ week	Total hours / sem	Duration of Exam	Marks			Credits
								Formative	Summative	Total	
V	DSCC-9	Theory	**015 GEO 011**	Population Resources and Dynamics	04hrs	56	02 hrs	40	60	100	04
	DSCC-10	Practical	**015 GEO 012**	Techniques in Population Geography	04 hrs	56	03 hrs	25	25	50	02
	DSCC-11	Theory	**015 GEO 013**	Fundamentals of Remote Sensing	04hrs	56	02 hrs	40	60	100	04
	DSCC-12	Practical	**015 GEO 014**	Interpretation of Aerial Photos and Satellite Images	04 hrs	56	03 hrs	25	25	50	02
	SEC-3	Practical	**015 GEO 061**	Fundamentals of Cartography	04hrs	56	03 hrs	25	25	50	02
	Total										**26**
VI	DSCC-13	Theory	**016 GEO 011**	Environmental Geography	04hrs	56	02 hrs	40	60	100	04
	DSCC-4	Practical	**016 GEO 012**	Methods in Environmental Geography	04 hrs	56	03 hrs	25	25	50	02
	DSCC-15	Theory	**016 GEO 013**	Fundamentals of Geographic Information Systems	04hrs	56	02 hrs	40	60	100	04
	DSCC-16	Practical	**016 GEO 014**	GIS for Map-Making	04 hrs	56	03 hrs	25	25	50	02
	Internship-1		**016 GEO 091**	Internship/ Mini Project/ Field Based Report				50	0	50	02
	Total										**26**

B.A Semester – V

Discipline Specific Course (DSC)-9

Course Title: Population Resources and Dynamics

Course Code:

015 Geog 011 (B.A)

Type of Course	Theory / Practical	Credits	Instruction hour per week	Total No. of Lectures/Hours / Semester	Durationof Exam	Formative Assessment Marks	Summative assessment Marks	Total Marks
DSCC-9	**Theory**	**04**	**04**	**56 hrs.**	**2hrs.**	**40**	**60**	**100**

Course Outcomes (COs):At the end of the course students will be able to:

CO1: Apply critical analysis skills on the demographic composition of a country.
CO2: Classify and evaluate migrations and their types.
CO3: Understanding the population resources.
CO4: Analyse population growth issues and challenges.
CO5: Investigate how migration takes place

Unit	Title:	56.hrs/ Sem
Unit I	**Introduction**: Nature and Scope of Population Geography, Population Geography and Demography, Sources of Population Data. Density of Population. World Population: Measures, patterns, and determinants. Growth, distribution, and problems.	**14**
Unit II	**Population Change**: Concept of over, under & optimum population; Growth of Population in the World and India, Components of Population Change. Fertility and Mortality Analysis: Indices, determinants, and world patterns. Demographic Attributes and Demographic Transition. Theories of Population Growth: Malthus, Sadler, and Ricardo. **Assignment**: Students are to be prepared a report regarding population change in their own area and submit a report.	**14**
Unit III	**Migration:** Meaning, types, causes, consequences, and models. Theories of Migration Ravenstein & Lee. Population composition and characteristics. Age, Sex, rural-urban, occupational structure, and educational level. **Field Activity**: Students need to visit a nearby village and get to know how and why migration takes place and submit a report.	**14**
Unit IV	**Population as Resource**: Population Resource Regions. Population Policy of India. Policy issues; Social well-being and quality of life; population as social capital. Contemporary Issues – Ageing of Population; Declining Sex Ratio; HIV/AIDS. Population policies in developed and developing countries. Human Development Index (HDI).	**14**

References	
1	Chandna R.C. (2009), Geography of Population, Kalyani Publicishers, Aneari Road, Daryaganj, New Delhi.
2	Majid Hussain (1999), Human Geography, Rawat publications, Jaipur.
3	Trewartha GT. (1959) A Geography of Population, world Patterns, John Wiley and Sons Inc. New York.
4	Ghosh BN. (1987) Fundamentals of population Geography s, sterling publishing company, New Delhi
5	Jingam ML. B.K. Bhat, JN Deasi (2003) Demography, Urinda Publishers Pvt. Ltd. Delhi.
6	R.K. Tripati ((2000) Population geography, commonwealth publishers, New Delhi.
7	Kayastha SL. (1998) Geography of Population, Rawat publications, jaipur.
8	Clerk I (1984) Geography of populations, approaches and applications, pergamon press, Oxford, UK.
9	Ritu Malik (2013), Changes in population Dynamics, Sanjay Prakashan
10	Prthvish Nag, G.C.Debnath (2021), Population Geography, Bharti Prakashan, Varanasi
11	Nanjannavar.S.S (2017) : Janasankhya Bhugola Shastra, Prabhu Publications, Dharwad.
	Resource Websites:
1	https://censusindia.gov.in/census.website/
2	https://mea.gov.in/icm.htm
3	https://population.un.org/wpp/
4	https://www.popcouncil.org/research/india
5	https://www.cdc.gov/csels/dsepd/ss1978/lesson3/section3.html

Formative Assessment for Theory	
Assessment Occasion/ type	**Marks**
Internal Assessment Test 1	10
Internal Assessment Test 2	10
Quiz/ Assignment/ Small Project	10
Seminar	10
Total	**40 Marks**
Formative Assessment as per guidelines	

B.A Semester – V

Discipline Specific Course (DSC)-10

Course Title: Techniques in Population Geography

Course Code:

015 Geog 012 (B.A)

Type of Course	Theory / Practical	Credits	Instruction hour per week	Total No. of Lectures/Hours / Semester	Durationof Exam	Formative Assessment Marks	Summative assessment Marks	Total Marks
DSCC-10	**Practical**	**02**	**04**	**56 hrs.**	**3hrs.**	**25**	**25**	**50**

Course Outcomes (COs) :At the end of the course, students will be able to:

CO1: Learn various methods of representative of demographic data.

CO2: Apply various technologies in representation of demographic data.

CO3: Analyse the trend and pattern of demographic data.

CO4: Construct different diagrams using the data.

CO5: Formulate the future trend of the data.

Excer No.	Title	56.hrs/ sem
1	Sources of population data: Census of India, United Nations Population Division,Birth And Death Registry, Vital statistics survey, National Sample Survey, National Family and Health Survey.	**04**
2	Thematic maps for population Distribution-patterns (dot map, Choropleth maps).	**06**
3	Calculation of Population Growth rate in different decades.	**06**
4	Calculation of population projection, arithmetic method.	**04**
5	Calculation of population Density, arithmetic density, and agriculture density.	**06**
6	Calculation of Crude birth rate, General fertility rate and Total fertility rate.	**06**
7	Calculation of Crude death rate / mortality rate and Infant mortality rate.	**06**
8	Calculation of Age-specific mortality rate and Sex-specific mortality rate	**06**
9	Construction of population pyramids for Age, Sex, Rural and Urban.	**06**
10	Prepare a population map of district/ Karnataka/India.	**06**

References	
1	Chandna R.C. (2009), Geography of Population, Kalyani Publicishers, Aneari Road, Daryaganj, New Delhi.
2	Majid Hussain (1999), Human Geography, Rawat publications, Jaipur.
3	Trewartha GT. (1959) A Geography of Population, world Patterns, John Wiley and Sons Inc. New York.
4	Ghosh BN. (1987) Fundamentals of population Geography s, sterling publishing company, New Delhi
5	Jingam ML. B.K. Bhat, JN Deasi (2003) Demography, Urinda Publishers Pvt. Ltd. Delhi.
6	R.K. Tripati ((2000) Population geography, commonwealth publishers, New Delhi.
7	Kayastha SL. (1998) Geography of Population, Rawat publications, jaipur.
8	Clerk I (1984) Geography of populations, approaches and applications, pergamon press, Oxford, UK.
9	Ritu Malik (2013), Changes in population Dynamics, Sanjay Prakashan
10	Prthvish Nag, G.C.Debnath (2021), Population Geography, Bharti Prakashan, Varanasi
11	Nanjannavar.S.S (2017) : Janasankhya Bhugola Shastra, Prabhu Publications, Dharwad.
	Resource Websites:
1	https://censusindia.gov.in/census.website/
2	https://mea.gov.in/icm.htm
3	https://population.un.org/wpp/
4	https://www.popcouncil.org/research/india
5	https://www.cdc.gov/csels/dsepd/ss1978/lesson3/section3.html

Formative Assessment for Practical	
Assessment	**Distribution of Marks**
Assessment Occasion/ type	**Marks**
Internal Assessment Test	10
Case study /Assignment / Field-activity / Project work etc	10
Journal/Record	03
Viva	02
Total	**25 Marks**
Formative Assessment as per guidelines.	

The same shall be used for semester end Examination

B.A Semester – V

Discipline Specific Course (DSC)-11

Course Title: Fundamentals of Remote Sensing

Course Code:

015 Geog 013 (B.A)

Type of Course	Theory / Practical	Credits	Instruction hour per week	Total No. of Lectures/Hours / Semester	Durationof Exam	Formative Assessment Marks	Summative assessment Marks	Total Marks
DSCC-11	**Theory**	**04**	**04**	**56 hrs.**	**2hrs.**	**40**	**60**	**100**

Course Outcomes (COs):At the end of the course, students will be able to:

CO1: Define and describe the components of remote sensing and explain the history of remote sensing.
CO2: Differentiate between the types of remote sensors and platforms and analyze.
CO3: Interpret aerial photographs and identify and compare digital and analog data.
CO4: Evaluate the applications of remote sensing, including the new satellite programs of India.
CO5: Analyze ground truth verification using Google Earth and evaluate its usefulness.

Unit	Title:	56.hrs/ sem
Unit I	**Introduction to Remote Sensing:** Definition and Components, History of Remote Sensing, Electromagnetic Magnetic Spectrum, Interaction of EMR with the atmosphere and with the surface feature, Atmospheric window, spectral reflectance of land covers (minerals, rocks, water, vegetation, and urban area)	**14**
Unit II	**Sensors & Platforms:** Types of orbits-sun-synchronous and geosynchronous, Sources of energy, Classification of remote sensors - Active, Passive, Electro-mechanical, and optical sensors. Resolution concept - Spectral, Radiometric, and temporal resolution. Platform types and characteristics Launch of space vehicles. Angular characteristics-FOV and IFOV, pushbroom and whiskbroom cameras, Panchromatic, multispectral, hyper spectral scanners, and geometric characteristics of the imageries. **Assignment**: Students need to prepare a report on how satellite images are captured, processed, and distributed to the end users by citing Bhuvan, ISRO, ISAC, NRSC, and SGC Websites.	**14**
Unit III	**Aerial Photography:** Elements, Types and interpretation of Aerial photography, Principles, Classification of Aerial photographs based on Height and Tilt, Scales, Components of camera, film, Aerial platforms. Elements of Aerial photo interpretation, Digital and Analog data, Image formats, Stereo pairs, Applications of Aerial Photography.	**14**
Unit IV	**Applications of Remote Sensing:** Indian remote sensing Centers and their activities, new satellite programs of India. Different Satellites and their Application in Land Resources, Meteorology, and Hydrology. Ground truth verification using Google Earth. Field Activity: Students need to visit a nearby village and get to know how remote sensing images and real world looks and submit a report.	**14**

References	
	Books
1	Lillesand T. Mand Kiefer R.W (2021), Remote Sensing and Image interpretation, 7th Edition, John Wiley & Sons, Canada.
2	Jensen J. R, (2012), Remote Sensing of Environment: An Earth Resources Perspective, 2nd Edition, Pearson Education, Upper Saddle River, Prentice Hall, New Jersey.
3	Elachi Candvan Zyl J .J, (2006), Introduction to the Physics and Techniques of Remote Sensing, John Wiley & Sons, Canada.
4	Joseph G, (2005), Fundamentals of Remote Sensing, 2nd Edition, Universities Press (India) Pvt Ltd, Hyderabad.
5	Narayan LRA, (1999), Remote Sensing and its Applications, Universities Press (India) Pvt Ltd, Hyderabad.
6	Rampal K. K, (1999), Handbook of Aerial Photography and Interpretation, Concept Publishing Co, New Delhi.
7	Avery T. E and Berlin G.L, (1992), Fundamentals of Remote Sensing and Air Photo Interpretation, 5th Edition, Prentice Hall, New Jersey.
8	Sabins, F.F. Jr, (1987), Remote Sensing; Principles and Interpretation, 2nd Edition, W.H. Freeman and Co, New York.
9	Jensen, John R., (2005), Introductory Digital Image Processing, 3rd Ed., Upper Saddle River, NJ: Prentice Hall, 526 pages.
	MOOC
1	Remote Sensing: https://nptel.ac.in/courses/105/108/105108077/
2	Introduction to Remote Sensing: https://nptel.ac.in/courses/121/107/121107009/
3	Digital Image Processing of Remote Sensing Data: https://nptel.ac.in/courses/105/107/105107160/
4	Remote Sensing and GIS: https://nptel.ac.in/courses/105/103/105103193/
5	Remote Sensing Essentials: https://nptel.ac.in/courses/105/107/105107201/
6	Remote Sensing: Principles and Applications: https://nptel.ac.in/courses/105/101/105101206/
7	Basics of Remote sensing, GIS & GNSS technology and their applications:
8	https://onlinecourses.swayam2.ac.in/aic20_ge05/preview
9	http://rst.gsfc.nasa.gov/Front/tofc.html.
	Web Resources
1	Projections: https://map-projections.net/imglist.php
2	Textbook of Canadian Remote Sensing: https://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/earthsciences/pdf/resource/tutor/fundam/pdf/fundamentals_e.pdf
3	ITC Netherlands, Principles of Remote Sensing https://webapps.itc.utwente.nl/librarywww/papers_2009/general/principlesremotesensing.
4	Pdf http://earthobsevatory.nasa.gov/Library/RemoteSensing
5	https://earthexplorer.usgs.gov/
6	https://bhuvan.nrsc.gov.in/home/index.php
7	https://map-projections.net/imglist.php

Formative Assessment for Theory	
Assessment Occasion/ type	**Marks**
Internal Assessment Test 1	10
Internal Assessment Test 2	10
Quiz/ Assignment/ Small Project	10
Seminar	10
Total	**40 Marks**
Formative Assessment as per guidelines.	

B.A Semester – V

Discipline Specific Course (DSC)-12

Course Title: Interpretation of Aerial Photos and Satellite Images

Course Code:

015 Geog 014 (B.A)

Type of Course	Theory / Practical	Credits	Instruction hour per week	Total No. of Lectures/Hours / Semester	Durationof Exam	Formative Assessment Marks	Summative assessment Marks	Total Marks
DSCC-12	**Practical**	**02**	**04**	**56 hrs.**	**3hrs.**	**25**	**25**	**50**

Course Outcomes (COs):At the end of the course, students will be able to:

CO1: Learn remote sensing techniques.

CO2: Apply modern technology in various geographical areas.

CO3: Interpret remotely sensed data.

CO4: Analyze digital imageries.

CO5: Analyze ground truth verification using Google Earth and evaluate its usefulness.

Expt. No,	Title:	56.hrs/ Sem
1	Basic information of the image (projection histogram, layers, pixel)	**04**
2	Visual interpretation: colour, texture, association, pattern, tone, shape.	**06**
3	Satellite Products and Band Characteristics, band combination	**06**
4	Satellite image downloading portals, Bhuvan, USGS explorer.	**04**
5	Image Enhancement: Radiometric, spatial enhancement	**06**
6	Layers Stacking	**06**
7	Pre-Processing: Geometric and Radiometric Correction	**06**
8	Spectral enhancement: Spectral Indices, NDVI	**06**
9	Image Classification: Supervised and Unsupervised	**06**
10	Change Detection	**06**

References	
	Books
1	Lillesand T. Mand Kiefer R.W (2021), Remote Sensing and Image interpretation, 7th Edition, John Wiley & Sons, Canada.
2	Jensen J. R, (2012), Remote Sensing of Environment: An Earth Resources Perspective, 2nd Edition, Pearson Education, Upper Saddle River, Prentice Hall, New Jersey.
3	Elachi Candvan Zyl J .J, (2006), Introduction to the Physics and Techniques of Remote Sensing, John Wiley & Sons, Canada.
4	Joseph G, (2005), Fundamentals of Remote Sensing, 2nd Edition, Universities Press (India) Pvt Ltd, Hyderabad.
5	Narayan LRA, (1999), Remote Sensing and its Applications, Universities Press (India) Pvt Ltd, Hyderabad.
6	Rampal K. K, (1999), Handbook of Aerial Photography and Interpretation, Concept Publishing Co, New Delhi.
7	Avery T. E and Berlin G.L, (1992), Fundamentals of Remote Sensing and Air Photo Interpretation, 5th Edition, Prentice Hall, New Jersey.
8	Sabins, F.F. Jr, (1987), Remote Sensing; Principles and Interpretation, 2nd Edition, W.H. Freeman and Co, New York.
9	Jensen, John R., (2005), Introductory Digital Image Processing, 3rd Ed., Upper Saddle River, NJ: Prentice Hall, 526 pages.
	MOOC
1	Remote Sensing: https://nptel.ac.in/courses/105/108/105108077/
2	Introduction to Remote Sensing: https://nptel.ac.in/courses/121/107/121107009/
3	Digital Image Processing of Remote Sensing Data: https://nptel.ac.in/courses/105/107/105107160/
4	Remote Sensing and GIS: https://nptel.ac.in/courses/105/103/105103193/
5	Remote Sensing Essentials: https://nptel.ac.in/courses/105/107/105107201/
6	Remote Sensing: Principles and Applications: https://nptel.ac.in/courses/105/101/105101206/
7	Basics of Remote sensing, GIS & GNSS technology and their applications:
8	https://onlinecourses.swayam2.ac.in/aic20_ge05/preview
9	http://rst.gsfc.nasa.gov/Front/tofc.html.
	Web Resources
1	Projections: https://map-projections.net/imglist.php
2	Textbook of Canadian Remote Sensing: https://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/earthsciences/pdf/resource/tutor/fundam/pdf/fundamentals_e.pdf
3	ITC Netherlands, Principles of Remote Sensing https://webapps.itc.utwente.nl/librarywww/papers_2009/general/principlesremotesensing.
4	Pdf http://earthobsevatory.nasa.gov/Library/RemoteSensing
5	https://earthexplorer.usgs.gov/
6	https://bhuvan.nrsc.gov.in/home/index.php
7	https://map-projections.net/imglist.php

Formative Assessment for Practical	
Assessment	**Distribution of Marks**
Internal Assessment Test	10
Case study /Assignment / Field-activity / Project work etc	10
Journal/Record	03
Viva	02
Total	**25 Marks**
Formative Assessment as per guidelines.	

The same shall be used for semester end Examination

BA Semester – V

Skill Enhancement Course: SEC-3

Course Title: Fundamentals of Cartography

Course Code:

15 Geog 06 (B.A)

Type of Course	Theory / Practical	Credits	Instruction hour/ week	Total No. of Lectures/Hours / Semester	Durationof Exam	Formative Assessment Marks	Summative assessment Marks	Total Marks
SEC-3	**Practical**	**02**	**04**	**56 hrs.**	**3hrs.**	**25**	**25**	**50**

Course Outcomes (COs):At the end of the course students will be able to:

CO1: Construct of different Profiles.
CO2: Draw the block Diagrams and analyze.
CO3: Constriction of the Projections.
CO4: Understand the 2d and 3d Views.
CO5: Construct the map based on the cartographic principles.

Expt. No	Title:	56.hrs/ Sem
1	Construction of Simple Profile.	**04**
2	Construction of Super Imposed Profile.	**06**
3	Construction of Projected Profile.	**06**
4	Construction of Composite Profile.	**04**
5	Construction of One Point Perspective Block Diagram.	**06**
6	Construction of Two Point Perspective Block Diagram.	**06**
7	Constriction of Simple Cylindrical Projection.	**06**
8	Constriction of Conical Projection.	**06**
9	Constriction of Bone's Projection.	**06**
10	Constriction of Mercator's Projection.	**06**

References

1	
1	Nanjannavar. S.S (2022): Practical Geography, Prabhu Publications, Dharwad.
2	Negi.B.S (1995): Practical Geography, Kedarnath Ramnath, Meerat.
3	Pijushkanti Saha& Partha Basu (2010)Advanced Practical Geography, Arunbha Sen Books & Allied Publishers, Kolkata.
4	R.P. Mishra & A. Ramesh (2002): Fundamental of Cartography, Concept Publishing Company, New Delhi.
5	Singh R.L. (1992) : Elements of Practical Geography, Kalyani Publishers New Delhi.

Formative Assessment for Practical	
Assessment	**Distribution of Marks**
Internal Assessment Test -1	10
Case study /Assignment / Field-activity / Project work etc	05
Practical Record Maintenance	10
Total	**25 Marks**
Formative Assessment as per guidelines.	

The same shall be used for semester end Examination

B.A. in Geography Programme

VI Semester

W. e. f.: 2023-24

B.A Geography Programme

Semester – VI

Discipline Specific Course (DSC)-13

Course Title: Environmental Geography

Course Code:

16 Geog 011 (B.A)

Type of Course	Theory / Practical	Credits	Instruction hour per week	Total No. of Lectures/Hours / Semester	Durationof Exam	Formative Assessment Marks	Summative assessment Marks	Total Marks
DSCC-13	**Theory**	**04**	**04**	**56 hrs.**	**2hrs.**	**40**	**60**	**100**

Course Outcomes (COs):At the end of the course students will be able to:

CO1: Understand the interdisciplinary nature and the relationship between man and the environment.

CO2: Know functioning of ecosystems, including the impact of human activity and global ecological changes.

CO3: Evaluate man-made changes like pollution, environmental hazards, and the depletion of natural resources.

CO4: Examine environmental policy, impact assessment, and conservation measures.

CO5: Apply knowledge of environmental geography to real-world situations.

Unit	Title:	56.hrs/ Sem
Unit I	**Introduction to Environment Geography**: Nature and Interdisciplinary Aspect of Environmental Geography. Ecological Approaches. Definition and meaning of environment. Habitat. Ecological Niche. Biosphere and Biodiversity; bio-diversity and sustainable development. Biomes – major Biomes of the world. Man and Environmental Relationships.	**14**
Unit II	**Ecosystem**: Structure and Functioning of Ecosystem, Pond as an Ecosystem, ecosystem management, and conservation. Principle of ecology; human ecological adaptation; the influence of man on ecology and environment. Global and regional ecological change & imbalance. Food Chains, Food Webs, Food Pyramid.	**14**
Unit III	**Man-Induced Changes in Environment:** Environmental Pollution, i.e., Air, Water, Noise; Solid Waste with special reference to India. Environmental Hazards, i.e., earth as Warehouses, Flood, Famines; Land Slides, Avalanches, Forest Fires; Impact of Green Revolution and Extinction of Species. Man-Made Ecosystem - Urban, Ecotourism, National Parks and Sanctuaries. Depletion of Ozone, Green House Effect, and Acid Rain.	**14**
Unit IV	**Principles of Environmental Management:** Environmental Policy of India, (post-2000 AD). Environment Impact Assessment (EIA). Global Summits & Agencies of Environment Conservation. Environmental degradation, management and conservation. Problems of Deforestation and conservation measures. Environmental policy; environmental hazards and remedial measures. Environmental Education and Legislation.	**14**

References	
1	Strahler A.N. (1968) The Earth Sciences, Harper International Education, New York.
2	Richard H.B. (2004) Physical Geography, Heinmann Simple Services, Rupa & Company, New Delhi
3	Robinson H. (1982) Bio Geography, ELBS, New York.
4	Healey I.N. and Moore P.D. (1973) Biogeography, Backwell Oxford, U.K.
5	Strahler A.N. and Strahler A.H. (1973) Environmental Geo Science, Hamilton, California, USA.
6	Savindra Singh (2004) Environmental Geography, Prayog Pustak Bhawan, Allahabad, India.
7	Paul Selman (2000) Environmental Planning, Sage Publications, New Delhi
8	Cheryl Simon Silve& Ruth S. De Fries (1991) One Earth One Future-Our chaining Global Environment, National Academy of Sciences, Affiliated to East-West Press Pvt. Ltd. New Delhi.
9	Strahler A.N. and Strahler A.H. (1977) Geography and Man's Environment, John Wiley & Sons, New York
10	Goldsmith Edward et al. (1988) The Earth Report – The Essential Guide to Global Issues, Price Stern Solan Inc. California, USA
11	Y.K. Sharma (2020), Narain's Environmental Geography (Resource and Development), Lakshmi Narain Agarwal
12	H.M. Saxena (2021), Environmental Geography, Rawat Publications
13	Strahler A.N. (1968) The Earth Sciences, Harper International Education, New York.
14	Richard H.B. (2004) Physical Geography, Heinmann Simple Services, Rupa & Company, New Delhi
15	Robinson H. (1982) Bio Geography, ELBS, New York.
16	Healey I.N. and Moore P.D. (1973) Bio-Geography, Backwell Oxford, U.K.
17	Strahler A.N. and Strahler A.H. (1973) Environmental Geo Science, Hamilton, California, USA.
18	Savindra Singh (2004) Environmental Geography, Prayog Pustak Bhawan, Allahabad, India.
19	Paul Selman (2000) Environmental Planning, Sage Publications, New Delhi
20	Cheryl Simon Silve& Ruth S. De Fries (1991) One Earth One Future-Our chaining Global Environment, National Academy of Sciences, Affiliated to East-West Press Pvt. Ltd. New Delhi.
21	Strahler A.N. and Strahler A.H. (1977) Geography and Man's Environment, John Wiley & Sons, New York
22	Goldsmith Edward et al. (1988) The Earth Report – The Essential Guide to Global Issues, Price Stern Solan Inc. California, USA
23	Nanjannavar.S.S (2017): Parisara Bhugolshastra, Prabhu Publications, Dharwad.
	Websites:
1	https://moef.gov.in/en/
2	http://environmentclearance.nic.in/
3	https://ndma.gov.in/
4	https://bhuvan.nrsc.gov.in/home/index.php
5	http://www.indiaenvironmentportal.org.in/

Formative Assessment for Theory	
Assessment Occasion/ type	**Marks**
Internal Assessment Test -1	10
Internal Assessment Test -2	10
Quiz/ Assignment/ Small Project	10
Seminar	10
Total	**40 Marks**
Formative Assessment as per guidelines.	

B.A Geography Programme – VI

Discipline Specific Course (DSC)-14

Course Title: Methods in Environmental Geography

Course Code:

016 Geog 012 (B.A)

Type of Course	Theory / Practical	Credits	Instruction hour per week	Total No. of Lectures/Hours / Semester	Durationof Exam	Formative Assessment Marks	Summative assessment Marks	Total Marks
DSCC-14	**Practical**	**02**	**04**	**56 hrs.**	**3hrs.**	**25**	**25**	**50**

Course Outcomes (COs):At the end of the course, students will be able to:

CO 1: Biotic and Abiotic elements exist in the environment.

CO 2: Identity micro-Biomes in the local region.

CO 3: Identify the water bodies and polluting points in the local region.

CO 4: Identify the waste disposal sites

CO 5: Handle GPS in field.

Expt. No,	Title:	56.hrs/ Sem
1	List out Biotic and Abiotic elements in the local region.	**04**
2	Identify and map micro-Biomes in the local region and study the biodiversity of the place.	**06**
3	List some ecosystem management and conservation methods in the local region for water bodies,	**06**
4	Mapping of water bodies and bore wells.	**04**
5	Map the polluting points in the local area and their influence of man on the local environment.	**06**
6	Mapping of Waste disposal sites	**06**
7	Suitability of the site for waste disposal (with reference to height, location, land use, land value, slope,	**06**
8	Mapping of parks and open spaces in the neighborhood.	**06**
9	Mapping of areas in the neighborhood where crowding is prevalent and type of land use around such places.	**06**
10	Materials required for the practical survey: Use a Boundary map of the neighborhood area and GPS (field mapping) or Google Earth can also be used for mapping neighborhood area.	**06**

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1	Strahler A.N. (1968) The Earth Sciences, Harper International Education, New York.
2	Richard H.B. (2004) Physical Geography, Heinmann Simple Services, Rupa & Company, New Delhi
3	Robinson H. (1982) Bio Geography, ELBS, New York.
4	Healey I.N. and Moore P.D. (1973) Biogeography, Backwell Oxford, U.K.
5	Strahler A.N. and Strahler A.H. (1973) Environmental Geo Science, Hamilton, California, USA.
6	Savindra Singh (2004) Environmental Geography, Prayog Pustak Bhawan, Allahabad, India.
7	Paul Selman (2000) Environmental Planning, Sage Publications, New Delhi
8	Cheryl Simon Silve& Ruth S. De Fries (1991) One Earth One Future-Our chaining Global Environment, National Academy of Sciences, Affiliated to East-West Press Pvt. Ltd. New Delhi.
9	Strahler A.N. and Strahler A.H. (1977) Geography and Man's Environment, John Wiley & Sons, New York
10	Goldsmith Edward et al. (1988) The Earth Report – The Essential Guide to Global Issues, Price Stern Solan Inc. California, USA
11	Y.K. Sharma (2020), Narain's Environmental Geography (Resource and Development), Lakshmi Narain Agarwal
12	H.M. Saxena (2021), Environmental Geography, Rawat Publications
13	Strahler A.N. (1968) The Earth Sciences, Harper International Education, New York.
14	Richard H.B. (2004) Physical Geography, Heinmann Simple Services, Rupa & Company, New Delhi
15	Robinson H. (1982) Bio Geography, ELBS, New York.
16	Healey I.N. and Moore P.D. (1973) Bio-Geography, Backwell Oxford, U.K.
17	Strahler A.N. and Strahler A.H. (1973) Environmental Geo Science, Hamilton, California, USA.
18	Savindra Singh (2004) Environmental Geography, Prayog Pustak Bhawan, Allahabad, India.
19	Paul Selman (2000) Environmental Planning, Sage Publications, New Delhi
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21	Strahler A.N. and Strahler A.H. (1977) Geography and Man's Environment, John Wiley & Sons, New York
22	Goldsmith Edward et al. (1988) The Earth Report – The Essential Guide to Global Issues, Price Stern Solan Inc. California, USA
	Websites:
1	https://moef.gov.in/en/
2	http://environmentclearance.nic.in/
3	https://ndma.gov.in/
4	https://bhuvan.nrsc.gov.in/home/index.php
5	http://www.indiaenvironmentportal.org.in/

Formative Assessment for Practical	
Assessment	**Distribution of Marks**
Internal Assessment Test	10
Case study /Assignment / Field-activity / Project work etc	10
Journal/Record	03
Viva	02
Total	**25 Marks**
Formative Assessment as per guidelines.	

The same shall be used for semester end Examination

B.A Semester – VI

Discipline Specific Course (DSC)-15

Course Title: Fundamentals of Geographic Information Systems

Course Code:

016 Geog 013 (B.A).

Type of Course	Theory / Practical	Credits	Instruction hour per week	Total No. of Lectures/Hours / Semester	Durationof Exam	Formative Assessment Marks	Summative assessment Marks	Total Marks
DSCC-15	**Theory**	**04**	**04**	**56 hrs.**	**2hrs.**	**40**	**60**	**100**

Course Outcomes (COs):At the end of the course, students will be able to:

CO1: Understand the definition, components, and interdisciplinary domains of GIS.
CO2: Apply geodesy and spatial mathematics for measuring distances and coordinates.
CO3: Analyze and evaluate spatial data structures, sources, errors, and scales for precision and accuracy.
CO4: Perform geo-processing and visualization techniques including spatial and non-spatial queries.
CO5: Collect and integrate spatial and non-spatial data for a case study using online resources.

Unit	Title:	56.hrs/ Sem
Unit I	**Introduction:** Definition, Scope of GIS in digital world; Components, functionalities, merits and demerits, global market. Interdisciplinary domains, and its integration with GIS.	**14**
Unit II	**Geodesy and Spatial Mathematics**: Meaning scope of geodesy, geographical coordinates, latitude, longitudes; Datum: WGS-84, V/S NAD-32. UTM; Aerial Distance measurement using Geographic and projected coordinates. Aera, perimeter, length by coordinates and various international measures. **Assignment:** students need to prepare hand drawn maps with the help of graticules.	**14**
Unit III	**Data and Scale:** Spatial Data and its structures; Sources and Types of data. Collection, Data errors and relationships. Large Scale V/S small scale; Generalization precision and accuracy data.	**14**
Unit IV	**Geo-processing and Visualization**: Spatial and Non-Spatial Queries; Proximity analysis, Preparation of Terrain and Surface models. Hotspot and density mapping. Types of maps, thematic maps and its types, relief maps, flow maps and cartograms. Tabulations: Graphs and Pivot tables. **Case Study:** Students need to collect available spatial and non-spatial data of all the talukas of their districts from online resources.	**14**

References	
1	Ian Heywood (2011), An Introduction to Geographical Information Systems, Pearson
2	Aronoff, S. (1989), Geographic Information Systems: A Management Perspective, Geocarto International: Vol. 4, No. 4, pp. 58-58.
3	Elangovan, K. (2006), GIS - Fundamentals, Applications, and Implementations, Nipa
4	Chang, Kang – Tsung (2015), Introduction to Geographical Information Systems, McGraw-Hill Education
5	Bhatta, B. (2011), Remote Sensing and GIS, Oxford
6	Sharma, H.S. (2006), Mathematical Modelling in Geographical Information System, Global Positioning System and Digital Cartography – New Delhi, India
7	Spatial Analysis and Location-Allocation Models - Ghosh, A. and G. Rushton (1987)
8	Geographic Information Systems and Cartographic Modelling - Tomlin, C.D. (1990)
9	Geographic Information Systems and Science – Paul A. Longley, et.al. (2015)
10	Geographic Information Systems and Environmental Modelling - Clarke, C.,K. (2002)
11	An Introduction to Geographical Information Systems, 3rd Edition- Ian Heywood, Sarah Cornelius, Steve Carver (2009)
12	Concepts and Techniques of Geographic Information Systems- Chor Pang Lo, Albert K.W. Yeung (2016)
	Web resources:
1	IIRS MOOC programme: https://isat.iirs.gov.in/mooc.php
2	ITC Netherlands, Principles of GIS https://webapps.itc.utwente.nl/librarywww/papers_2009/general/principlesgis.pdf
3	Geographical Information Systems: Principles, Techniques, Management and Applications https://www.geos.ed.ac.uk/~gisteac/gis_book_abridged/
4	https://www.esri.com/en-us/home

Formative Assessment for Theory	
Assessment Occasion/ type	**Marks**
Internal Assessment Test 1	10
Internal Assessment Test 2	10
Quiz/ Assignment/ Small Project	10
Seminar	10
Total	**40 Marks**
Formative Assessment as per guidelines.	

B.A Semester – VI

Discipline Specific Course (DSC)-16

Course Title: GIS for Map-Making

Course Code:

016 Geog 014 (B.A)

Type of Course	Theory / Practical	Credits	Instruction hour per week	Total No. of Lectures/Hours / Semester	Durationof Exam	Formative Assessment Marks	Summative assessment Marks	Total Marks
DSCC-16	**Practical**	**02**	**04**	**56 hrs.**	**3hrs.**	**25**	**25**	**50**

Course Outcomes (Cos):At the end of the course, students will be able to:

CO 1: Draw manually point, line, and polygon using a toposheet

CO 2: Draw vector and raster structures using features on the toposheet.

CO 3: Understand the different image formats and file management.

CO 4: Do geo-referencing and digitalization.

CO 5: Prepare Map layout, map composition, and map designing.

Expt. No,	Title:.	56.hrs/ Sem
1	Draw manually point, line, and polygon using a toposheet	**04**
2	Draw vector structures from the toposheet with reference to settlements, roads,	**06**
3	Create raster structures of a portion of the toposheet using a graph sheet.	**06**
4	Downloading images from the internet portal (Bhuvan);	**04**
5	Different image formats	**06**
6	File Management	**06**
7	Geo-referencing of toposheet.	**06**
8	Digitize the Point line polygon, creating layers.	**06**
9	Buffer analysis, and proximity analysis,	**06**
10	Map layout, map composition, and map designing.	**06**

References	
1	Ian Heywood (2011), An Introduction to Geographical Information Systems, Pearson
2	Aronoff, S. (1989), Geographic Information Systems: A Management Perspective, Geocarto International: Vol. 4, No. 4, pp. 58-58.
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7	Spatial Analysis and Location-Allocation Models - Ghosh, A. and G. Rushton (1987)
8	Geographic Information Systems and Cartographic Modelling - Tomlin, C.D. (1990)
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10	Geographic Information Systems and Environmental Modelling - Clarke, C.,K. (2002)
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	Web resources:
1	IIRS MOOC programme: https://isat.iirs.gov.in/mooc.php
2	ITC Netherlands, Principles of GIS https://webapps.itc.utwente.nl/librarywww/papers_2009/general/principlesgis.pdf
3	Geographical Information Systems: Principles, Techniques, Management and Applications https://www.geos.ed.ac.uk/~gisteac/gis_book_abridged/
4	https://www.esri.com/en-us/home

Formative Assessment for Practical	
Assessment	**Distribution of Marks**
Internal Assessment Test	10
Case study /Assignment / Field-activity / Project work etc	10
Journal/Record	03
Viva	02
Total	**25 Marks**
Formative Assessment as per guidelines.	

The same shall be used for semester end Examination

B.A Semester – VI

INTERNSHIP

Course Title: **INTERNSHIP/ MINI PROJECT/ FIELD BASED REPORT.**

Course Code:

016 Geog 091 (B.A)

Type of Course	Theory / Practical	Credits	Instruction hour/ week	Total No. of Lectures/Hours / Semester	Durationof Exam	Formative Assessment Marks	Summative assessment Marks	Total Marks
INTERNSHIP	**Internship**	**02**	**04**	**56 hrs.**	**3hrs.**	**50**	**0**	**50**

Course Outcomes (COs):At the end of the course students will be able to:

CO 1: Conduct the field visit based on the objectives of the internship.

CO 2: Participate in a professional activity and gain the practical work experience.

CO 3: Learn the behavioral approach and fascinate in communication.

CO 4: Interact with the different personalities with local agencies.

CO 5: Prepare the report with sound techniques/ technology.

Formative Assessment for Practical	
Assessment	**Distribution of Marks**
Internal Assessment Test 1	**10**
Internal Assessment Test 2	**10**
Case study /Assignment / Field-activity.etc	**10**
Journal / Record	**10**
Viva-Voce	**10**
Total	**50Marks**
Formative Assessment as per guidelines.	

Internship:

A course requiring students to participate in a professional activity or work experience, or cooperative education activity with an entity external to the education institution, normally under the supervision of an expert of the given external entity.

A key aspect of the internship is induction into actual work situations for **2 credits.** Internships involve working with local industry, local governments (such as panchayats, municipalities) or private organizations, business organizations, artists, crafts persons, and similar entities to provide opportunities for students to actively engage in on-site experiential learning.

Note;

1. 1 credit internship is equal to 30hrs on field experience.
2. Internship shall be Discipline Specific of 45-60 hours (2 credits) with duration 1-2 weeks.
3. Internship may be full-time/part-time (full-time during last 1-2 weeks before closure of the semester or weekly 4 hrs in the academic session for 13-14 weeks). College shall decide the suitable method for programme wise but not subject wise.
4. Internship mentor/supervisor shall avail work allotment during 6^{th} semester for a maximum of 20 hours.
5. The student should submit the final internship report (45-60 hours of Internship) to the mentor for completion of the internship.
6. Method of evaluation: Presentations/Report submission/Activity etc.

UG Programme: 2023-24

GENERAL PATTERN OF THEORY QUESTION COURSE FOR DSCC/ OEC

(60 marks for semester end Examination with 2 hrs duration)

Part-A

1. Question number 1-06 carries 2 marks each. Answer any 05 questions : 10 marks

Part-B

2. Question number 07- 11 carries 05Marks each. Answer any 04 questions : 20 marks

Part-C

3. Question number 12-15 carries 10 Marks each. Answer any 03 questions : 30 marks
(Minimum 1 question from each unit and 10 marks question may have sub questions for 7+3 or 6+4 or 5+5 if necessary)

Total: 60 Marks

Note: Proportionate weight age shall be given to each unit based on number of hours Prescribed