



HAVERI UNIVERSITY HAVERI

B.A. GEOGRAPHY

SYLLABUS

With Effect from 2024-25

**DISCIPLINE SPECIFIC CORE COURSE (DSC) FOR SEM I - VI,
SKILL ENHANCEMENT COURSE (SEC) FOR SEM IV/V/VI and
ELECTIVE COURSES FOR SEM V AND VI**

AS PER N E P (Revised) :2024

HAVERI UNIVERSITY HAVERI
B.A.in GEOGRAPHY with effective from 2024-25

Sem.	Type of Course	Theory/ Practical I	Course Code	CourseTitle	Instructio nhour/ week	Total hours / sem	Duration of Exam	Marks			Credits
								Formative	Summative	Total	
I	DSC-1	Theory	A1GEO 1T1	Principles of Geomorphology	04hrs	60	03 hrs	20	80	100	04
	DSC-2	Practical	A1GEO 1P1	Morphological Analysis	04 hrs	56	03 hrs	10	40	50	02
II	DSC-3	Theory	A2GEO 1T1	Principles of Climatology	04hrs	60	03 hrs	20	80	100	04
	DSC-4	Practical	A2GEO 1P1	Weather Analysis	04 hrs	56	03 hrs	10	40	50	02
III	DSC-5	Theory	A3GEO 1T1	Human Geography	04hrs	60	03 hrs	20	80	100	04
	DSC-6	Practical	A3GEO 1P1	Techniques in Human Geography	04 hrs	56	03 hrs	10	40	50	02
1V	DSC-7	Theory	A4GEO 1T1	Regional Geography of India	04hrs	60	03 hrs	20	80	100	04
	DSC-8	Practical	A4GEO 1P1	Representations of Geographical Features of India	04 hrs	56	03 hrs	10	40	50	02
*V	DSC-9A	Theory	A5GEO 2T1	Population Resources and Dynamics	04hrs	60	03 hrs	20	80	100	04
	DSC-10A	Practical	A5GEO 2P1	Techniques in Population Geography	04 hrs	56	03 hrs	10	40	50	02
	DSC-9B	Theory	A5GEO 2T2	Fundamentals of Remote Sensing	04hrs	60	03 hrs	20	80	100	04
	DSC-10B	Practical	A5GEO 2P2	Interpretation of Aerial Photos and Satellite Images	04 hrs	56	03 hrs	10	40	50	02
*VI	DSC-11A	Theory-	A6GEO 2T1	Environmental Geography	04hrs	60	03 hrs	20	80	100	04
	DSC-12A	Practical	A6GEO 2P1	Methods in Environmental Geography	04 hrs	56	03 hrs	10	40	50	02
	DSC-11B	Theory-	A6GEO 2T2	Fundamentals of Geographic Information Systems	04hrs	60	03 hrs	20	80	100	04
	DSC-12B	Practical	A6GEO 2P2	GIS for Map-Making	04 hrs	56	03 hrs	10	40	50	02
V	EC-1	Theory	A5GEO 5T1	Introduction to Physical Geography	03hrs	45	03 hrs	20	80	100	03
VI	EC-2	Theory	A6GEO 5T1	Geography of India	03hrs	45	03 hrs	20	80	100	03
IV/V/VI **	Skill	Practical	AOGEO6T1	Geographical Statistics	04 hrs	56	03 hrs	10	40	50	02

*Student shall either DSC 9A and DSC10A or DSC 9B and DSC10B in 5th semester. Similarly, DSC 11A and DSC12A or DSC 11B and DSC12B in 6th semester. ** Student shall study Skill of this subject either in 4th / 5th / 6th but not in all the semester.

HAVERI UNIVERSITY HAVERI
B.A. Geography

Programme Specific Outcomes (PSO):

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

- PSO 1** : Enrich the knowledge of understanding the relevant terms and concept of geography including definitions.
- 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 the process, factors and impact.
- PSO 4** : Know the complex and interactive nature of physical and human environments and changing Process.
- 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 maps of spatio-temporal changes.
- PSO 7** : Demonstrate the skill of analysis of geographical information, evidences and cause and effects.
- 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 handling the spatial and non-spatial data through Remote Sensing and Geographical Information System.

B.A. Semester – I

Discipline Specific Course (DSC) -1

Course Title: Principles of Geomorphology

Course Code: A1GEO 1T1

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
DSC-1	Theory	04	04	60 hrs.	3hrs.	20	80	100

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

CO 1 : To Define the Geomorphology and to explain the essential principles of it.

CO 2 : To outline the mechanism of dynamic nature of the Earth's surface and interior of the Earth.

CO 3 : To illustrate and explain the forces affecting the crust of the earth and its effect on it.

CO 4 : To understand the conceptual and dynamic aspects of landform development.

CO 5 : To understand the principles of geomorphology thoroughly and explain them.

Unit	Title: Principles of Geomorphology	60 hrs/sem
Unit I	Introduction to geography: physical and human geography. Introduction to Geomorphology: meaning, nature, development and scope. Principles of Geomorphology and Geological Time Scale. Distribution of continents and oceans.	15 hrs
Unit II	Internal structure of the earth. Alfred Wegener's Continental Drift. Theory of Isostasy: Views of Pratt and Airy Convectional Current Theory and Concept of Sea floor Spreading. Theory of Plate Tectonics: plate boundary, subduction. Case Studies: Volcano, Earthquake: reporting of latest incidents.	15 hrs
Unit III	Earth's Movements: Endogenetic and Exogenetic forces, Sudden and Diastrophic movements- Epeirogenetic and Orogenetic Movements- Process of folding and faulting. Vulcanicity and earthquake Rocks: Characteristics, types, importance and rock cycle. Weathering: meaning, types and controlling factors. Mass Movement: meaning, controlling factors, types-landslides and rock-falls.	15 hrs
Unit IV	Landforms: meaning, types and factors controlling landforms development Slope development: concept and types. Concept of Cycle of Erosion–W.M. Davis and W. Penck. Agents of Denudation: river; drainage patterns, groundwater, Sea waves, Wind and Glaciers and resultant landforms. Application of geomorphology: in India and Karnataka (Regional planning, Urban planning and transportation, Mining, Hazard management, Agriculture and Environmental management).	15hrs

Books recommended:

Text Books:

1. Ahmed E. (1985) Geomorphology, Kalyani Publishers, New Delhi.
2. Bloom A.L. (1978) Geomorphology: A Systematic Analysis of Late Cenozoic Landforms Prentice – Hall of India, New Delhi.
3. P Mallappa, Physical Geography (Kannada Version)
4. Ranganath Principles of Physical Geography (Kannada Version)
5. Nanjannavar S S: Physical Geography (Kannada Version)
6. Hugar M R Physical Geography part-1(Kannada Version)
7. Goudar M B, Physical Geography (Kannada Version)
8. Kolhapure and S S Nanjan, Physical Geography (Kannada Version)

References:

9. Brunson D. (1985) Geomorphology in the Service of Man: The Future of Geography, Methuen, U.K.
10. Chorley, R.J., Schumm, S. A. and Sugden, D.E. 1984: Geomorphology, Methuen, London
11. Cooke, R.U. and Warren, 1973: Geomorphology in Deserts, Batsford, London
12. Dayal, P. 1996: Textbook of Geomorphology, Shukla Book Depot, Patna.
13. Goudie Andrew et.al. (1981) Geomorphological Techniques, George Allen & Unwin, London.
14. Holmes A. (1965) Principles of Physical Geology, 3rd Edition, ELBSS Edn.
15. Strahler A.N. (1968) The Earth Sciences, Harper & Row Intl. Edn, New York
16. Thornberry W.D. (1969) Principles of Geomorphology 2nd Edition, Wiley Intl. Edn. & Wiley, 1984.
17. Verstappen H. (1983) Applied Geomorphology, Geomorphological Surveys for Environmental Development, Elsevier, Amsterdam.

Websites:

- <https://www.solarviews.com/eng/earth.htm>
<https://www.moorlandschool.co.uk/earth/tectonic.htm>
<https://www.usgs.gov/>
<https://www.ksndmac.org>.

Formative Assessment for Theory	
Assessment Occasion/ type	Marks
Internal Assessment Test 1	05
Internal Assessment Test 2	05
Assignment	10
Total	20 Marks
<i>Formative Assessment as per guidelines.</i>	

B.A. Semester – I

Discipline Specific Course (DSC)-2

Course Title: Morphological Analysis Practical

Course Code: A1GEO 1P1

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
DSC-2	Practical	02	04	56 hrs.	3hrs.	10	40	50

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

CO 1 : To identify the different types of minerals through their characteristics.

CO 2 : To interpret the topographical maps extracted the geomorphic information.

CO 3 : To illustrate the slope analysis and prepare the Hypsometric curve and integral

CO 4 : To delineate the watershed area, stream ordering, drainage density and drainage frequency.

CO 5 : Analyze the morphological analysis of any geographical space.

No of Exercises	Morphological Analysis Practical	56 hrs/ Sem
1	Identification of Mineral samples: Ironore, Bauxite, Ore and Manganese.	06
2	Identification of Rock Sample: Granite, Basalt, Lime Stones, Sandstone, Quartzite and marble.	06
3	Extraction and interpretation of geomorphic information from Topographical Maps.	06
4	Preparation of contour map from Toposheets.	06
5	Construction of Relief Profiles-serial, Super imposed, Projected and Composite.	10
6	Slope Maps (Wentworth method), Slope (isotan and isosin) and aspects, maps and Hypsometric curve and integral.	08
7	Drainage Morphometry: delineation of watershed, stream ordering.	08
8	Morphometric analysis: mean stream length, drainage density and drainage frequency.	08

General instructions:

Conduct all exercises with Goal, Procedure, devices, findings and diagram.

Books recommended:

Text Books:

1. Ahmed E. (1985) Geomorphology, Kalyani Publishers, New Delhi.
2. Bloom A.L. (1978) Geomorphology: A Systematic Analysis of Late Cenozoic Landforms Prentice – Hall of India, New Delhi.

References:

1. Brunson D. (1985) Geomorphology in the Service of Man: The Future of Geography, Methuen, U.K.
2. Chorley, R.J., Schumm, S. A. and Sugden, D.E. 1984: Geomorphology, Methuen, London
3. Cooke, R.U. and Warren, 1973: Geomorphology in Deserts, Batsford, London
4. Dayal, P. 1996: Textbook of Geomorphology, Shukla Book Depot ,Patna.
5. Goudie Anrew et.al. (1981) Geomorphological Techniques, George Allen &Unwin, London.
6. Homes A. (1965) Principles of Physical Geology, 3rd Edition, ELBSS Edn.
7. Strahler A.N. (1968) The Earth Sciences, Harper & Row Intl. Edn, New York
8. Thornberry W.D. (1969) Principles of Geomorphology 2nd Edition, Wiley Intl. Edn. & Wiley, 1984.
9. Verstappen H. (1983) Applied Geomorphology, Geomorphological Surveys for Environmental Develop- ment, Elsevier, Amsterdam

Websites:

<https://www.solarviews.com/eng/earth.htm>

<https://www.moorlandschool.co.uk/earth/tectonic.htm>

<https://www.usgs.gov/>

<https://www.ksndmac.org>.

Formative Assessment for Practical	
Assessment Occasion/ type	Marks
Internal Assessment Test 1	05
Internal Assessment Test 2	05
Total	10 Marks
<i>Formative Assessment as per guidelines.</i>	

B.A. Semester – II

Discipline Specific Course (DSC) -3

Course Title: Principles of Climatology

Course Code: A2GEO 1T1

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
DSC-3	Theory	04	04	60 hrs.	3hrs.	20	80	100

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

CO1: To define the field of climatology and to understand the atmospheric composition and structure.

CO2: To outline the mechanism and process of solar radiation transfer to earth surface and to explain the temperature distribution and variation according to time and space.

CO3: To illustrate and explain the air pressure system, wind regulating forces and the formation of the Atmospheric Disturbance.

CO4: To understand and compute the air humidity as well as to explain the process of Condensation and formation of precipitation and its types.

CO5: To understand the principles of climatology and explain in detail

Unit	Title: Principles of Climatology	60 hrs/ Sem
Unit I	Nature and Scope of Climatology, Atmospheric Sciences, Climatology and Meteorology. Origin and structure of the Atmosphere: Troposphere, Stratosphere, Mesosphere, Ionosphere, Exosphere and their characteristics. Composition of the atmosphere Weather and Climate	15 hrs
Unit II	Insolation: Definition, Mechanism, Solar Constant. Factors affecting the Insolation: Angle of incidence, length of the day, Sunspots, Distance between the earth and the sun, effect of the atmosphere. Heating and cooling process of the atmosphere-Radiation, Conduction, convection and advection. Temperature: meaning and Influencing Factors on the Distribution of Temperature. Distribution of the temperature: Vertical, Horizontal, and Inversion of temperature. Global Energy Budget: Incoming shortwave solar radiation, Outgoing Longwave Terrestrial radiation, Albedo. Net Radiation and Latitudinal Heat Balances.	15 hrs
Unit III	Atmospheric Pressure: Influencing factors on atmospheric pressure. Vertical and Horizontal Distribution of the atmospheric pressure and Pressure Belts, Pressure Gradient. Tri-cellular-Hadley, Ferrel's and Polar Cells. Winds: influencing factors, Types - planetary, seasonal, local winds, Variable winds- Cyclones and anti-cyclones. Air-Masses and Fronts: Definition, Nature, Source Regions and Classification of Air Masses.	15 hrs
Unit IV	Humidity: Sources, influencing factors and types-Absolute, Relative and Specific. Hydrological cycle: process of evaporation, condensation. Clouds and its types. Precipitation and its forms. Climate Change: Causes and consequences, recent issues-floods, drought and global warming.	15hrs

Recommended books:

Text Books:

1. Lal, D. S. (1998). Climatology. Allahabad: Chaitanya Publishing House.
2. P Mallappa, Physical Geography (Kannada Version).
3. Ranganath Principles of Physical Geography (Kannada Version).
4. Nanjannavar S S: Physical Geography (Kannada Version).
5. Hugar M R Physical Geography part-1(Kannada Version).
6. Goudar M B, Physical Geography (Kannada Version).
7. Kolhapure and S S Nanjan, Physical Geography (Kannada Version).

Reference:

1. Lutgens, Frederic K. & Tarbuck, Edward J. (2010). The Atmosphere: An Introduction to Meteorology. New Jersey: Pearson Prentice Hall.
2. Oliver, John E. & Hidore, John J. (2003). Climatology: An Atmospheric Science. Delhi: Pearson Education.
3. Singh, S. (2005). Climatology. Allahabad: Prayag Pustak Bhawan.
4. Barry, R.G. and Chorley, R.J. (2003): Atmosphere, Weather and Climate; Psychology Press, Hove; East Sussex.
5. Critchfield, H.J., (1975): general Climatology, Prentice Hall, New Jersey.
6. Mather, J.R. (1974): Climatology: Fundamentals and Applications; Mc Craw Hill Book Co., U.S.A.
7. Rumney, G.R. (1968): Climatology and the World Climates, Macmillan, London.
8. Trewartha, G.T. (1980): An Introduction to Climate; McGraw Hill, New York, 5th edition, (International Student Edition).

Websites:

<https://science.jrank.org>
<https://www.clearias.com>
<https://www.nationalgeographic>
<https://www.space.com>
<https://www.noaa.gov>
<https://www.climate.nasa.gov>
<https://www.weather.gov>
<https://www.cengage.com>

Formative Assessment for Theory	
Assessment Occasion/ type	Marks
Internal Assessment Test 1	05
Internal Assessment Test 2	05
Assignment	10
Total	20 Marks
<i>Formative Assessment as per guidelines.</i>	

B.A. Semester – II

Discipline Specific Course (DSC) - 4

Course Title: Weather Analysis -Practical

Course Code: A2GEO 1P1

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
DSC-4	Practical	02	04	56 hrs.	3hrs.	10	40	50

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

CO 1 : To understand the structure and functions of the Indian Meteorological Department.

CO 2 : To plot the temperature data using graphical methods.

CO 3 : To handle the instruments to measure the temperature and pressure.

CO 4 : To Use the wet and dry Bulb thermometer for measuring humidity.

CO 5 : To interpret the daily weather map seasonally.

No of Exercises	Morphological Analysis Practical	56 hrs/ Sem
1	Structure and functions of the Indian Meteorological Department (IMD). Collection of temperature data from IMD website.	06
2	Plotting of downloaded temperature data using graphical methods-line graph.	08
3	Centigrade and Fahrenheit thermometer for measuring temperature.	06
4	Mercurial Barometer and Aneroid Barometer for measuring atmospheric pressure.	06
5	Wind Vane and cup-anemometer.	06
6	Wet and Dry bulb thermometer for measuring humidity,	08
7	Rain gauge- Dial type for measuring rainfall and Rainfall Trend Analysis (monthly and annual).	08
8	Interpretation of Indian Daily Weather charts seasonally.	08

General instructions:

1. Conduct all exercises with Goal, Procedure, devices, findings and diagram.
2. Students are expected to download weather charts of the four Seasons.

Books recommended:**Reference:**

1. Lutgens, Frederic K. & Tarbuck, Edward J. (2010). The Atmosphere: An Introduction to Meteorology. New Jersey: Pearson Prentice Hall.
2. Oliver, John E. & Hidore, John J. (2003). Climatology: An Atmospheric Science. Delhi: Pearson Education.
3. Singh, S. (2005). Climatology. Allahabad: Prayag Pustak Bhawan.
4. Barry, R.G. and Chorley, R.J. (2003): Atmosphere, Weather and Climate; Psychology Press, Hove; East Sussex.
5. Critchfield, H.J., (1975): general Climatology, Prentice Hall, New Jersey.
6. Mather, J.R. (1974): Climatology: Fundamentals and Applications; Mc Craw Hill Book Co., U.S.A.
7. Rumney, G.R. (1968): Climatology and the World Climates, Macmillan, London.
8. Trewartha, G.T. (1980): An Introduction to Climate; McGraw Hill, New York, 5th edition, (International Student Edition).

Websites:

<https://science.jrank.org>

<https://www.clearias.com>

<https://www.nationalgeographic>

<https://www.space.com>

<https://www.noaa.gov>

<https://www.climate.nasa.gov>

<https://www.weather.gov>

Formative Assessment for Practical	
Assessment Occasion/ type	Marks
Internal Assessment Test 1	05
Internal Assessment Test 2	05
Total	10 Marks
<i>Formative Assessment as per guidelines.</i>	

B.A. Semester – III

Discipline Specific Course (DSC) - 5

Course Title: Human Geography

Course Code: A3GEO 1T1

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
DSC-5	Theory	04	04	60 hrs.	3hrs.	20	80	100

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

CO1: To learn how human and physical components of the world interact.

CO2: To familiarized with economic processes such as globalization, trade and their impacts on economic, cultural and social activities.

CO3: To describe what geography and human geography are.

CO4: To understand population dynamics and migration.

CO5: To establish the population resource relationships and regional resource development.

Unit	Title: Human Geography	60 hrs/sem
Unit I	Nature, scope and growth of human geography, Branches in human geography. Approaches to man-environment relationship: Environmental Determinism and Possibilism, Neo-determinism (stop and go determinism). 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.	15 hrs
Unit II	Concept of Culture, Material and Non-material culture Cultural Regions, cultural Traits and Complexes, cultural Hearths. Major cultural realms of the world. Race: Characteristics and classification. Broad racial groups of the world and their distribution. Linguistic and ethnic diversity. 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.	15 hrs
Unit III	Primary Economic Activities. Agriculture: Primitive Subsistence, Intensive subsistence, Plantation Agriculture, Extensive Commercial grain cultivation, Mixed Farming, Dairy Farming. Forestry, fishing and mining. Secondary Activities: Manufacturing – Cotton Textile and Iron & Steel. Concept of Manufacturing Region. Industrial Regions of the world. New Industrial Policy. Tertiary Activities: Trade and commerce, Retail Trading services, wholesale trading. Trade balance and trade policy. Major tribes, tribal areas and their problems.	15 hrs

Unit IV	<p>Population: Resource Relationships and regional resource development. Transport and communications: Factors, Types and Distribution of Roads, Railway, airway and waterways.</p> <p>Services: Formal and Informal sector. Information technology.</p> <p>Urban Settlements: Origin and evolution, hierarchy, trends and patterns of urban settlements. Urban morphology. Concept of Primate City and rank size rule.</p> <p>Functional classification of towns, Rural-urban fringe.</p> <p>Problems and remedies of urbanization. Central Place theory Rural Settlements – types, patterns and factors influencing on distribution.</p> <p>Field Study: Students have to study human resource development in local area and prepare a report</p>	15hrs
---------	--	-------

Recommended books:

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,
7. NewYork
8. S.D. Maurya (2012), Human Geography, Pravalika Publications, Allahabad
9. L.R.Singh (2005), Fundamentals of Human Geography, Sharda Pustak Bhawan, Allahabad

Websites:

- <https://www.indiaculture.nic.in/>
- <https://dea.gov.in/>
- <https://dpiit.gov.in/>
- <https://www.mines.gov.in/>
- <https://censusindia.gov.in/census.website/>

Formative Assessment for Theory	
Assessment Occasion/ type	Marks
Internal Assessment Test 1	05
Internal Assessment Test 2	05
Assignment	10
Total	20 Marks
<i>Formative Assessment as per guidelines.</i>	

B.A. Semester – III

Discipline Specific Course (DSC)-6

Course Title: Techniques in Human Geography - Practical

Course Code: A3GEO 1P1

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
DSC-6	Practical	02	04	56 hrs.	3hrs.	10	40	50

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

CO1: To learn how human, physical, and environmental components of the world interact.

CO2: To familiarized with economic processes such as globalization, trade and their impacts on economic, cultural and social activities.

CO3: To describe geography and human geography in an effective manner.

CO4: To Understand population dynamics and migration.

CO5: To establish the population resource relationships and regional resource development.

List of the Exercises for 56 hrs / Semesters

No of Exercises	Techniques in Human Geography Practical	56 hrs/ Sem
1	Definition, Elements of maps (scale, direction, map projection, Conventional signs and symbols, legend), Types of maps, Uses of maps	06
2	Definition map Scales and Types- Verbal Scale (VS), Representative Fraction (RF), Graphical Scale.	06
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 ground distance.	06
4	Field-based Activity: Students are to be prepared a report by reading of maps in the field and collection of data and its representation.	08
5	Meaning and purpose of latitudes and longitude. Map Projections: Classification of map projections and their properties.	06
6	Construction of Cylindrical Projections - Cylindrical Equal Area Projection.	08
7	Construction of the Conical Projections - Conical Projection with one and two Standard parallel.	08
8	Construction of the Zenithal projections - Zenithal Polar Gnomonic Projection. Introduction to UTM Projection.	08

Recommended books:

10. Dickens and Pitts (1963) Introduction to Human Geography,
11. Harm D. Blij (1992) Human and Economic Geography, Macmillan Publishing Company, New York
12. Hussain M (2003) Human Geography, Rawat Publications, Jaipur
13. Nellson, Gabler Vining (1995) Human Geography, People, Cultures and Landscapes

14. Ranganath (2002) Principles of Human Geography (Kannada Version) Vidyanidhi, Gadag
15. Rubenstein J.M (2016). An Introduction to Human Geography, Macmillan Publishing Company,
16. NewYork
17. S.D. Maurya (2012), Human Geography, Pravalika Publications, Allahabad
18. L.R.Singh (2005), Fundamentals of Human Geography, Sharda Pustak Bhawan, Allahabad

Websites:

<https://www.indiaculture.nic.in/>

<https://dea.gov.in/>

<https://dpiit.gov.in/>

<https://www.mines.gov.in/>

<https://censusindia.gov.in/census.website/>

Formative Assessment for Practical	
Assessment Occasion/ type	Marks
Internal Assessment Test 1	05
Internal Assessment Test 2	05
Total	10 Marks
<i>Formative Assessment as per guidelines.</i>	

B.A. Semester – IV
Discipline Specific Course (DSC) - 7

Course Title: Regional Geography of India

Course Code: A4GEO 1T1

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
DSC-7	Theory	04	04	60 hrs.	3hrs.	20	80	100

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

CO1: To get exact information regarding mechanism of monsoon and its impact.

CO2: To interpret and apply the concepts on resource distribution of India and related economic activities.

CO3: To describe the Locational characteristics of an industry.

CO4: To demonstrate the economic development through the connectivity of transport and communication.

Unit	Title: Regional Geography of India	60 hrs/sem
Unit I	Location, size and extent. Major physiographical regions (northern mountains, northern great plains, peninsular plateau and coastal plains and islands) and their characteristics. Climate: Seasonal weather characteristics, climatic zones. Mechanism and characteristics of Indian monsoons; Tropical cyclones and western disturbances. Floods and droughts. Drainage system. Soil: types, erosion and conservation. Vegetation: Types, distribution, afforestation, social forestry programs, national parks, wildlife sanctuaries, and biosphere reserves.	15 hrs
Unit II	Water resources of India, surface and groundwater, water demand and utilization. Irrigation: Sources, types and intensity. Issues and challenges: water resources scarcity, 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. Agriculture: Land use and cropping pattern – meaning and concepts, land use and cropping Pattern 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.	15 hrs
Unit III	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. Transport & Communication: Significance, growth and development – Road ways, railway, waterway, airway and pipeline networks and their complementary and competition. Communication: Means of communication their significance.	15 hrs
Unit IV	Growth, distribution and density of population. Composition of population: Age, sex, rural-urban population composition. Migration: meaning, factors, types, causes and consequences. Human Development in India: Measures, levels of development based on HDI, Human Gender Development Index (GDI)	15 hrs

Recommended books:

1. Khullar DR. (2009): India: A Comprehensive Geography, Kalyani Publishers, 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 Publishing House 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, 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 Gorakhpur- UP.
11. Deshpande C. D., (1992): India: A Regional Interpretation, ICSSR, New Delhi.
12. Johnson, B. L. C., ed. (2001). Geographical Dictionary of India. Vision Books, New Delhi.
13. Mandal R. B. (ed.), (1990): Patterns of Regional Geography – An International Perspective. Vol. 3 – Indian Perspective.
14. Sdyasuk Galina and P Sengupta (1967): Economic Regionalisation of India, Census of India
15. Singh R. L., (1971): India: A Regional Geography, National Geographical Society of India.
16. Singh, Jagdish (2003): India - A Comprehensive & Systematic Geography, Gyanodaya Prakashan, Gorakhpur.
17. Singh, RB, Schickhoff, Udo, Mal, Suraj (Eds.) (2016) Climate Change, Glacier Response, and Vegetation 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 Regional Geography, 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.

Websites:

<http://www.mapsofindia.com/geography/>
<https://mausam.imd.gov.in/>
<https://tourism.gov.in/>
<https://www.resourcedata.org/dataset/rgi-ministry-of-minerals-energy-and-water-resources>
<https://dpiit.gov.in/>
<https://agricoop.nic.in/en>
<https://www.fao.org/soils-portal/en/>

Formative Assessment for Theory	
Assessment Occasion/ type	Marks
Internal Assessment Test 1	05
Internal Assessment Test 2	05
Assignment	10
Total	20 Marks
<i>Formative Assessment as per guidelines.</i>	

B.A. Semester – IV
Discipline Specific Course (DSC) - 8

Course Title: Representations of Geographical Features of India - Practical

Course Code: A4GEO 1P1

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
DSC-8	Practical	02	04	56 hrs.	3hrs.	10	40	50

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

CO1: To understanding the holistically approach about the geography of India.

CO2: To Interpret and apply the concepts on resource distribution of India and related economic activities.

CO3: To Interpret and apply the concepts on resource distribution of India and related economic activities.

CO4: To represent the data in the form of maps and diagrams.

CO5: To prepare a map of Tourism Destinies in Karnataka and India.

List of the Exercises for 56 hrs / Semesters

No of Exercises	Techniques in Human Geography Practical	56 hrs/ Sem
1	Prepare various landforms using toposheets and interpret.	06
2	Construct soil fertility (NPK) and distribution (India / Karnataka District) map by using choropleth method and interpret.	06
3	Construct rainfall distribution map of India / Karnataka / District by using isopleth method and interpret.	06
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 change over the time and submit a report.	08
5	Mapping temperature distribution in India / Karnataka / District by using isopleth method and interpret.	06
6	Construct a map regarding impact of industries in India by using buffer analysis digitally / manually and interpret.	08
7	Prepare flow-diagrams relating to air and railway transportation of India / Karnataka / District and interpret.	08
8	Construct special need and tourism interest map of India / Karnataka / District and interpret.	08

Books recommended:

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 Publishing House 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, New Delhi.
6. Ranganath (2007) Geography of India, Vidhyanidhi Prakashan, Station Road, Gadag-01.
7. Phani Deka and 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 Gorakhpur-UP.
11. **websites:**
<http://www.mapsofindia.com/geography/>

Formative Assessment for Practical	
Assessment Occasion/ type	Marks
Internal Assessment Test 1	05
Internal Assessment Test 2	05
Total	10 Marks
<i>Formative Assessment as per guidelines.</i>	

B.A. Semester – V

Discipline Specific Course (DSC) – 9A

Student shall select DSC 9A & 10 A or 9B & 10 B for 06 credits only

Course Title: Population Resources and Dynamics

Course Code: A5GEO 2T1

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
DSC-9A	Theory	04	04	60 hrs.	3hrs.	20	80	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: Population Resources and Dynamics	60 hrs/sem
Unit I	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.	15 hrs
Unit II	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.	15 hrs
Unit III	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.	15 hrs
Unit IV	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).	15hrs

Recommended books:

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
Jingam ML. B.K. Bhat, JN Deasi (2003) Demography, Urinda Publishers Pvt. Ltd. Delhi.
5. R.K. Tripathi ((2000) Population geography, commonwealth publishers, New Delhi.
6. Kayastha SL. (1998) Geography of Population, Rawat publications, jaipur.
7. Clerk I (1984) Geography of populations, approaches and applications, pergamon press, Oxford, UK.
8. Ritu Malik (2013), Changes in population Dynamics, Sanjay Prakashan
9. Prthvish Nag, G.C.Debnath (2021), Population Geography, Bharti Prakashan, Varanasi
10. Nanjannavar.S.S (2017) : Janasankhya Bhugola Shastra, Prabhu Publications, Dharwad.

Websites:

<https://censusindia.gov.in/census.website/>

<https://mea.gov.in/icm.htm>

<https://population.un.org/wpp/>

<https://www.popcouncil.org/research/india>

<https://www.cdc.gov/csels/dsepd/ss1978/lesson3/section3.html>

Formative Assessment for Theory	
Assessment Occasion/ type	Marks
Internal Assessment Test 1	05
Internal Assessment Test 2	05
Assignment	10
Total	20 Marks
<i>Formative Assessment as per guidelines.</i>	

B.A. Semester – V
Discipline Specific Course (DSC) – 10A

Course Title: Techniques in Population Geography - Practical

Course Code: A5GEO 2P1

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
DSC-10A	Practical	02	04	56 hrs.	3hrs.	10	40	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 : Techniques in Population Geography	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

Books recommended:

- Chandna R.C. (2009), Geography of Population, Kalyani Publicishers, Aneari Road, Daryaganj, New Delhi.
- Majid Hussain (1999), Human Geography, Rawat publications, Jaipur.
- Trewartha GT. (1959) A Geography of Population, world Patterns, John Wiley and Sons Inc. New York.
- Ghosh BN. (1987) Fundamentals of population Geography s, sterling publishing company, New Delhi
- Jingam ML. B.K. Bhat, JN Deasi (2003) Demography, Urinda Publishers Pvt. Ltd. Delhi.
- R.K. Tripathi ((2000) Population geography, commonwealth publishers, New Delhi.
- 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.

Websites:

<https://censusindia.gov.in/census.website/>

<https://mea.gov.in/icm.htm>

<https://population.un.org/wpp/>

<https://www.popcouncil.org/research/india>

<https://www.cdc.gov/csels/dsepd/ss1978/lesson3/section3.html>

Formative Assessment for Practical	
Assessment Occasion/ type	Marks
Internal Assessment Test 1	05
Internal Assessment Test 2	05
Total	10 Marks
<i>Formative Assessment as per guidelines.</i>	

B.A. Semester – V

Discipline Specific Course (DSC) – 9B

Student shall select DSC 9B & 10 B or DSC 9A & 10 A for 06 credits only

Course Title: Fundamentals of Remote Sensing

Course Code: A5GEO 2T2

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
DSC-9B	Theory	04	04	60 hrs.	3hrs.	20	80	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: Fundamentals of Remote Sensing	60 hrs/sem
Unit I	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)	15 hrs
Unit II	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.	15 hrs
Unit III	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.	15 hrs
Unit IV	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.	15hrs

Recommended 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

<https://map-projections.net/imglist.php>

https://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/earthsciences/pdf/resource/tutor/fundam/pdf/fundamentals_e.pdf

https://webapps.itc.utwente.nl/librarywww/papers_2009/general/principlesremotesensing.

Pdf <http://earthobservatory.nasa.gov/Library/RemoteSensing>

<https://earthexplorer.usgs.gov/>

<https://bhuvan.nrsc.gov.in/home/index.php>

<https://map-projections.net/imglist.php>

Formative Assessment for Theory	
Assessment Occasion/ type	Marks
Internal Assessment Test 1	05
Internal Assessment Test 2	05
Assignment	10
Total	20 Marks
<i>Formative Assessment as per guidelines.</i>	

B.A. Semester – V

Discipline Specific Course (DSC) – 10B

Course Title: Interpretation of Aerial Photos and Satellite Images - Practical

Course Code: A5GEO 2P2

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
DSC-10B	Practical	02	04	56 hrs.	3hrs.	10	40	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

Books recommended:

1. Lillesand T. and 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://earthobservatory.nasa.gov/Library/RemoteSensing>
<https://earthexplorer.usgs.gov/>
<https://bhuvan.nrsc.gov.in/home/index.php>
<https://map-projections.net/imglist.php>

Formative Assessment for Practical	
Assessment Occasion/ type	Marks
Internal Assessment Test 1	05
Internal Assessment Test 2	05
Total	10 Marks
<i>Formative Assessment as per guidelines.</i>	

B.A. Semester –VI

Discipline Specific Course (DSC) – 11A

Student shall select DSC 11B & 12 B or DSC 11A & 12A for 06 credits only

Course Title: Environmental Geography

Course Code: A6GEO 2T1

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
DSC-11A	Theory	04	04	60 hrs.	3hrs.	20	80	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: Environmental Geography	60 hrs/sem
Unit I	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.	15 hrs
Unit II	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.	15 hrs
Unit III	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.	15 hrs
Unit IV	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.	15hrs

Recommended books:

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. 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.
15. Strahler A.N. and Strahler A.H. (1977) Geography and Man's Environment, John Wiley & Sons, New York.
16. Nanjannavar.S.S (2017): Parisara Bhugolshastra, Prabhu Publications, Dharwad.

Websites:

<https://moef.gov.in/en/>

<http://environmentclearance.nic.in/>

<https://ndma.gov.in/>

<https://bhuvan.nrsc.gov.in/home/index.php>

<http://www.indiaenvironmentportal.org.in/>

Formative Assessment for Theory	
Assessment Occasion/ type	Marks
Internal Assessment Test 1	05
Internal Assessment Test 2	05
Assignment	10
Total	20 Marks
<i>Formative Assessment as per guidelines.</i>	

B.A. Semester – VI

Discipline Specific Course (DSC) – 12A

Course Title: Methods in Environmental Geography - Practical

Course Code: A6GEO 2P1

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
DSC-12A	Practical	02	04	56 hrs.	3hrs.	10	40	50

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

CO1: Biotic and Abiotic elements exist in the environment.

CO2: Identify micro-Biomes in the local region.

CO3: Identify the water bodies and polluting points in the local region.

CO4: Identify the waste disposal sites

CO5: 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

Books recommended:

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. 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.
15. Strahler A.N. and Strahler A.H. (1977) Geography and Man's Environment, John Wiley & Sons, New York.

Websites:

<https://moef.gov.in/en/>

<http://environmentclearance.nic.in/>

<https://ndma.gov.in/>

<https://bhuvan.nrsc.gov.in/home/index.php>

<http://www.indiaenvironmentportal.org.in/>

Formative Assessment for Practical	
Assessment Occasion/ type	Marks
Internal Assessment Test 1	05
Internal Assessment Test 2	05
Total	10 Marks
<i>Formative Assessment as per guidelines.</i>	

B.A. Semester – VI

Discipline Specific Course (DSC) – 11B

Student shall select DSC 11B & 12 B or DSC 11A & 12A for 06 credits only

Course Title: Fundamentals of Geographic Information Systems

Course Code: A6GEO 2T2

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
DSC-11B	Theory	04	04	60 hrs.	3hrs.	20	80	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: Fundamentals of Geographic Information Systems	60 hrs/sem
Unit I	Definition, Scope of GIS in digital world; Components, functionalities, merits and demerits, global market. Interdisciplinary domains, and its integration with GIS.	15 hrs
Unit II	Meaning scope of geodesy, geographical coordinates, latitude, longitudes; Datum: WGS-84, V/S NAD-32. UTM; Aerial Distance measurement using Geographic and projected coordinates. Area, perimeter, length by coordinates and various international measures. Assignment: students need to prepare hand drawn maps with the help of graticules.	15 hrs
Unit III	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.	15 hrs
Unit IV	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.	15hrs

Recommended books:

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

Formative Assessment for Theory	
Assessment Occasion/ type	Marks
Internal Assessment Test 1 Spatial Analysis and Location-Allocation Models - Ghosh, A. and G. Rushton (1987)	05
Internal Assessment Test 2 Geographic Information Systems and Cartographic Modelling - Tomlin, C.D. (1990)	05
Assignment Geographic Information Systems and Science – Paul A. Longley, et.al. (2015)	10
Total	20 Marks
<i>Formative Assessment as per guidelines.</i>	

12. Concepts and Techniques of Geographic Information Systems- Chor Pang Lo, Albert K.W. Yeung (2016)

Web resources:

IIRS MOOC programme: <https://isat.iirs.gov.in/mooc.php>

ITC Netherlands, Principles of GIS

https://webapps.itc.utwente.nl/librarywww/papers_2009/general/principlesgis.pdf

Geographical Information Systems: Principles, Techniques, Management and Applications

https://www.geos.ed.ac.uk/~gisteac/gis_book_abridged/

<https://www.esri.com/en-us/home>

B.A. Semester –VI
Discipline Specific Course (DSC) – 12B

Course Title: GIS for Map-Making - Practical

Course Code: A6GEO 2P2

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
DSC-12B	Practical	02	04	56 hrs.	3hrs.	10	40	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: GIS for Map-Making	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

Books recommended:

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:

IIRS MOOC programme: <https://isat.iirs.gov.in/mooc.php>

ITC Netherlands, Principles of GIS

https://webapps.itc.utwente.nl/librarywww/papers_2009/general/principlesgis.pdf

Geographical Information Systems: Principles, Techniques, Management and Applications

https://www.geos.ed.ac.uk/~gisteac/gis_book_abridged/

<https://www.esri.com/en-us/home>

Formative Assessment for Practical	
Assessment Occasion/ type	Marks
Internal Assessment Test 1	05
Internal Assessment Test 2	05
Total	10 Marks
<i>Formative Assessment as per guidelines.</i>	

It is for other combination students

Course Title: Introduction to Physical Geography

Course Code: A5GEO 5T1

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
EC-1	Theory	03	04	45 hrs.	3hrs.	20	80	100

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

CO 1 : To define the Physical Geography, the shape and size of the earth surface.

CO 2 : To identify the different types of rocks and their characteristics and agents of denudation.

CO 3 : To discuss the nature of structure and composition of Atmosphere.

CO 4 : To discuss the ocean floor and marine resources.

CO 5 : To analyse the physical geography of any geographical regions.

Unit	Title: Introduction to Physical Geography	45 hrs/sem
Unit I	Origin, Shape and Size of the Earth, Movement of the Earth- Rotation and Revolution. Effects of the movement of Earth, Coordinates -Latitude, Longitude and Time and Structure of the Earth. Rocks and their types, significance of rocks. Weathering and its types. Agents of Denudation - River, Glacier, Wind and Under Ground water. Volcanicity, Earthquakes and Tsunamis.	15 hrs
Unit II	Structure and Composition of Atmosphere. Weather and Climate. Atmospheric Temperature, Heat Budget of the atmosphere Atmospheric Pressure, Winds and Precipitation	15 hrs
Unit III	Distribution of Land and Sea, Submarine Relief of the Ocean, Temperature and Salinity of Sea Water. Ocean Tides, Waves and Deposits, Ocean currents: Atlantic, Pacific and Indian Oceans. Marine Resources: Biotic, mineral and energy resources.	15 hrs

Recommended books:

1. B.S. Negi (1993) Physical Geography. S.J. Publication, Meerut

2. D.S.Lal (1998) Climatology. Chaitnya publishing house, Allahabad
3. K. Siddhartha (2001) Atmosphere, Weather and Climate. Kishalaya publication, New Delhi
4. R.N.Tikka (2002) Physical Geography. Kedarnath Ramnath & co, Meerut.
5. P Mallappa, Physical Geography (Kannada Version).
6. Ranganath Principles of Physical Geography (Kannada Version).
7. Nanjannavar S S: Physical Geography (Kannada Version).
8. Hugar M R Physical Geography part-1 (Kannada Version).
9. Goudar M B, Physical Geography (Kannada Version).

Websites:

<https://oxfordbibliographies.com>

<https://ncert.nic.in>

<https://www.nationalgeographic.org>.

<https://researchguide.deartmath.edn>

<https://journals.sagepub.com>

Formative Assessment for Theory	
Assessment Occasion/ type	Marks
Internal Assessment Test 1	05
Internal Assessment Test 2	05
Assignment	10
Total	20 Marks
<i>Formative Assessment as per guidelines.</i>	

B.A. Semester – VI

Elective Course (EC) -02

Course Title: Geography of India.

Course Code: A6GEO 5T1

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
EC-2	Theory	03	04	45 hrs.	3hrs.	20	80	100

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

CO1: To describe the holistic approach about the geography of India

CO2: To interpret and apply the concepts on resource distribution of India and related economic activities.

CO3: To demonstrate the economic development through the connectivity of transport and communication.

Unit	Title: Geography of India.	45 hrs/sem
Unit I	Location and Extension of India, Physiographic divisions, Climate, Drainage system, Soil Types and its distribution. Natural Vegetation, Water Disputes: River Brahmaputra and Indus. Geopolitical Issues: Indo-china, Indo-Pakistan.	15 hrs
Unit II	Need for irrigation, types and distribution. Multipurpose river valley projects Significance of Agriculture, Types of farming. Agro Climatic Regions of India Agricultural Crops: Rice, Wheat, Sugarcane, cotton, Tea and Coffee. Green Revolution, White Revolution, Blue revolution, Blue Revolution.	15 hrs
Unit III	Significance and locational factors. Distribution of Iron ore, Manganese, Bauxite, Coal, Petrol. Distribution and production of industries: Cotton Textile, Jute, Iron and Steel, Aluminum and Paper. Special Economic Zones, Roadways, Railway, airways waterways. Ports and National Water Ways.	15 hrs

Recommended books:

1. Khullar DR. (2009): India: A Comprehensive Geography, Kalyani Publishers, 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 Publishing House Ltd., New Delhi-14.
4. Tiwari RC. (2008) Geography of India, Prayagpustak Bhawan, 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 Gorakhpur-UP.
11. Kalpana Rajaram (2012), Geography of India, Spectrum Books Pvt. Ltd.
12. Y.I. Singh (2021), Geography of India, Global Net Publication

Websites:

1. <http://www.mapsofindia.com/geography/>
2. <https://agricoop.nic.in/en>
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/>

Formative Assessment for Theory	
Assessment Occasion/ type	Marks
Internal Assessment Test 1	05
Internal Assessment Test 2	05
Assignment	10
Total	20 Marks
<i>Formative Assessment as per guidelines.</i>	

B.A. Semester –IV/ V/VI

Skill Enhancement Course (SEC)

Student shall study SEC in any one of the Semesters either in IV or V or VI semester

College shall decide to allot the students

Course Title: Geographical Statistics - Practical

Course Code: AOGEO6T1

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
SEC	Practical	02	04	56 hrs.	3hrs.	10	40	50

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

CO 1 : To define statistics and enable to use for analysis.

CO 2 : To handle the data collection, tabulation and sampling.

CO 3 : To enable the calculations of mean, median and mode.

CO 4 : To enable the calculations of mean, median and mode.

Expt. No,	Title: Geographical Statistics	56.hrs/ Sem
1	Methods of data collection, sources of the data and sampling methods.	04
2	Processing the data, tabulation and formation of frequency.	06
3	Measures of Central Tendency and its significance.	06
4	Calculation of Mean for grouped and ungrouped data.	04
5	Calculation of Median for grouped and ungrouped data.	06
6	Calculation of Mode for grouped and ungrouped data.	06
7	Measures of Dispersion and its importance.	06
8	Calculation of Quartile Deviation for grouped and ungrouped data.	06
9	Calculation of Mean Deviation for grouped and ungrouped data.	06
10	Calculation of Standard Deviation for grouped and ungrouped data.	06

Books recommended:

1. Haymond and Mccullah (1974), Quantitative techniques in geography, An introduction, Oxford London.
2. Aslam Mohamed (1977): Statistical Methods in Geographical Studies, Rajesh Publications, New Delhi.

3. Gupta CB. (1979): An introduction to statistical methods, Vika publishing house pvt. Ltd. New Delhi.
4. Murray R. Spiegel (1972): Theory and problems of statistics, Mc. Grawhill Book co. New York.
5. Singh RL. (2016): elements of Practical Geography, Kalyani Publishers, New Delhi.

Websites:

<https://www.statistics.com>

<https://www.amstat.org>

<https://quora.com>

<https://www.statisticshowto.com>

Formative Assessment for Practical	
Assessment Occasion/ type	Marks
Internal Assessment Test 1	05
Internal Assessment Test 2	05
Total	10 Marks
<i>Formative Assessment as per guidelines.</i>	

UG programme: 2024-25

GENERAL PATTERN OF THEORY QUESTION COURSE FOR DSC/ EC/SEC

(80 marks for semester end Examination with 3 hrs duration)

Part-A

1. Question number 1-10 carries 2 marks each. (Objective Type) : 20 marks

Part-B

2. Question number 11- 20 carries 05 Marks each. Answer any 06 questions : 30 marks

Part-C

3. Question number 21-24 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: 80 Marks

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

BASIC 25017

KARNATAK UNIVERSITY, DHARWAD

Ref. No. No. KU/(Aca(S&T))(MSP-015)/Geography/UG/PG/2013-14/ 807

Date: 11-05-2013

NOTIFICATION

Sub: Revision of Geography syllabus for UG course from the academic year 2013-14 & onwards reg.

- Ref:** 1) BOS in Geography (UG/PG) Res. No. 04, dt: 14.09.2012.
2) Science Faculty, Res.No.06 dt: 11.03.2013.
3) Academic Council Res.No.30 dt: 25-03-2013.
4) Hon'ble Vice-Chancellors order dt: 01.05-2013.

Adverting to the above, it is hereby informed to the Principals of all the constituent and affiliated Arts and Science Degree Colleges that the revised syllabus in Geography syllabus for UG course with effect from the academic year 2013-14 and onwards. The revised syllabus is enclosed herewith.

Hence, the contents of this notification may please be brought to the notice of the students and all concerned.

The concerned syllabus may be obtained through the Karnatak University, Web Site: www.kud.ac.in.

REGISTRAR 3/5/13

To,

1. The Chairman, BOS in Geography (UG & PG) P.G. Department of Studies in Geography, K.U.Dharwad.
2. Principals of all the constituent and affiliated Arts and Science Degree Colleges coming under the Jurisdiction of Karnatak University, Dharwad.

Copy F.W.es to;

1. Dr.S.A.Patil, Dean Faculty of Science & Technology, PG. Dept. of Studies in Chemistry, K.U., Dharwad.
2. The Registrar (Evaluation), K.U. Dharwad.
3. The Chairman, PG. Dept. of Studies in Geography, K.U., Dharwad.
4. Dr. R.M. Vatnal, I/c. IT Director, Internet Section, Examination Section, K.U. Dharwad for information and with a request to put the said notification and its enclosures in the University website: www.kud.ac.in

Copy to:

1. P.S. to Vice Chancellor, K.U. Dharwad
2. S.A. to Registrar, K.U. Dharwad
3. S.A. to Registrar (Evaluation), K.U. Dharwad
4. O.S. Academic (PG/Crt) Section, K.U. Dharwad
5. O.S. Exam (Arts Faculty) Section, K.U. Dharwad
6. O.S. Exam (Science Faculty) Section, K.U. Dharwad
7. O.S. Exam (PG), Section, K.U. Dharwad
8. O.S. Exam (Confl) Section, K.U. Dharwad
9. O.S. Exam (QP) Section, K.U. Dharwad
10. O.S. Exam (GAD/Time Table) Section, K.U. Dharwad

21-5-13

100
200
300

M.V.J.
B.A. & B.Sc. College
Ran

Karnataka University Dharwad

Revised Syllabus for B.A. & B.Sc. of Geography With effect from 2013-14 onwards.

Rules & Regulations

Introduction: Introduction of the semester for undergraduate studies is a welcome decision by the authorities taking into consideration the present-day needs and necessities. The non object of the system is to know the modern development and its relevance in day-to-day life of the people. An effort is made to know in details about the subject and structure of course keeps the teacher and the taught busy throughout the semester. It helps the students to prepare well for the examination, as there are two semester in academic year.

Geography B.A/ B.Sc.Semester

To be eligible to offer 'GEOGRAPHY' as one of the optional subjects U.G level, a student must complete pre-university or equivalent course.

Scheme of instruction

- i. The subject 'GEOGRAPHY' for this scheme has to be taught by a master degree holder in geography only
- ii. Geography at undergraduate level consists of six semester with eight the papers and eight practical papers. In I,II,III and IV semester there will be one theory paper and one practical paper each. In the V and VI semester there will be two theory papers and two practical each.
- iii. Each theory paper will have a minimum of '60' hours of teaching each practical paper will have a minimum of '40' hours of teaching in each semester course.
- iv. The duration of each semester being '18' weeks excluding Examinations Period.
- v. Practical's are to be conducted in batches. Each batch consists of '15' student with one teachers and between '16-27' students with two teachers. In case, if student are below '15' is also considered as one batch with one teacher.
- vi. Each batch (depends on the number of students) must be supervised by one teachers covering instructions supervision of practical's and correction of records.

ATTENDANCE: In each semester 75% of attendance is compulsory.

Scheme of examinations

Theory Examination: 1. The Theory course shall carry '100' Marks of which '80' Marks are added for the theory examination and '20' Marks for internal assessment.

2. The examination will be conducted at the end of each semester

3. Each theory course will have a question paper of '3' hours duration and the maximum marks of '80'

4. Each theory question paper will have '5' questions, each carrying '15' marks ('8+8' marks). Each question has a choice of attempting either 'A' or 'B' fully

Practical Examination: 1. Each practical course will have an examination of '4' hours duration with maximum marks of '50' of which '40' marks are allotted for the practical examination and '10' marks for internal assessment by conducting an examination in practical taught up to that period.

2. The practical examination is to be conducted in batches with not more than '15' candidates per batch.

3. There will be one internal examiner one external examiner to conduct the practical examination for each batch.

4. Scientific calculators and mobile phones are not allowed in the examination

5. Minimum marks to pass in each paper both theory and a practical is 40%

6. Each candidate shall complete the laboratory course prescribed by the University entering all the experiments/exercises in the Laboratory Journal which shall be produced at the time of practical examination along with a certificate signed both by the course teacher and the Head of the Department of Geography of the concerned college to the effect that he/she has completed the prescribed course in a satisfactory manner.

Name of Papers in B.A./B.Sc. Geography

	Semester	Name of Subject	Marks	IA= Total
B.A./B.Sc. Geography	1 st Sem	Physical Geography	80 +20	100
		Practical: Paper I Scales	40+10	50
B.A./B.Sc. Geography	2 nd Sem	Climatology and Oceanography	80+20	100
		Practical: Paper II Maps and Diagrams	40+10	50
B.A./B.Sc. Geography	3 rd Sem	Regional Geography of Karnataka	80 +20	100
		Practical : Paper III Introduction to Weather Maps and Instruments.	40+10	50
B.A/ B.Sc. Geography	IV th Sem	Geography of India	80 +20	100
		Practical: Paper IV Interpretation of Topographical Maps	40 +10	50
B.A./B.Sc. Geography	V th Sem	Evolution of Geographical Thought	80+20	100
	V th Sem	Human and Economic Geography of the World	80+20	100
B.A./B.Sc. Geography	VI th Sem	Practical: Paper V Map Projections	40+10	50
		Practical : Paper VI Statistical Diagrams and Statistic	40+10	50
B.A./B.Sc. Geography	VI th Sem	Environmental Geography	80+20	100
		Agriculture and Rural Geography	80+20	100
B.A./B.Sc. Geography	VI th Sem	Practical : Paper VII Basic Computer Application and GIS		
		Practical : Paper VIII Field Study and Project Report	40+10	50

B.A/B.Sc
M.Y.J
C.P.E.F.P
C.M.P.P

B.A/B.Sc I Semester Theory PAPER I : Physical Geography (80 Marks)

Course structure : One Theory and One Practical

Teaching Theory : 5 Hours per week + one hour assignment /semester/discussion

Practical : Four hours per week.

Examination : 1. One Theory paper of 80 marks and 20 marks internal assessment.

2. One Practical of 40 marks of 4 hours duration and 10 marks for Journals and Viva-voce.

Unit 1: Nature, Meaning, scope and Content of Physical Geography.

Unit 2: Origin of the Earth- Theories of Kant, Laplace, Jeans and Jeffreys, Latitudes & Longitude.

Unit 3: Interior of the Earth; Origin of Continents and Ocean Basins- Wegener Theory of Continental Drift

Unit 4: Earth Movements- Diastrophism, Folding and faulting, Earthquakes and Volcanoes, Rocks

Unit 5: Weathering and Erosion; Works of Running water, underground water, wind, Glaciers and resultant landforms.

Recommended Books:

1. G.T.Triwartha : Elements of Physical Geography
2. Wooldridge and Morgan : Physical Basis of Geography
3. Singh, D.K. : Physical Geography
4. Singh, Savindra : Physical Geography.
5. S.S.Nanjannavar and M.N.Meeranaik.: Text Book of Physical Geography
6. S.S.Nanjannavar :Prakratika Bhogola
7. M.B.Goudar: Prakratika Bhogola

PRATICAL- PAPER I: SCALES

1. Definition of the scale and Types of scale

2. Conversion of scale

- a) Representative Fraction to Verbal Scale (15 Exercises)
- b) Verbal Scale into Representative Fraction (15 Exercises).

3. Construction of the Scales; Plain/ Statement, Comparative, Time, Pace and

Diagonal Scale and Importance of Scales (Each 2 Exercises)

4. Journal and Viva- Voce

Recommended Books:

1. R.L. Singh : Elements of Practical Geography
2. R.P. Misra and A. Ramesh : Fundamental of Cartography
3. Gopal Singh : Practical Geography
4. Ranganath : Practical Geogaphy
5. S.S. Najjannavar and M.F. Karenavar : Practical Geography

B.A/B.Sci II Semester, Theory Paper II: Climatology and Oceanography (80 Marks)

Course structure: One Theory and One Practical

Teaching Theory: 5 Hours per week + one hour assignment /semester/discussion

Practical : Four hours per week.

Examination : 1. One Theory paper of 80 marks and 20 marks Internal assessment:

2. One Practical of 40 marks of $\frac{3}{4}$ hours duration and 10 marks for Journals and Viva-voce.

Unit 1: Structure and Composition of atmosphere, Weather and Climate.

Unit 2: Insulation Vertical and Horizontal distribution of Temperature.

Unit 3: Pressure and winds, Humidity and Precipitation; Types of Rainfall

Unit 4: Origin and Characteristics of Temperate and Tropical Cyclones; anti-cyclones.

Unit 5: Surface configuration of ocean Basins with special reference to Pacific, Atlantic and Indian Oceans. Ocean Temperature, Salinity, Tides, Currents and Marine Deposits.

Recommended Books:

1. G.T. Triwartha : Elements of Physical Geography
2. Wooldridge and Morgan : Physical Basis of Geography
3. Singh, D.K. : Physical Geography
4. Singh, Savindra : Physical Geography.
5. S.S. Nanjannavar and M.N. Meenanaik.: Text Book of Physical Geography
6. S.S. Nanjannavar : Prakrtaika Bhogol
7. M.B. Gauodar: Prakrtaik Bhogol

DR. M.Y.J
B.E.P.F.G
College Ran

PRACTICAL PAPER II: MAPS AND CONTOUR DIAGRAMS

1. Definition, Types and uses of Maps.
2. Methods of Enlargement and Reduction of maps by graphical Method (2 Exc each)
3. Representation of following relief features by Contours- Hill, Slopes, Mesa, Saddle, Plateau, Cliff, Spur, Escarpments, 'U' & 'V' Shaped Valley, Waterfalls.
4. Journal and Viva-Voce

Recommended Books:

1. R.L. Singh : Elements of Practical Geography
2. R.P. Misra and A. Ramesh : Fundamental of Cartography
3. Gopal Singh : Practical Geography
4. Ranganath : Practical Geography
5. S.S. Nanjannavar and M.F. Karennavar : Practical Geography.

B.A/B.Sc III SEMESTER, Theory PAPER III: REGIONAL GEOGRAPHY OF KARNATAKA (80 Marks)

Course structure: One Theory and One Practical

Teaching Theory: 5 Hours per week + one hour assignment /semester/discussion

Practical : Four hours per week.

Examination : 1. One Theory paper of 80 marks and 20 marks internal assessment.

2. One Practical of 40 marks of 4 hours duration and 10 marks for and Viva-voce.

Journals

Unit 1. Location, Physiographic divisions; Drainage system; Climate; Soil and Natural vegetation of Karnataka.

Unit 2. Human and water Resources: Population Growth, Density, Sex ratio, Literacy, Distribution, Problems and remedies River Projects of Tungabhadra, Ghataprabha, Malaprabha, Krishan and Cauvery.

Unit 3. Agriculture and Major Crops : Rice, Ragi, Jowar, Cotton, Chillies, Sugarcane, Grapes, Coconut and its production and distribution.

Unit 4. Mineral resources and Major industries: Iron ore, Manganese ore and Bauxite, Iron and Steel, Sugar, Cement, Paper and Dairy farming.

Unit 5. Transport, Ports and Tourist Centers: Road and Rail; Mangalore and Karwar; Jogfalls, Mysore, Bijapur and Hampi.

Shagga matkarni
88473194
nikant
92262508

Recommended Books:

1. R.P. Misra : Geography of Mysore State
2. N.B.K Reddy and Murty : Regional Geography of Karnataka
3. Ramacandra Rao : Geography of Karnataka
4. S.S. Nanjannavar and M.N. Meeraik : Geography of Karnataka (English and Kannada)
5. M.B. Goudar : Karnataka Bhogal

PRACTICAL PAPER III : Interpretation of Weather maps and instruments.

Study and Interpretations of Indian Daily Weather Reports

A. Use of Weather Instruments- Wet & dry Bulb Thermometer, Barometer, Wind-vane, Rain Gauge.

B. Study of Weather Symbols and Interpretation of Indian Daily Weather Maps and Forecasting.

Journal & Viva-Voce.

Recommended Books:

1. R.L. Singh : Elements of Practical Geography
2. R.P. Misra and A. Ramesh : Fundamental of Cartography
3. Gopal Singh : Practical Geography
4. Ranganath : Practical Geography
5. S.S. Nanjannavar and M.F. Karenavar : Practical Geography.

B.A./B.Sci IV SEMESTER THEORY PAPER IV : GEOGRAPHY OF INDIA (80 Marks)

Course structure: One Theory and One Practical

Teaching Theory: 5 Hours per week + one hour assignment /semester/discussion

Practical : Four hours per week.

Examination : 1. One Theory paper of 80 marks and 20 marks Internal assessment.

2. One Practical of 40 marks of 4 hours duration and 10 marks for Journals

and Viva-voce.

DR.
M.Y.J
B.G.G.F. &
College Rom

Unit 1: Physiographic divisions; Drainage system, Climate and climatic regions; Soil and Natural vegetation.

Unit 2: Human Resources - Growth and Spatial pattern of Population; Population Explosion.

Unit 3: Major Crops : rice, wheat, sugarcane, cotton and tea. Agricultural regions, Green revolution and its consequences

Unit 4: Mineral, power resources and Industries :Iron ore, coal and petroleum; Multipurpose projects; Bakaranga! and DVC. Major industries : Iron and steel, cotton textile, sugar, Paper and cement.

Unit 5: Transport and Trade: Road, Rail and Air; Trade: Internal and International.

Recommended Books:

1. Alkagaoutam : Geography of India
2. B.S. Neigi : Geography of India
3. T. Sharma and O. Coutinho : Economic and Commercial Geography of India
4. S.S. Nanjannavar and I.A. Mulla : Bharatad Bhogol Shastar
5. P. Mulhappa : Bharatad Bhogol Shastar
6. M.B. Goudar : Bharatad Bhogol Shastar

PRACTICAL PAPER IV : Interpretation of Toposheets

1. Marginal information of Toposheet and colour convention used in S.O.I. Maps, Conventional Signs and symbols to represent physical and cultural features.
2. Interpretation of S.O.I. Topographical Maps, relief, drainage, Vegetation, Settlements, Transportation and communication and land use.
3. Cross - section and calculation of Exaggeration.

Recommended Book :

1. R.L. Singh : Elements of Practical Geography
2. R.P. Misra and A. Ramesh : Fundamental of Cartography
3. Gopal Singh : Practical Geography
4. Ranganath : Practical Geogaphy
5. S.S. Nanjannavar and M.F. Karenavar : Practical Geography

B.A/B.Sci V th SEMESTER, THEORY PAPER V: EVOLUTION OF GEOGRAPHICAL THOUGHT (80 Marks)

Course structure: Two Theory Papers and Two Practical's

Teaching Theory: 5 Hours per week + one hour assignment /seminar/discussion

Practical : Four hours per week.

- Examination
1. Two Theory papers of 80 marks each and 20 marks internal assessment each.
 2. Two Practical's of 40 marks each of 4 hours duration and 10 marks each for Journals and Viva-voce.

- Unit 1. Nature, Scope and Content of geographical thought.
- Unit 2. Classical contributions to geographical thought: Greek, Roman and Indian.
- Unit 3. Geography in Middle ages, Contribution of Arab Geographers.
- Unit 4. Major Themes in geography: Foundations of geography: major contributions of Alexander von Humboldt, Carl Ritter, and Ratzel.
- Unit 5. Emergence of Modern Geography.

Recommended Books:

1. Ali, S.M. (1960): Arab Geography, Institute of Islamic Studies, Aligarh Muslim University, Aligarh, First Edition.
2. Ali, S.M. (1983): The Geography of Puranas, People's Publishing House, New Delhi, Third Edition.
3. Dikshit, R. D. (2003): Geographical Thought. A Critical History of Ideas. Prentice-Hall of India, New Delhi. (in English and Hindi).
4. Majid Husain M. (2002): Evolution of Geographical Thought, Rawat Publication
5. S.S. Nanjannaver and Nidagundi : Bohogoleka Vichardhare.

B.A/B.Sci V SEMETER, PAPER VI : HUMAN AND ECONOMIC GEOGRAHY OF THE WORLD (80 Marks)

- Unit 1. Meaning ,Nature, Scope of Human and Economic Geography.
- Unit 2. World Physiographic division, Rivers, and climate.
- Unit 3. Human Races of the world- origin and classification; major tribes of the world and India- Pygmies, Kirghiz, Eskimos, Bushmen, Nagas, Bhils and Todas.
- Unit 4. Types of Agriculture, Distribution and production of major crops- rice, wheat, Cotton, Sugarcane.
- Unit 5. Mineral and Major Industries: Iron-Ore, manganese, Petroleum and Coal. Iron and Steel, Cotton Textile ,Sugar and Cement.

Recommended Books:

1. Husain, M (1994): Human Geography, Rawat Publications, Jaipur.
2. Kaushik, S.D. and Sharma, A.K. (1996): Principles of Human Geography (in Hindi), Rastogi Publication, Meerut.
3. Singh, K. N. and Singh, J. (2001): *Manav Bhugol*. Gyanodaya Prakashan, Gorakhpur.
4. Singh, L.R. (2005): Fundamentals of Human Geography, Sharda Pustak Bhawan, Aliahabad
5. Smith, D. M. (1977): Human Geography- A Welfare Approach, Edward
6. Jones & Darkenward: Economic Geography
7. Alexander, J.W.: Economic Geography.
8. S.S. Nanjannavr : Arthika wanigea Bhogol and Manav Bhogol (Kannada)
9. M.B. Goujar : : Arthika wanigea Bhogol and Manav Bhogol (kannada)

DR.
M.Y.T
B.G.G.F.G
College Rom

PRACTICAL PAPER V : Map Projections

I. Classification and Types of Projections.

- II. Construction of Map Projections -A. Cylindrical Projection: Simple Cylindrical, Cylindrical Equal Area, and Mercator's, Projection.
- B. Conical Projection: Conical with One Standard, Two standard Parallel, and Bonne's, projection.
- C. Zenithal projection: Polar Zenithal Equal Area, Polar Zenithal Stereographic, Polar Zenithal Orthomorphic.

Journal and Viva Voce.

Recommended Books :

1. R.L. Singh : Elements of Practical Geography
2. R.P. Misra and A. Ramesh : Fundamental of Cartography
3. Gopal Singh : Practical Geography
4. Ranganath : Practical Geography
5. S.S. Naajannavar and M.F. Karenavar : Practical Geography

PRACTICAL PAPER VI : STATISTICAL DAIGRAMS AND STATISTICS.

1. Cartographical Representation of Statistical Graphs : Band Graph, Hythergraph and Climograph.
2. Diagrams- Pie, Wind Roses, dot and Choropleth map.
3. Formation of Frequency distribution and Histogram, Statistical Methods in Geography- Mean, Mode, Mean Deviation, Standard Deviation, and correlation Coefficient.
4. Jurnal and Viva-voce

Recommended Books :

1. R.L. Singh : Elements of Practical Geography
2. R.P. Misra and A. Ramesh : Fundamental of Cartography
3. Gopal Singh : Practical Geography
4. Ranganath : Practical Geography
5. S.S. Naajannavar and M.F. Karenavar : Practical Geography

B.A/B.Sci VI SEMESTER, THEORY PAPER-VII - ENVIRONMENTAL GEOGRAPHY (80 Marks)

- Unit 1. Definition, Scope and Content of Environment Geography, and Ecosystem.
- Unit 2. Man and Environment: Inter dependence between man and Environment Man's on vegetation, biotic life, Climate, Soil and Water.
- Unit 3. Biodiversity: Types of biodiversity, uses of biodiversity, biodiversity at the local, regional and global level.
- Unit 4. Conservation: Levels of destruction of Biodiversity, causes and Consequences to biodiversity; Endangered and Endemic species of India.
- Unit 5. Environment Pollution: Types of Pollution, Causes and effects of pollution, Measures to Control Pollution, Global Warming and Depletion of Ozone layer.

Recommended Books :

1. Savindra Singh :Environmental Geography
2. Saxena H.M :Environmental Geography
3. Asha B.N : Man and his Environment.
4. S.S.Nanjannavar : Parisara Bhogol Shastra
5. S.S.Nanjannavar ;Vayu Malinaya .
6. M.B.Goudar : Parisara Bhoga Shastra.

B.A/B.Sci VI SEMESTER THEORY PAPER: VIII AGRICULTURE AND RURAL GEOGRAPHY (80 Marks)

- Unit 1. Meaning, nature and scope of agricultural and Rural Settlement geography.
- Unit 2. Types of Farming :Crop concentration and Delineation of crop combination regions. subsistence, plantation, commercial and mixed farming.
- Unit 3. Agricultural planning and policies in India, Agro-climatic regions of India, Green revolution and its issues.
- Unit 4. Nature and characteristics of rural settlements. Types, Patterns, and Morphology of rural settlements, site and situation, layout-internal and external.
- Unit 5. Rural De-Population, Rural Urban Continuum Rural Planning and NREGA: Objectives, Importance and Functions of NREGA.

DR.
MVI
B. G. G. F. G
College Rom

Recommended Books.

1. Husain, M. (1996): Systematic Agricultural Geography, Rawat Publications, Jaipur.
2. Mishra, R. P. (1967): Diffusion of Agricultural Innovations, University of Mysore, Mysore.
3. Mohammad, A. (1978): Studies in Agricultural Geography, Rajesh Publications, New Delhi
4. Morgan, W. E. and Norton.
5. Mohammad Safi (2006) Agriculture Geography.
6. L.T.Nayak : Vasati Bhogol Shastra

PRACTICAL PAPER VII: Computer Application And GIS

1. Basic of Computer Applications: Operation of M.S. Word M.S. Excel and Power Point.
2. Graphical Represent of data.
3. GIS; Importance, Components (Hardware, Software, Infrastructure, Brain ware).

PRACTICAL PAPER VIII: FIELD WORK AND PROJECT REPORT

Field Trip and Report Writing: The Problem is to be identified with the District; the field work has to conduct and prepare a report and to be submitted to the Department before the commencement of Practical Examination.



15/9/12

CHAIRMAN & BOS
P.G. DEPT. OF GEOGRAPHY
KARNATAK UNIVERSITY
DHARWAD-580 003



CHOICE BASED CREDIT SYSTEM (CBCS)

DEPARTMENT OF GEOGRAPHY

SCHEME OF TEACHING HOURS, GRADING PATTERN AND EXAMINATION FOR UNDER GRADUATE DEGREE COURSE
 : DURATION OF COURSE: 6 SEMESTERS (3 Years)
 (WITH EFFECT FROM 2020-21 AND ONWARDS)

Semester	Title of the paper	Teaching Hours/week (L. T. P)	Credit	Duration of Exam. (Hours)	Marks		Total Marks
					IA	Sem. End Exam (Final)	
I	DSC-2A - Theory : Physical Geography	4: 0: 0	4	3	20	80	100
	DSC-2A - Practical - I : Scales and Maps	0: 0: 4	2	3	10	40	50
II	DSC-2B - Theory : Human Geography	4: 0: 0	4	3	20	80	100
	DSC-2B - Practical- II : General Cartography and Interpretation of Indian Daily Weather Charts	0: 0: 4	2	3	10	40	50
III	DSC-2C - Theory : Regional Geography of Karnataka	4: 0: 0	4	3	20	80	100
	DSC-2C - Practical- III : Topographical Maps and Representation of Relief Features	0: 0: 4	2	3	10	40	50
IV	DSC-2D - Theory : Environmental Geography	4: 0: 0	4	3	20	80	100
	DSC-2D- Practical-IV: Map Projections	0: 0: 4	2	3	10	40	50
V	<i>Discipline Specific Elective Papers -DSE (Chose any one)</i> DSE-2A-I-Theory: Regional Geography of India	4: 0: 0	4	3	20	80	100
	<i>OR</i> DSE-2A-II-Theory: Geography of Settlements DSC- Practical V: Basic Statistics (This Practical paper common for all the V semester students)	4: 0: 0 0: 0: 4	4 2	3 3	20 10	80 40	100 50

		(SEC-2A)							
Paper : Regional Planning and Development		0:	0:	4	2	3	10	40	50
VI Semester	<i>Discipline Specific Elective Papers -DSE(Choose any one)</i> DSE-2B-1-Theory: <i>Economic Geography of the World</i> <i>OR</i> DSE-2B-1I-Theory: <i>Population Geography</i> DSC- Practical VI: <i>Field Techniques and Survey Based Project Report</i> (This Practical paper common for all the VI semester students)	4:	0:	0	4	3	20	80	100
		4:	0:	0	4	3	20	80	100
		0:	0:	4	2	3	10	40	50
	Compulsory Paper-II: Skill Enhancement Course (SEC-2B)								
	Paper : Remote Sensing and GIS Based Project Report GENERIC ELECTIVE THEORY PAPER	0:	0:	4	2	3	10	40	50
	(OTHER THAN GEOGRAPHY STUDENTS) B.A / B.Sc – V Sem. GEO- GE-1 paper: Elements of Physical Geography GENERIC ELECTIVE THEORY PAPER	0:	0:	4	2	3	10	40	50
	(OTHER THAN GEOGRAPHY STUDENTS) B.A / B.Sc – VI Sem. GEO- GE-2 Paper: Physical Geography of India	0:	0:	4	2	3	10	40	50

Note: * All Core papers i.e., DSC 2A, 2B, 2C & 2D are compulsory for I to IV Semesters.

* Students can choose any one paper from DSE 2A.1 OR 2A.2 in V Semester and DSE 2B.1 OR 2B.2 in VI Semester.

* Practical V i.e. *Basic Statistics* is common for all the V semester students and Practical VI i.e. *Field Techniques and Survey based Project Reports* is common for all the VI Semester Students.

* SEC-2A paper: *Regional Planning and Development* is compulsory for V semester Students and SEC-23 paper: *Remote Sensing and GIS based Project Report* is compulsory for VI semester Students.

CHOICE BASED CREDIT SYSTEM (CBCS)

DEPARTMENT OF GEOGRAPHY

CORE COURSE PAPERS, SKILL ENHANCED PAPERS, DISCIPLINE SPECIFIC PAPERS

AND GENERIC ELECTIVE PAPERS FOR UNDER GRADUATE DEGREE COURSE

(WITH EFFECT FROM 2020-21 AND ONWARDS)

Semester	Core papers :8 (Theory papers : 4 & Practical papers: 4)	Skill Enhanced Course papers 2. (One compulsory for V sem & other for VI Semester).	Discipline Specific Elective Papers: 4 (One each for V & VI Semester. Two each compulsory practical for V & VI Semester.)	Generic Elective Papers:2 (Both compulsory papers for V & VI Sem. other than Geography students)
I Semester	Theory paper: Physical Geography	-	-	-
	Practical. I : Scales and Maps	-	-	-
II Semester	Theory paper: Human Geography	-	-	-
	Practical. II : General Cartography and IMD Maps	-	-	-
III Semester	Theory paper: Regional Geography of Karnataka	-	-	-
	Practical. III : Topographical Maps and Representation of Relief features	-	-	-
IV Semester	Theory paper: Environmental Geography	-	-	-
	Practical. IV : Map Projections	-	-	-
V Semester	-	Regional Planning & Development	Theory paper : Regional Geography of India OR Geography of Settlements Practical V : Basic Statistics (Common for all the V Semester students)	Elements of Physical Geography
VI Semester	-	Remote Sensing & GIS Based Project	Theory paper : Economic Geography of the world OR Population Geography Practical VI : Field Techniques and Survey Based Project Report (Common for all the VI Semester Students)	Physical Geography of India

KARNATAK UNIVERSITY, DHARWAD
CHOICE BASED CREDIT SYSTEM (CBCS)
DEPARTMENT OF GEOGRAPHY
B.A / B.Sc – I Sem. GEO-DSC-2A
(WITH EFFECT FROM 2020-21 AND ONWARDS)

Theory Paper- PHYSICAL GEOGRAPHY

Total 60Hrs

Teaching hours: 4 hrs / Week, 4 Credits

Max. Marks: 100

(Internal Marks:10+10 (20)

Sem. End Exam.: 80 Marks)

Duration of Examination: 03 hrs.

Unit	Title	No. of Hrs.
1	Origin of the earth:	03
1.1	Nebular and Tidal Theory	
2	Lithosphere:	26
2.1	Interior of the earth.	
2.2	Distribution of Land and Water bodies: Continental drift theory of Wegener and Plate tectonic theory.	
2.3	Tectonic formations: Formation and types of folds and faults.	
2.4	Formations and types of Volcanoes, Earthquakes and Rocks.	
2.5	Geomorphic Agents and Process of Denudations: River, Glacier Underground water and Winds.	
3	Atmosphere:	21
3.1	Composition and Structure.	
3.2	Insolation: Factors affecting the distribution of atmospheric temperature. Vertical and Horizontal distribution of atmospheric temperature	
3.3	Atmospheric Pressure: Factors affecting the atmospheric Pressure. Vertical and horizontal distribution of pressure and World Pressure belts.	
3.4	Wind System: Planetary, Seasonal, Local and Variable Winds (cyclones and anticyclones).	
3.5	Precipitation: Humidity and Types of Rainfall.	
4	Hydrosphere:	10
4.1	The Relief of the Oceans: Continental Shelf, Continental Slope, Deep -Sea Plain and Troughs.	
4.2	Tides and ocean currents: Indian and Pacific.	
4.3	Salinity and temperature of Oceans: Atlantic, Pacific and Indian.	

Reading List:

1. Conserva H.T (2004): Illustrated Dictionary of Physical Geography, Author House,
2. Gabler R.E , Peterson J.F and Trapasso L.M (2007): Essentials of Physical Geography (8th edition) Thompson Books / Cole USA.
3. Garrett N (2000) Advanced Geography, Oxford University Press.
4. Goudie A (1984): The Nature of Environment: An advanced Physical Geography, Basil Husain M (2002): Fundamentals of Physical Geography, Rawat Publications, Jaipur.
5. Monkhouse F.J(2009): Principles of Physical Geography, Platinim Publishers,
6. Strahler A N and Strahler A H (2008): Physical Geography, John Wiley & Sons New
7. ಡಾ. ಪಿ. ಮಲ್ಲಪ್ಪ : ಭೌತಿಕ ಭೂಗೋಳಶಾಸ್ತ್ರ
8. ಡಾ. ರಂಗನಾಥ: ಪ್ರಾಕೃತಿಕ ಭೂಗೋಳಶಾಸ್ತ್ರದ ಮೂಲ ತತ್ವಗಳು
9. ಡಾ. ಎಂ. ಬಿ. ಗೌಡರ: ಭೌತಿಕ ಭೂಗೋಳಶಾಸ್ತ್ರ
10. ಪ್ರೊ. ಡಿ. ಎ. ಕೊಲ್ಲಾಪುರೆ & ಪ್ರೊ. ಎಸ್.ಎಸ್.ನಂಜನ್ನವರ: ವಾಯುಗುಣಶಾಸ್ತ್ರ ಮತ್ತು ಮಹಾಸಾಗರ ವಿಜ್ಞಾನ

KARNATAK UNIVERSITY, DHARWAD
CHOICE BASED CREDIT SYSTEM(CBCS)
DEPARTMENT OF GEOGRAPHY
B.A / B.Sc – I Sem. GEO-DSC-2A
(WITH EFFECT FROM 2020-21 AND ONWARDS)

Practical -I: SCALE AND MAPS

Total 52 Hrs

Teaching hours: 4 hrs / Week, 2 Credits

Max. Marks: 50

Internal Marks:10

Sem. End Exam: 40 Marks

(Practical Sem. End Exam-30,

Journal-05, Viva-Voce-05 marks)

Duration of Examination: 03 hrs.

Unit	Title	No. of Hrs.
1	Scales	28
	1.1 Introduction: Definition, Types, Methods of Representation and uses of scales.	
	1.2 Conversion of scales: Representative Fraction (RF) to Verbal scale and Verbal scale to Representative Fraction (RF).	
	1.3 Construction of scales: Graphical (Plain), Comparative, Pace, Time and Diagonal.	
2	Maps:	24
	2.1 Introduction: Definition, Types and Importance of Maps.	
	2.2 Enlargement and Reduction of Maps by Graphical method (02 exercise each).	

Note: * Each practical batch consists of 15 students with one in-charge teacher. In case the student number is less than 10 is also considered as one batch with one teacher in-charge.

* Certification of journal by the in-charge teacher is must and submits the same in the Sem. End practical exam, failing that such candidate will lose journal marks i.e. 05 marks

Reading List:

- Gopal Singh: Map work and Practical Geography, 3rd ed. Vikas Publishing Houde, New Delhi.
- Gupta K and Tyagi V.C : Working with Maps, Survey of India, Dept. of Sci. and Technology, Govt. of India, Dehra Dun 1992.
- John and Keats: Cartographic design and production, 2nd ed. 1989, John wiley, New York.
- Mishra R.P: Fundamentals of Cartography, 1969, Prasaranga, University of Mysore.
- Monkhouse F.J and : Maps and Diagrams, Wilkinson H.R Mathuen and Co. Ltd. London, 1952
- Phyllis Dink: Map work, 10th ed. Atma Ram and Sons, Delhi 1969.
- Raisz E: General Geography, 1948, Tata, Mc-Grow-Hill New York.
- Ranganath : An introduction to practical Geography, Vidyanidhi Publication, Gadag.
- Singh R.L: Elements of Practical Geography, Kalyani Publishers, New Delhi.
- ಡಾ. ರಂಗನಾಥ್: ಪ್ರಾಯೋಗಿಕ ಭೂಗೋಳಶಾಸ್ತ್ರ.
- ಡಾ. ಎಸ್.ಎಸ್.ನಂಜಣ್ಣನವರ & ಡಾ. ಎಂ. ಎಚ್. ಕರೇಣ್ಣವರ: ಪ್ರಾಯೋಗಿಕ ಭೂಗೋಳಶಾಸ್ತ್ರ.

KARNATAK UNIVERSITY, DHARWAD

CHOICE BASED CREDIT SYSTEM (CBCS)

DEPARTMENT OF GEOGRAPHY

B.A / B.Sc – II Sem. GEO-DSC-2B

(WITH EFFECT FROM 2020-21 AND ONWARDS)

Theory Paper- HUMAN GEOGRAPHY

Total 60 Hrs

Teaching hours: 4 Hrs / Week, 4 Credits

Max. Marks: 100

(Internal Marks:10+10 (20)

Sem. End Exam.: 80 Marks)

Duration of Examination: 03 hrs.

Unit	Title	No. of Hrs.
1	Introduction to Human Geography:	08
1.1	Introduction: Definition, Field and Scope of Human Geography. Branches of Human geography.	
1.2	Man-Environmental Relationship: Conceptual approaches- Environmental determinism, Possibilism and Neo-determinism.	
2	Social and Cultural Geography:	24
2.1	Major races of the world: Classification and distribution of Caucasoid, Mongoloid, Negroid and Australoid. Language, Culture and Religion of the World.	
2.2	Settlements: Types and Patterns of Rural settlements. Definition of urban places. The origin of towns and functional classification of towns.	
2.3	Urbanization: Trends and Patterns of World Urbanizations	20
3	Tribes: Habitat and Economy:	
3.1	Major tribes of the world (Primitive people): Pygmies, Bushman, Eskimos, Semang and sakais.	
3.2	Major Indian Tribes: Todas, Bills, Gondas, Nagas and Santals.	
4	Population Geography:	08
4.1	Growth and distribution of world population.	
4.2	Population composition: Sex-ratio and Literacy rate.	

Reading List:

1. Dickens and Pitts: Introduction to Human Geography, 1963.
2. Harn D. Blij: Human and Economic Geography, Mac Millan, New York, 1992.
3. Husain M: Human Geography, Rawat Publications, Jaipur, 2003.
4. Nellson, Gabler & Vining Human: Human Geography, People, Culture and Land
5. Peter Danials, Michael Bradshaw Denis Shaw, James Sidaway: Human Geography, Issues for the 21st Century, Pearson, 2003.
6. Norris and Haring: Political Geography, Charles E. Merrill Publishing Company.
7. Ranganath: Principals of Human Geography (Kan Var) Vidyandhi, Gadag, 2002.
8. Rubenstein J.M: An Introduction to Human Geography, MacMillon Publishing
9. ಪಿ. ಮಲ್ಲಪ್ಪ ಮಾನವ ಭೂಗೋಳಶಾಸ್ತ್ರ
10. ಡಾ. ರಂಗನಾಥ: ಮಾನವ ಭೂಗೋಳಶಾಸ್ತ್ರ
11. ಪ್ರೊ. ಎಸ್.ಎಸ್.ನಂಜುನವರ: ಮಾನವ ಭೂಗೋಳಶಾಸ್ತ್ರ
12. ಡಾ. ಎಂ.ಬಿ.ಗೌಡರ: ಮಾನವ ಭೂಗೋಳಶಾಸ್ತ್ರ

KARNATAK UNIVERSITY, DHARWAD
CHOICE BASED CREDIT SYSTEM(CBCS)
DEPARTMENT OF GEOGRAPHY
B.A / B.Sc – II Sem. GEO-DSC-2B
(WITH EFFECT FROM 2020-21 AND ONWARDS)

**PRACTICAL PAPER : II- GENERAL CARTOGRAPHY AND INTERPRETATION OF
 INDIAN DAILY WEATHER CHARTS**

Total 52 Hrs

Teaching hours: 4 hrs / Week, 2 Credits

Max. Marks: 50

Internal Marks:10

Sem. End Exam.: 40 Marks

(Practical Sem. End Exam-30,

Journal-05, Viva-Voce-05 marks)

Duration of Examination: 03 hrs.

Unit	Title	No. of Hrs.
1	Construction of Graphs:	08
	2.1 Single and double Line graph.	
	2.2 Single and double Bar graph.	
	2.3 Climograph and Hyther Graph.	
2	Diagrams: Block Pile, Pie, Pictorial, Traffic-flow and Wind-Rose	08
3	Thematic Maps: Choropleth, Dot and Isopleth maps	08
4	Weather Instruments: Functions & Uses:	12
	4.1 Thermometer – Wet Bulb and Dry Thermometer.	
	4.2 Barometer – Mercury and Aneroid Barometer.	
	4.3 Rain gauge, Wind Vane and Cup Anemometer	
5	Weather Signs and Symbols	04
6	Interpretation of Indian Daily Weather Report – 4 exercises (One exercise from each season).	12

References:

- Gopal Singh: Map work and Practical Geography, 3rd ed. Vikas Publishing Houde, New Delhi.
- Gupta K and Tyagi V.C : Working with Maps, Survey of India, Dept. of Sci. and Technology, Govt. of India, Dehra Dun 1992.
- Jacki Smith B.A (ed): Dictionary of Geography, Cosmo Publications, New Delhi 1983.
- John and Keats: Cartographic design and production, 2nd ed. 1989, John wiley.
- Mishra R.P: Fundamentals of Cartography, 1969, Prasaranga, University of Mysore.
- Monkhuse F.J and : Maps and Diagrams, Wilkinson H.R Mathuen and Co. Ltd. London.
- Phyllis Dink: Map work, 10th ed. Atma Ram and Sons, Delhi 1969.
- Raisz E: General Geography, 1948, Tata, Mc-Grow-Hill New York.
- Ranganath : An introduction to practical Geography, Vidyaniidhi Publication, Gadag.
- Singh R.L: Elements of Practical Geography, Kalyani Publishers, New Delhi.
- ಡಾ. ರಂಗನಾಥ: ಪ್ರಾಯೋಗಿಕ ಭೂಗೋಳಶಾಸ್ತ್ರ.
- ಡಾ. ಎಸ್.ಎಸ್.ನಂಜುನವರ & ಡಾ. ಎಂ. ಎಚ್. ಕರಣ್ಣವರ: ಪ್ರಾಯೋಗಿಕ ಭೂಗೋಳಶಾಸ್ತ್ರ.

KARNATAK UNIVERSITY, DHARWAD

CHOICE BASED CREDIT SYSTEM (CBCS)

DEPARTMENT OF GEOGRAPHY

B.A / B.Sc – III Sem. GEO-DSC-2C

(WITH EFFECT FROM 2020-21 AND ONWARDS)

Theory Paper- REGIONAL GEOGRAPHY OF KARNATAKA**Total 60 Hrs***Teaching hours: 4 hrs / Week, 4 Credits**Max. Marks: 100**(Internal Marks:10+10 (20)**Sem. End Exam: 80 Marks)**Duration of Examination: 03 hrs.*

Unit	Title	No. of Hrs.
1	Physical Aspects:	10
	1.1 Location, Size, Extent	
	1.2 Physiographic divisions.	
	1.3 Climate, Rivers, Soils and Vegetation.	
2	Irrigation and River Valley Projects	10
	2.1 Irrigation: Sources and Types	
	2.2 River Valley Projects: Krishna, Malaprabha, Ghataprabha, Tunga Bhadra and Cauvery Rivers.	
	3.1 River Water Dispute: Cauvery, Krishna and Kalasa Banduri.	
3	Agriculture	10
	3.1 Types of Agriculture.	
	3.2 Cultivation, Distribution and Production of major Crops: Food crops: Paddy Ragi, Jowar and Wheat. Commercial crops: Cotton, Sugar Cane, Tobacco, ಒಣಗಿ Chilli. Horticulture Crops : Coffee and Tea.	
4	Govt. New Programs for the development of Agriculture Sector	04
	4.1 Neralu Parade, Jala Amruta, Krushi Honda, Nala Bandh, Chek Dam, Dip Irrigation, Seeds Subsidy, Yantrikarana Yojana	
4	Mineral Resources	04
	4.1 <i>Distribution and Production of Mineral Resources:</i> Iron ore, Manganese Bauxite and Gold.	
5	Industries	05
	5.1 <i>Distribution and Production of major industries:</i> Iron and Steel, Sugar, Cotton textile and Cement Industries.	
6	Transportation	04
	6.1 Patterns of Road and Railway, Ports and Harbours.	
7	Population	07
	7.1 Growth and distribution, Density, Sex-ratio and Literacy.	04
	7.2 Process of urbanization and trends.	02

References:

1. Karnatak State Gazetter, 2 Volume.
2. Mallappa: Geography of Karnataka
3. Misra R.P: Geography of Karnataka State
4. NBK Reddy & Murthy G.S: Regional Geography of Mysore State
5. Dr. Ranganath: Regional Geography of Karnataka, Mysore Book House, Mysore
6. S.S.Narjannavar & M.N.Meeranaiik: Geography of Karnataka
7. ಡಾ. ಎಂ.ಎಸ್.ಶಂಕರ: Regional Geography of Karnataka

KARNATAK UNIVERSITY, DHARWAD

CHOICE BASED CREDIT SYSTEM (CBCS)

DEPARTMENT OF GEOGRAPHY

B.A / B.Sc – IV Sem. GEO-DSC-2C

(WITH EFFECT FROM 2020-21 AND ONWARDS)

PRACTICAL PAPER -III: TOPOGRAPHICAL MAPS AND REPRESENTATION OF RELIE FEATURES

Total 52 Hrs

Teaching hours: 4 hrs / Week, 2 Credits

Max. Marks: 50

Internal Marks: 10

Sem. End Exam: 40 Marks

(Practical Sem End Exam-30,

Journal 05 and Viva-Voce-05 marks)

Duration of Examination: 03 hrs.

Unit	Title	No. of Hrs.
1	Arrangement and marginal information of SOI Topographical Maps.	04
2	Representation of relief features by contours:	
2.1	Hill, Types of slopes-Convex, Concave, Undulating and Uniform slopes. Saddle, Plateau, Escarpment, Spur, Gorge, U & V Shaped valleys, Pars and Water Falls.	08
3	Conventional Signs and Symbols and Colours convention used in SOI Topographical Maps	08
4	Interpretation of Indian Topographical Maps:	28
4.1	Relief Features	
4.2	Drainage Patterns	
4.3	Vegetation Distribution	
4.4	Settlement types and Distribution	
4.5	Land-Use Patterns	
4.6	Transport and Communication	
5	Cross Section:	04

References:

- Gopal Singh: Map work and Practical Geography, 3rd ed. Vikas Publishing Houde, New Delhi.
- Gupta K and Tyagi V.C : Working with Maps, Survey of India, Dept. of Sci. and Technology, Govt. of India, Dehra Dun 1992.
- Jacki Smith B.A (ed): Dictionary of Geography, Cosmo Publications, New Delhi
- John and Keats: Cartographic design and production, 2nd ed. 1989, John wiley, NY
- Mishra R.P: Fundamentals of Cartography, 1969, Prasaranga, University of Mysore.
- Monkhouse F.J and : Maps and Diagrams, Wilkinson H.R Mathuen and Co. Ltd. London.
- Phyllis Dink: Map work, 10th ed. Atma Ram and Sons, Delhi 1969.
- Raisz E: General Geography, 1948, Tata, Mc-Grow-Hill New York.
- Ranganath : An introduction to practical Geography, Vidyanidhi Publication, Gadag.
- Singh R.L: Elements of Practical Geography, Kalyani Publishers, New Delhi.
- ಡಾ. ರಂಗನಾಥ: ಪ್ರಾಯೋಗಿಕ ಭೂಗೋಳಶಾಸ್ತ್ರ.
- ಡಾ. ಎಸ್.ಎಸ್.ನಂಜಣ್ಣನವರ & ಡಾ. ಎಂ. ಎಚ್. ಕರಣ್ಣವರ: ಪ್ರಾಯೋಗಿಕ ಭೂಗೋಳಶಾಸ್ತ್ರ.

KARNATAK UNIVERSITY, DHARWAD
CHOICE BASED CREDIT SYSTEM (CBCS)
DEPARTMENT OF GEOGRAPHY
B.A / B.Sc – IV Sem. GEO-DSC-2D
(WITH EFFECT FROM 2020-21 AND ONWARDS)

Theory Paper- ENVIRONMENTAL GEOGRAPHY

Total 60 Hrs

Teaching hours: 4 hrs / Week, 4 Credits

Max. Marks: 100

(Internal Marks:10+10 (20)

Sem. End Exam: 80 Marks)

Duration of Examination: 03 hrs.

Unit	Title	No. of Hrs.
1	Introduction:	05
1.1	Meaning and components of environment. Field and scope of environmental Geography.	
2	Ecosystem:	20
2.1	Types, Structure and Functions - Productivity, Food-chain, Food-Web, Ecological Pyramid. Bio-Geo-Chemical cycle – Hydrological, Carbon, Nitrogen Oxygen and Energy flow in the eco- system.	
3	Bio-Diversity:	12
3.1	Types and Uses of Bio-Diversity, Threats to Bio-Diversity. Endangered Species of India. Conservation of Bio-Diversity.	
4	Environmental Pollution:	12
4.1	Types, Causes, Effects and Measures to control the pollution – Air, Water Soil, Solid and Liquid waste.	
5	Global Warming:	06
5.1	Green House effects. Ozone layer depletion- Causes, Consequences and protection	
6	Disaster Management:	
6.1	Causes and Consequences of Flood, Drought, Tsunami, Cyclone and Earth quakes.	
7	Conservation and Management of Environment:	
7.1	National and International: Policies, Rio Summit and Kyoto Declaration.	05

References:

1. Agarawal K.C: Environmental Biology, Nidhi Pub. Bikaner, 2001.
2. Chausasia B.P: Environmental Pollution, Consequences and Measures.
3. Mathur H.S: Environmental Resources, The Crises of Development.
4. Odum E.P: Fundamentals of Ecology, WBSaunders Co. London, 1971.
5. Saxena H.M: Environmental Geography, Rawat Pub. Jaipur, 1999.
6. Sharma P.D: Ecology and Environment: Rastogi Pub. New Delhi, 1999.
7. Strahler and Strahler: Geography and Mans Environment, John Wiley New York.
8. Heywood V.H. & Warson R.T: Global Bio-Diversity Assessment, CUP, 1995.
9. Darsh M.C: Fundamentals of Ecology, Tata McGrow Hills New Delhi, 2002.
10. ಡಾ. ಎಲ್.ಟಿ.ನಾಯಕ: ಪರಿಸರ ಭೂಗೋಳಶಾಸ್ತ್ರ
11. ಎಸ್.ಎಸ್.ಸಂಜ್ಞಾನವರ: ಪರಿಸರ ಭೂಗೋಳಶಾಸ್ತ್ರ
12. ಡಾ. ಎಂ.ಬಿ.ಗೌಡರ: ಪರಿಸರ ಭೂಗೋಳಶಾಸ್ತ್ರ

KARNATAK UNIVERSITY, DHARWAD

CHOICE BASED CREDIT SYSTEM (CBCS)

DEPARTMENT OF GEOGRAPHY

B.A / B.Sc – IV Sem. GEO-DSE-2D

(WITH EFFECT FROM 2020-21 AND ONWARDS)

PRACTICAL PAPER -IV: MAP PROJECTIONS

Total 52Hrs

Teaching hours: 4 hrs / Week, 2 Credits

Max. Marks: 50

Internal Marks:10

Sem. End Exam.: 40 Marks

(Practical Exam-30

Journal 05, Viva-Voce-05)

Duration of Examination: 03 hrs.

Unit	Title	No. of Hrs.
1	Introduction of Map projection: Meaning, Classification and importance of Map Projections.	04
2	Map Projections: Properties, Uses and Graphical Construction of:	
2.1	Cylindrical Projections: Simple Cylindrical, Cylindrical – equal area Mercator's Projection.	12
2.2	Conical Projections : Conical Projection with one standard parallels Bonne's Projection.	12
2.3	Zenith Projections: Polar Zenith equal area, Gnomonic Stereographic and Orthographic	12
2.4	Conventional Projections: Sinusoidal Projection and Millweids Projection	12

References:

1. Salar Masood M: Map Projections, Rao and Raghavam Co. Mysore.
2. Ranganath : Map Projections (Kan. Ver.) Chetana Book House, Mysore.
3. Ervin Raisz: General Cartography, Mc Graw Hill Book Company,
4. Singh R.L: Elements of Practical Geography, Allahabad.
5. George P. Kellaway: Methuen & Co. Ltd. London.
6. Gopal Singh: Map work and Practical Geography, Surjeet Pub. New Delhi.
7. S.S.Nanjannavar & M.F.Karennavar: Practical Geography.
8. Dr. S.S.Kadaramandalagi: Practical Geography.
9. Prof. P.Mallappa :Map Projections. Chetana Book House, Mysore

KARNATAK UNIVERSITY, DHARWAD

CHOICE BASED CREDIT SYSTEM (CBCS)

DEPARTMENT OF GEOGRAPHY

B.A / B.Sc – V Sem. GEO-DSE-2A.1

(WITH EFFECT FROM 2020-21 AND ONWARDS)

ELECTIVE THEORY PAPER: I - REGIONAL GEOGRAPHY OF INDIA

Total 60Hrs

Teaching hours: 4 hrs / Week, 4 Credits

Max. Marks: 100

(Internal Marks:10+10 (20)

Sem. End Exam.: 80 Marks)

Duration of Examination: 03 hrs.

Unit	Title	No. Of Hrs.
1	Location and Physical Aspects.	20
1.1	Location, Size and Extant and Land Frontiers	
1.2	Physiographic Divisions.	
1.3	Drainage, Climate, Soils and Natural Vegetations	
2	Population.	10
2.1	Growth, Distribution and Density of Population	
2.2	Sex-ratio and Literacy.	
3	Agriculture.	17
3.1	Types of agriculture.	
3.2	Cultivation, Distribution and production : <i>Food crops</i> - Rice and Wheat. <i>Commercial Crops</i> - Sugar Cane and Cotton. <i>Plantation Crops</i> - Tea, Coffee and Rubber.	
4	Minerals:	05
4.1	<i>Distribution and Production:</i> Iron ore, Manganese, Bauxite, Coal, and Petroleum.	
5	Industries:	06
5.1	Location factors of Industries.	
5.2	<i>Distribution and Production:</i> Sugar, Cotton Textile, Iron and Steel, Aluminium, Paper and Cement Industries.	
6	Transport:	02
6.1	Road: National High ways and Quadrangle Corridor Railway: Railway Zone	

Note: * Students can choose any one from the discipline specific elective paper either Regional Geography of India or Geography of Settlements

References:

1. Gopal Singh: A Geography of India, Atmaram & Sons New Delhi.
2. ICAR: Cropping pattern in India, 1974.
3. Mathus S.M: Physical Geography of India, NBT, 1991.
4. Ranganath : ಭಾರತದ ಆರ್ಥಿಕ ಮತ್ತು ವಾಣಿಜ್ಯ ಭೂಗೋಳಶಾಸ್ತ್ರ
5. Ranjit Thirtha: Geography of India, Raniat, Jaipur, 1996.
6. Khullar D.R: India A Comprehensive Geography, Kalyani Pub. Ludhiana, 2000.
7. Tiwari R.C: Geography of India, Prayag Pustak Bhavan, Allahabad, 2003.
8. ಡಾ. ಆರ್. ಎ. ಮಲ್ಲಪ್ಪ: ಭಾರತದ ಭೂಗೋಳಶಾಸ್ತ್ರ & ಡಾ. ಎಸ್.ಎಸ್.ನಂಜುನವರ
9. ಡಾ. ಎಂ.ಬಿ.ಗೌಡರ: ಭಾರತದ ಆರ್ಥಿಕ ಮತ್ತು ವಾಣಿಜ್ಯ ಭೂಗೋಳಶಾಸ್ತ್ರ
10. ಡಾ. ಮಲ್ಲಪ್ಪ: ಭಾರತದ ಆರ್ಥಿಕ ಮತ್ತು ವಾಣಿಜ್ಯ ಭೂಗೋಳಶಾಸ್ತ್ರ

KARNATAK UNIVERSITY, DHARWAD
CHOICE BASED CREDIT SYSTEM (CBCS)
DEPARTMENT OF GEOGRAPHY
B.A / B.Sc – V Sem. GEO-DSE-2A.II
(WITH EFFECT FROM 2020-21 AND ONWARDS)

ELECTIVE THEORY PAPER: II - GEOGRAPHY OF SETTLEMENTS

Total 60Hrs

Teaching hours: 4 hrs / Week, 4 Credits

Max. Marks: 100

(Internal Marks: 10+10 (20)

Sem. End Exam.: 80 Marks)

Duration of Examination: 03 hrs.

Unit	Title	No. of Hrs.
1	Introduction: Meaning, Definition, Scope and Nature of Settlement Geography	08
2	Rural Settlements	16
2.1	Factors affecting the distribution of rural settlements. Origin and evolution of rural settlements.	
2.2	Types and Patterns of Rural Settlements.	
2.3	Size and spacing of Rural settlements.	
2.4	Morphology of Rural settlements – Physical, Functional and social.	
2.5	Rural problems and planning.	
3	Govt. Recent Policies and Programmes for Rural Development	05
3.1	Sanitation and Water supply Program, Pradhana Mantri Grama Sadak Yojana, Pradhana Mantri Grameena Avasa Yojana, Pradhana Mantri Ujvala Yojana and Deen Dayal Upadhyia Grameena Koushlya Yojana.	
4	Urban settlements.	16
4.1	Definition of urban places, origin of towns and functional classification of towns.	
4.2	Theories of Urban Land use: Concentric Zone theory, Multi Nuclei theory and Sector Theory	
4.3	Urban Hierarchy, Primate City concept, Central place theory of Christler	
5	Rural – Urban Continuum. Characteristics and development of Urban Fringe and Urban Slums.	08
6	Govt. Recent Policies and Programmes for Urban Development	05
6.1	Smart City Mission, National Urban Livelihood Mission, National Heritage City Development & Angementation Yojana (HRIDAY), Swatch Bharat Mission, Amruta urban development scheme.	
6.2	Urban problems and planning.	02

Note: * Students can choose any one theory paper from the discipline specific elective paper either Regional Geography of India or Geography of Settlements

Reference:

1. Husain M: Human Geography, Rawat Pub. Jaipur, 2003.
2. Nellson, Gabler & Vining: Human Geography, People Culture and Landscapes, 1995.
3. Norris and Haring: Political Geography, Charles E. Merill Pub. Co.
4. Dr. Ranganath: Principles of Human Geography (Kan. Ver.) Vidyanidhi, Gadag.
5. Singh R.Y: Geography of Settlements, Rawat Pub. New Delhi, 2007.
6. Harold Carter: The study of Urban Geography, 1982.
7. ಡಾ. ಎಲ್.ಟಿ.ಪಾಯಕ: Settlement Geography
8. ಡಾ. ಎಂ.ಬಿ.ನಿರಂಜನ: Settlement Geography

KARNATAK UNIVERSITY, DHARWAD
CHOICE BASED CREDIT SYSTEM (CBCS)
DEPARTMENT OF GEOGRAPHY
B.A / B.Sc – V Sem. GEO-DSE-2A-II
 (WITH EFFECT FROM 2020-21 AND ONWARDS)

Practical -V: BASIC STATISTICS

Total 52Hrs
Teaching hours: 4 hrs / Week, 2 Credits
Max. Marks: 50
Internal Marks:10
Sem. End Exam.: 40 Marks
 (Practical Exam-30
 Journal 05, Viva-Voce-05)
Duration of Examination: 03 hrs.

(COMMON PRACTICAL PAPER FOR ALL THE V SEMESTER STUDENTS)

Unit	Title	No. of Hrs.
1	Introduction : Meaning, Importance and Limitations	04
2	Methods of Sampling : Definition and Types	08
3	Sources of Data : Primary and Secondary Data and Data Tabulation	08
4	Frequency Distribution : Histogram, Frequency Polygon, Frequency Curve and Ogive Curves	08
5	Measures of Central Tendency : Mean, Median and Mode	16
6	Measures of Dispersion : Range, Quartile Deviation and Standard Deviation	16

Note: * THIS PRACTICAL IS COMMON FOR ALL THE STUDENTS OF DSE-2A.I AND DSE-2A.II

References:

1. Singh R.L: Elements of Practical Geography, Kalyani Publishers, New Delhi, 1979.
2. Gopal Singh: Map Work and Practical geography, 2nd ed. Vikas Pub. New Delhi.
3. Mishra R.P: Fundamentals of Cartography: Prasaranga, Mysore University, 1969.
4. Zamir Alvi: Statistical geography, Methods and applications, Rawat Pub. Jaipur, 1995.
5. D.V.Jangannavar:

KARNATAK UNIVERSITY, DHARWAD

CHOICE BASED CREDIT SYSTEM (CBCS)

DEPARTMENT OF GEOGRAPHY

B.A / B.Sc – V Sem. GEO-SEC-2A

(WITH EFFECT FROM 2020-21 AND ONWARDS)

Compulsory Paper-I: SKILL ENHANCEMENT COURSE (SEC-2A)

Paper: REGIONAL PLANNING AND DEVELOPMENT

Total 30 Hrs

Teaching hours: 4 hrs / Week, 2 Credits

Max. Marks: 50

(Internal Marks:10

Sem. End Exam. 40 Marks)✓

Duration of Examination: 03 hrs.

Unit	Title	No. of Hrs.
1	Concept, Need for regional planning and Types of Planning	08
2	Concept, Types and delineation of Regions: Formal and Functional Regions	04
4	Models of Regional Planning: Growth Pole Theory and growth foci concept in Indian context.	04
5	Backward regions and regional plans: Planning for Tribal area Development, Planning for an agriculture regions, planning for Drought prone area and DVC	10
6	The success story and the failures; NITI Aayoga.	04

Reference:

1. Blij H.J. De, 1971: Geography: Regions and concepts, John Wiley and Sons
2. Claval P.L., 1998: An Introduction to Regional Geography, Black Well Publishers, Oxford and Massachusetts.
3. Fried Mann J. and Alonso W. (1975): Regional Policy – Readings in Theory and Applications, MIT Press, Massachusetts.
4. Gore C.G, 1984: Regions in Question space, Development Theory and Regional Policy, Methuen, London.
5. D.N.Nath (2009) :Regional Planning in India
6. Mahesh Chand and Vinay kumar Puri. (1983): Regional Planning in India
7. Johnson E.A.J. 1970: The organization of space in development countries, MIT Press
8. Peet R., 1999 : Theories of Development, The Guilford Press , New York.
9. Ray Choudhari (2001):An Introduction to Development and Regional Planning with special reference to India
10. R.P.Misra,K.V.Sundaram and V.L.S. Prakasa Rao: (1976)Regional Planning In India
11. R.P.Misra, D.V.Urs and V.K.Natraj: 1978 Regional planning and National Development
12. ಡಾ. ಎಲ್.ಬಿ.ನಾಯಕ: ಪ್ರಾದೇಶಿಕ ಯೋಜನೆಯ ಮೂಲ ತತ್ವಗಳು.
13. ಡಾ. ಎಂ.ಬಿ.ಗೌಡರ: ಪ್ರಾದೇಶಿಕ ಯೋಜನೆಯ ಮೂಲ ತತ್ವಗಳು

KARNATAK UNIVERSITY, DHARWAD

CHOICE BASED CREDIT SYSTEM (CBCS)

DEPARTMENT OF GEOGRAPHY

B.A / B.Sc – VI Sem. GEO-DSE-2B.1

(WITH EFFECT FROM 2020-21 AND ONWARDS)

ELECTIVE THEORY PAPER: 1 - *ECONOMIC GEOGRAPHY OF THE WORLD*

Total 60Hrs

Teaching hours: 4 hrs / Week, 4 Credits

Max. Marks: 100

(Internal Marks: 10+10 (20)

Sem. End Exam: 80 Marks)

Duration of Examination: 03 hrs.

Unit	Title	No. of Hrs.
1	Economic Geography: An introduction	05
	1.1 Definition, Scope and Nature of economic Geography	
	1.2 Approaches, Recent trends in Economic Geography.	
2	Physical Aspects.	16
	2.1 Physiographic divisions, Drainage, Climate, and Natural Vegetation.	
3	Natural Regions of the World:	05
	3.1 Equatorial, Monsoon, Desert, Grassland and Tundra.	
4	Agriculture:	03
	4.1 Types of farming :Shifting cultivation, Subsistence and Commercial farming	
5	Population:	05
	5.1 Growth, Distribution and Density	
	5.2 Sex-ratio and Literacy.	
6	Mineral and Power Resources:	06
	6.1 Production and Distribution: Iron Ore, Manganese, Gold, Coal, Petroleum, Natural Gas.	
7	Industries:	04
	7.1 Vocational factors of Industries	
	7.2 Distribution and Production of major industries: Iron and Steel, Cotton Textile.	
8	Transport and Communication:	11
	8.1 Road Transport.	
	8.2 Railways – Trans Continental Railway System.	
	8.3 Ocean Transport: North Atlantic Route, Suez, Asiatic Route, The cape of Good Hope and the Panama Canal Route.	

Note: Students can choose any one from the Discipline Specific Elective paper either Economic Geography of the world or Population Geography

References:

1. Alexander and Hartshome: Economic Geography, Prentice Hall, 2nd Edition, 2000.
2. Guha and Chattoraj: A New Approach to Economic Geography.
3. Khanna and Gupts: World Resources and Trade, S. Chand & Co. New Delhi.
4. Mallappa: Economic Geography, (Kan Ver.) Chetana Book House, Mysore, 2001
5. ಡಾ. ರಂಗನಾಥ: ಪ್ರಪಂಚದ ಆರ್ಥಿಕ & ವಾಣಿಜ್ಯ ಭೂಗೋಳಶಾಸ್ತ್ರ
6. ಶ್ರೀ. ಎಸ್.ಎಸ್.ಸಂಜಯ್ನವರ: ಪ್ರಪಂಚದ ಆರ್ಥಿಕ & ವಾಣಿಜ್ಯ ಭೂಗೋಳಶಾಸ್ತ್ರ
7. ಡಾ. ಎಂ.ಬಿ.ಗೌಡರ: Economic Geography of the World

KARNATAK UNIVERSITY, DHARWAD
CHOICE BASED CREDIT SYSTEM (CBCS)
DEPARTMENT OF GEOGRAPHY
B.A / B.Sc – VI Sem. GEO-DSE-2B.II
 (WITH EFFECT FROM 2020-21 AND ONWARDS)

ELECTIVE THEORY PAPER: II - POPULATION GEOGRAPHY

Total 60Hrs

Teaching hours: 4 hrs / Week, 4 Credits

Max. Marks: 100

(Internal Marks:10+10 (20)

Sem. End Exam:80 Marks)

Duration of Examination: 03 hrs.

Unit	Title	No. of hrs.
1	<i>Introduction to Population Geography:</i> Definition, Nature and Scope. Approaches and sources of Population data.	10
2	<i>Population growth and Distribution.</i>	22
	2.1 Growth, Distribution and Density of World Population, with special Reference to India.	
	2.2 Factors affecting the distribution of population.	
	2.3 Demographic Transition.	
	2.4 Fertility and Mortality: Factors affecting, Cause and Consequences.	
3	<i>Population Composition</i>	18
	3.1 Sex-Ratio and Literacy	
	3.2 Migration: Causes, Types and Consequences.	
4	<i>Population Theories:</i> Malthus and Karl Henrich Marx	05
5	<i>India's Population Policies</i>	05

References:

1. Narris and Haring: Political Geography, E. Merill Pub. Co.
2. Dixit R.D: Political Geography, PHI, New Delhi, 2008.
3. Dr. Ranganath: Principals of Human Geography, Vidyanidhi, Gadag, 2008.
4. Chandana R.C: Geography of Population, Kalyani Pub. New Delhi,2008.
5. Mohammad & Izhar Hasan: Population Geography, New Delhi,2008.
6. Sudeepta Adhikari: Political Geography of India, Sharada, Allahabad, UP.

KARNATAK UNIVERSITY, DHARWAD

CHOICE BASED CREDIT SYSTEM (CBCS)

DEPARTMENT OF GEOGRAPHY

B.A / B.Sc – VI Sem. GEO-DSE-2B.II

(WITH EFFECT FROM 2020-21 AND ONWARDS)

Practical -VI: FIELD TECHNIQUES AND SURVEY BASED PROJECT REPORT

Total 52.Hrs

Teaching hours: 4 hrs / Week, 2 Credits

Max. Marks: 50

Internal Marks:10

Sem. End Exam: 40 Marks

(Submission of Project Report-20
and Viva-Voce-20 Marks)

Duration of Examination: 03 hrs

(COMMON PRACTICAL PAPER FOR ALL THE VI SEMESTER STUDENTS)

Unit	Sub Unit	Title	No. of Hrs.
1		Field work in geographical studies: Role, values and ethics of field work.	04
2		Selection and definition of the problem: Rural / Urban / Physical / Human / Environmental.	04
3		Field Techniques and collection of data:	20
	3.1	Sources of data: Secondary data - published and un-published Primary data – Observation and questioner and interview. Sampling	
4		Designing and field report: Aims and Objectives, Methodology, Analysis. Interpretation and Report writing.	24

Note: * Each batch consists of 15 students and students have to collectively prepare a project report under a staff in charge (respective batch teacher) based on primary/secondary data collected from the Govt. / Non- Govt. Offices or /and during field survey.

* The duration of the field work should not exceed 10 days.

* The finally prepared one hard bound copy of the project report with Aims and objectives, Methodology, data base, Analysis, cartographic work, interpretation and references should be submitted to the Dept/College before the sem. end exam starts.

* Students must bring the project report at the time of sem. end exam, failing that such students will not be allowed to appear the practical exam.

* Due to technical reasons the student who has not appeared for sem. end practical exam and wish to appear in the subsequent year can bring his/ her earlier project report and appear the practical exam.

References:

1. Cresswell J., 1994, Research Design, Qualitative and Quantitative approach, Sage Publications.
2. Dikshit R.D: 2003, The Art and Science of Geography, Integrated readings, Prentice Hall of India, New Delhi.
3. Evans M: 1988, Participant Observation, The Researcher as a Research Tool, in Qualitative Methods in Human Geography, 2nd ed. Eyles and Smith, Polity.
4. Mukharjee, Neela: 1993, Participatory Rural appraisal, Methodology, and application concept, Publs Co. New Delhi.
5. RobinsonA: 1998, Thinking straight and writing that way, in writing empirical research reports, A Basic Guide for students of the social and Behavioral science, eds, By.F.Pryczak and R.Bruce Pryczak, Pub. Los Angeles.

KARNATAK UNIVERSITY, DHARWAD
CHOICE BASED CREDIT SYSTEM (CBCS)
DEPARTMENT OF GEOGRAPHY
B.A / B.Sc – VI Sem. GEO-SEC-2B

(WITH EFFECT FROM 2020-21 AND ONWARDS)

Compulsory Paper-II: SKILL ENHANCEMENT COURSE (SEC-2B)

Paper: REMOTE SENSING AND GIS BASED PROJECT REPORT

Total 30 Hrs

Teaching hours: 4 hrs / Week, 2 Credits

Max. Marks: 50

(Internal Marks: 10

Sem. End Exam. 40 Marks)

Duration of Examination: 03 hrs.

Unit	Title	No. of Hrs.
1	Remote Sensing: Definition, Development, Platforms and Types.	06
2	Aerial Photography: Principles, Types and Geometric.	06
3	Satellite Remote Sensing: Principles, EMR Interaction with atmosphere and Earth surface; Satellites (Land sat and IRS) and Sensors.	10
4	Interpretation and Application of Remote Sensing: Land-use /Land Cover.	06
5	Global Positioning System (GPS) : Principles and Uses.	02

Practical Record: A project file consisting of 5 exercises will be done from Aerial Photos, Satellite Image (Scale, Orientation and Interpretation) and GPS field survey.

Reading List:

1. Campbell J. B, 2007: Introduction to Remote sensing, Guildford press
2. Jensen J. R, 2004: Introductory digital image processing: A Remote sensing perspective prentice hall.
3. Joseph G, 2005: Fundamentals of Remote sensing, United Press, India.
4. Lilley SandT.M. Kiefer R.W and Chipman J.W. 2004: Remote sensing and image interpretation, Wiley.
5. Nag P. and Kudra, M. 1998: Digital Remote Sensing, Concept, New-Delhi.
6. Rees W.G., 2001: Physical Principles of Remote Sensing, Cambridge University Press.
7. Singh R.B. and Murai S. :1998: Space Informatics for sustainable development, Oxford and IBH Pub.
8. Wolf P.R. and Dewit B.A., 2000: Elements of Photogrammetry : With applications in GIS Mc Graw Hills
9. ಒ. ಮಲ್ಲಪ್ಪ & ಡಾ. ಆರ್ ಸೆಲ್ವರಾಜು: ಭೌಗೋಳಿಕ ಮಾಹಿತಿ ವ್ಯವಸ್ಥೆಯ ಮೂಲ ತತ್ವಗಳು, 2019.

KARNATAK UNIVERSITY, DHARWAD

CHOICE BASED CREDIT SYSTEM (CBCS)

DEPARTMENT OF GEOGRAPHY

B.A / B.Sc – V Sem. GEO- GE-1

(WITH EFFECT FROM 2020-21 AND ONWARDS)

GENERIC ELECTIVE THEORY PAPER

(This paper is compulsory for other than Geography students)

PAPER: ELEMENTS OF PHYSICAL GEOGRAPHY

Total 30Hrs

Teaching hours: 4 hrs / Week, 2 Credits

Max. Marks: 50

(Internal Marks:10

Sem. End Exam:40 Marks)

Duration of Examination: 03 hrs.

Unit	Title	No. of Hrs.
1	Origin of the Earth: Nebular Theory	02
2	Latitudes and Longitudes	
3	Longitude and Time, International Date Line.	03
4	The interior of the earth, Wegener's theory of continental drift.	03
5	Formation, types and characteristics of Rocks	03
3	Formation, Types and distribution: Earthquakes and Volcanoes.	03
4	Structure and composition of the Atmosphere and Atmospheric heat budget.	02
5	Mechanism of Monsoon Winds.	04
6	Cyclones and Anti-Cyclones.	05
7	Global warming and Ozone layer depletion.	
8	Configuration of Oceans. Distribution of Temperature and salinity of the Indian and Pacific ocean.	05

References:

1. Conserva H.T (2004): Illustrated Dictionary of Physical Geography, Author House, USA.
2. Gabler R.E , Peterson J.F and Trapasso L.M (2007): Essentials of Physical Geography (8th edition) Thompson Books / Cole USA.
3. Garrett N (2000) Advanced Geography, Oxford University Press.
4. Goudie A (1984): The Nature of Environment: An advanced Physical Geography, Basil Blackwell Publishers, Oxford.
5. Humblin W.K (1995): Earths Dynamic system, Prentice Hall, N.J.
6. Husain M (2002): Fundamentals of Physical Geography, Rawat Publications, Jaipur.
7. Monkhouse F.J(2009): Principles of Physical Geography, Platinim Publishers, Kolkata.
8. Strahler A N and Strahler A H (2008): Physical Geography, John Wiley & Sons New Yo
9. ಡಾ. ಪಿ. ಮಲ್ಲಪ್ಪ : ಭೌತಿಕ ಭೂಗೋಳಶಾಸ್ತ್ರ
10. ಡಾ. ರಂಗನಾಥ: ಪ್ರಾಕೃತಿಕ ಭೂಗೋಳಶಾಸ್ತ್ರದ ಮೂಲ ತತ್ವಗಳು
11. ಡಾ. ಎಂ. ಬಿ. ಗೌಡರ: ಭೌತಿಕ ಭೂಗೋಳಶಾಸ್ತ್ರ

KARNATAK UNIVERSITY, DHARWAD

CHOICE BASED CREDIT SYSTEM (CBCS)

DEPARTMENT OF GEOGRAPHY

B.A / B.Sc – VI Sem. GEO- GE-2

(WITH EFFECT FROM 2020-21 AND ONWARDS)

GENERIC ELECTIVE THEORY PAPER

(This paper is compulsory for other than Geography students)

PAPER: *PHYSICAL GEOGRAPHY OF INDIA*

Total 30Hrs

Teaching hours: 4 hrs / Week, 2 Credits

Max. Marks: 50

(Internal Marks:10

Sem. End Exam:40 Marks)

Duration of Examination: 03 hrs.

Unit	Title	No. of Hrs.
1	Spatial and space Relations : Location, Size, Extent and Land and Water frontiers of India	02
2	Physical features: Physiographic Divisions, Drainage, Climate, Soils and Natural Vegetation.	19
3	River Water Dispute: Krishna, Cauvery and Kalasa banduri	02
4	Natural Hazards and Disaster: Earth Quakes, Cyclones, Floods, Droughts, Landslides and Disaster Management	07

References:

1. Gopal Singh: A Geography of India, Atmaram & Sons New Delhi.
2. ICAR: Cropping pattern in India, 1974.
3. Mathus S.M: Physical geography of India,NBT, 1991.
4. Ranganath : Regional and Economic Geography of India. (Kan. Ver.) Vidyanidhi Prakashan Gadag,2006.
5. Ranjit Thirtha: Geography of India, Raniat, Jaipur,1996.
6. Khullar D.R: India A Comprehensive Geography, Kalyani Pub. Ludhiana, 2000.
7. Tiwari R.C: Geography of India, Prayng Pustak Bhavan, Allahabad, 2003.
8. ಡಾ. ಅರಸೀ. ಎ. ಮಲ್ಲಾ: ಭಾರತದ ಭೂಗೋಳಶಾಸ್ತ್ರ & ಡಾ. ಎಸ್.ಎಸ್.ಸಂಪುರ್ಣನವರ

Karnatak University, Dharwad

Four Years Under Graduate Program in Geography for B.Sc. (Hons.)

Effective from 2021-22

Type of Course	Theory/ Practical	Instruction hour per week	Total hours of Syllabus / Sem	Duration of Exam	Internal Assessment Marks	Sem End Exam. Marks	Total Marks	Credits
DSCC-1T	Theory	04 hrs	56	03 hrs	30	70	100	04
DSCC-1P	Practical	04 hrs	52	03 hrs	15	35	50	02
OEC-1	Theory	03 hrs	42	03 hrs	30	70	100	03
*SEC-1	Practical	02 hrs	22-30	03 hrs	15	35	50	02
DSCC-2T	Theory	04 hrs	56	03 hrs	30	70	100	04
DSCC-2P	Practical	04 hrs	52	03 hrs	15	35	50	02
OEC-2	Theory	03 hrs	42	03 hrs	30	70	100	03
Details of the other Semesters will be given later								

*Student can opt digital fluency as SEC or the SEC of his/ her any one DSCC selected it will be evaluated as per the guidelines issued by the University time to time.

**KARNATAK UNIVERSITY
DHARWAD**

Syllabus for under Graduate Programme in GEOGRAPHY

B. A. / B.Sc. (BASIC/ HONS) GEOGRAPHY, 2021-22.

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

Semester	Paper Code	Course name	Title of the Paper	Course
I	Geog. T 1.1		Principles of Geomorphology 0119E0011	DSC
	Geog. Pr. 1.1		Morphological Analysis 0119E0012	DSC
	Geog. OE T. 1.2		Physical Geography 0119E0051	OE
	Geog. Pr. 1.2		Geographical Statistics 0119E0061	SEC
II	Geog. T 2.1		Principles of Climatology 0129E0011	DSC
	Geog. Pr. 2.1		Weather Analysis 0129E0012	DSC
	Geog. OE. T 2.2		Basics of Natural Disaster. 0029E0051	OE
	Geog. T 2.3		Environmental Studies 022EVS061	AECO

Particulars of the Semester wise teaching hours, marks and credits.

Semester	Theory/ Practical	Subject Code	Total Hours	Duration of Exam.	Internal Assessment Marks	Sem. End Exam. Marks	Total Marks	Total Credits
I	Theory	Geog. T 1.1	56	3 hrs	30	70	100	04
	Practical	Geog. Pr. 1.1	52	3 hrs	15	35	50	02
	Theory	Geog. OE T.1.2	44	3 hrs	30	70	100	03
	Practical	Geog. SEC Pr. 1.2	30	3 hrs	15	35	50	02
II	Theory	Geog. T 2.1	56	3 hrs	30	70	100	04
	Practical	Geog. Pr. 2.1	52	3 hrs	15	35	50	02
	Theory	Geog. OE T 2.2	44	3 hrs	30	70	100	03
	Theory	Geog. T 2.3	30	1.5 hrs	15	35	50	01

**B. A./ B.Sc./ (BASIC/ HONS) GEOGRAPHY
SEMESTER I**

Title of the Course: GEOG. T1.1: Principles of Geomorphology

**Credits: 04
Teaching Hours: 56**

**Maximum Marks: 70 + 30 IA Marks.
04 Hours per week.
Duration of exam: 3 hrs.**

Course Objectives:

1. To define the concepts in Geomorphology and Physical Geography
2. To introduce various concept to understand cycles of the solid Earth surface
3. To understand the dynamic nature of the Earth's surface, various processes and landforms.
4. To study the impact human on geomorphic system

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

- 1 To Define the Geomorphology and to explain the essential principles of it.
- 2 To outline the mechanism of dynamic nature of the Earth's surface and interior of the Earth.
- 3 To illustrate and explain the forces affecting the crust of the earth and its effect on it.
- 4 To understand the conceptual and dynamic aspects of landform development.

Content of Theory Course I	56 Hrs
Unit -1: Introduction of Geomorphology	14
<p>Chapter No. 1: Introduction to geography: physical and human geography.</p> <p>Chapter No. 2: Introduction to Geomorphology: meaning, nature, development and scope. Principles of Geomorphology and Geological Time Scale.</p> <p>Chapter No. 3: Distribution of continents and oceans</p>	

<p align="center">Unit – 2 : Systems and Cycles of the Solid Earth:</p>	<p>14</p>
<p>Chapter No. 4. Internal structure of the earth. Alfred Wegener's Continental Drift.</p> <p>Chapter No. 5. Theory of Isostasy: Views of Pratt and Airy Convectional Current Theory and concept of Sea floor Spreading.</p> <p>Chapter No. 6. Theory of Plate Tectonics: plate boundary, subduction. Case Studies: Volcano, Earthquake: reporting of latest incidents.</p>	
<p align="center">Unit – 3: The Dynamics of Earth:</p>	<p>14</p>
<p>Chapter No. 7 Earth's Movements: Endogenetic and Exogenetic forces, Sudden and Diastrophic movements- Epeirogenetic and Orogenetic Movements-Process of folding and faulting.</p> <p>Chapter No. 8. Vulcanicity and earthquake Rocks: Characteristics, types, importance and rock cycle. Weathering: meaning, types and controlling factors</p> <p>Chapter No. 9. Mass Movement: meaning, controlling factors, types-landslides, rock-falls.</p>	
<p align="center">Unit – 4 : Evolution of Landforms:</p>	<p>14</p>
<p>Chapter No. 10. Landforms: meaning, types and factors controlling landforms development Slope development: concept and types. Concept of Cycle of Erosion–W.M. Davis and W. Penck.</p> <p>Chapter No. 11. Agents of Denudation: river; drainage patterns, groundwater, Sea waves, Wind and Glaciers and resultant landforms.</p> <p>Chapter No. 12. Application of geomorphology: in India and Karnataka (Regional planning, Urban planning and transportation, Mining, Hazard management, Agriculture and Environmental management).</p>	

Text
1.
2.
3.
4.

Text Books :

1. Ahmed E. (1985) Geomorphology, Kalyani Publishers, New Delhi.
2. Bloom A.L. (1978) Geomorphology: A Systematic Analysis of Late Cenozoic Landforms Prentice - Hall of India, New Delhi.
3. P Mallappa, Physical Geography (Kannada Version)
4. Ranganath Principles of Physical Geography (Kannada Version)
5. Nanjannavar S S: Physical Geography (Kannada Version)
6. Hugar M R Physical Geography part-I (Kannada Version)
7. Goudar M B, Physical Geography (Kannada Version)
8. Kolhapure and S S Nanjan, Physical Geography (Kannada Version)

References:

9. Brunsden D. (1985) Geomorphology in the Service of Man: The Future of Geography, Methuen, U.K.
10. Chorley, R.J., Schumm, S. A. and Sugden, D.E. 1984: Geomorphology, Methuen, London
11. Cooke, R.U. and Warren, 1973: Geomorphology in Deserts, Batsford, London
12. Dayal, P. 1996: Textbook of Geomorphology, Shukla Book Depot, Patna.
13. Goudie Anrew et.al. (1981) Geomorphological Techniques, George Allen & Unwin, London.
14. Homes A. (1965) Principles of Physical Geology, 3rd Edition, ELBSS Edn.
15. Strahler A.N. (1968) The Earth Sciences, Harper & Row Intl. Edn, New York
16. Thornberry W.D. (1969) Principles of Geomorphology 2nd Edition, Wiley Intl. Edn. & Wiley, 1984.
17. Verstappen H. (1983) Applied Geomorphology, Geomorphological Surveys for Environmental Development, Elsevier, Amsterdam.

Websites:

<https://www.solarviews.com/eng/earth.htm>

<https://www.moorlandschool.co.uk/earth/tectonic.htm>

<https://www.usgs.gov/>

<https://www.ksndmac.org>.

**B. A./ B.Sc. (BASIC / HONS) GEOGRAPHY
SEMESTER I**

Title of the Course: GEOG. Pr. I: MORPHOLOGICAL ANALYSIS:

Credits: 02

Teaching Hours: 52

**Maximum Marks: 35 + 15 IA Marks,
04 Hours per week.**

Duration of exam: 3 hrs.

Course Objectives:

1. To define the minerals, rocks and their characteristics.
2. To explore the students to extract the geomorphic information from the topographical maps.
3. To understand the slope analysis from different methods.
4. To study the drainage Morphometric and its characteristics.

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

- 1 To identify the different types of minerals through their characteristics.
- 2 To interpret the topographical maps extracted the geomorphic information.
- 3 To illustrate the slope analysis and prepare the Hypsometric curve and integral
- 4 To delineate the watershed area, stream ordering, drainage density and drainage frequency.

Content of Practical Course P.I	52 Hrs
Conduct all exercises with Goal, Procedure, devices, findings and diagram.	
Unit –1: Identification of Rocks and Minerals:	
Exercise-1: Mineral samples: Iron ore, Bauxite ore and Manganese. Rock Samples: Granite, Basalt, Lime Stones, Sandstone, quartzite, and marble.	10
Exercise-2: Extraction and interpretation of Geomorphic information from Topographical maps.	10
Exercise-3: Preparation of contour map from Toposheets, Construction of Relief Profiles-serial, Super imposed, Projected and Composite.	10
Unit – 2 : Slope Analysis :	
Exercise-4: Slope Maps (Wentworth method), Slope (isotan and isosin) and aspect maps and Hypsometric curve and integral.	10
Exercise-5: Drainage Morphometry: delineation of watershed, stream ordering. Morphometric analysis: mean stream length, drainage density and drainage frequency.	12

Text Books:

1. Ahmed I. (1985) Geomorphology. Kalyani Publishers, New Delhi.
2. Bloom A.L. (1978) Geomorphology- A Systematic Analysis of Late Cenozoic Landforms Prentice - Hall of India, New Delhi.

References:

1. Brunsden D. (1985) Geomorphology in the Service of Man: The Future of Geography, Methuen, U.K.
2. Chorley, R.J., Schumm, S. A. and Sugden, D.E. 1984: Geomorphology, Methuen, London
3. Cooke, R.U. and Warren, 1973: Geomorphology in Deserts, Batsford, London
4. Dayal, P. 1996: Textbook of Geomorphology, Shukla Book Depot, Patna.
5. Goudie Andrew et.al. (1981) Geomorphological Techniques, George Allen & Unwin, London.
6. Holmes A. (1965) Principles of Physical Geology, 3rd Edition, ELBSS Edn.
7. Strahler A.N. (1968) The Earth Sciences, Harper & Row Intl. Edn, New York
8. Thornberry W.D. (1969) Principles of Geomorphology 2nd Edition, Wiley Intl. Edn. & Wiley, 1984.
9. Verstappen H. (1983) Applied Geomorphology, Geomorphological Surveys for Environmental Development, Elsevier, Amsterdam

Websites:

<https://www.solarviews.com/eng/earth.htm>

<https://www.moorlandschool.co.uk/earth/tectonic.htm>

<https://www.usgs.gov/>

<https://www.ksndmac.org.>

SEMESTER I

Title of the Course: OE L1: Introduction to Physical Geography.

Credits: 03

Teaching Hours: 44

Maximum Marks: 70 + 30 IA Marks
03 Hours per week
Duration of exam: 3 hrs

Course Objectives:

1. To discuss the Physical Geography, the shape and size of the earth surface.
2. To introduce different types of rocks and their characteristics along with agents of denudation.
3. To understand the dynamic nature of structure and composition of Atmosphere.
4. To study the ocean floor and marine resources.

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

- 1 To define the Physical Geography, the shape and size of the earth surface.
- 2 To identify the different types of rocks and their characteristics and agents of denudation.
- 3 To discuss the nature of structure and composition of Atmosphere.
- 4 To the ocean floor and marine resources.

Content of Open Elective Course L1	44 Hrs
Unit -1: Shape and Structure of the earth Surface:	11
Chapter No. 1: Origin, Shape and Size of the Earth,	
Chapter No. 2: Movement of the Earth- Rotation and Revolution, Effects of the movement of Earth,	
Chapter No. 3: Coordinates -Latitude, Longitude and Time and Structure of the Earth,	
Unit - 2 : Rocks and Agents of Denudation:	11
Chapter No. 4. Rocks and their types, significance of rocks. Weathering and its types.	
Chapter No. 5. Agents of Denudation - River, Glacier, Wind and Under Ground water.	
Chapter No. 6. Volcanicity, Earthquakes and Tsunamis.	

Unit – 3: Structure and Composition of Atmosphere:	11
<p>Chapter No. 7. Structure and Composition of Atmosphere. Weather and Climate.</p> <p>Chapter No. 8. Atmospheric Temperature, Heat Budget of the atmosphere</p> <p>Chapter No.9. Atmospheric Pressure, Winds and Precipitation</p>	
Unit – 4 : Ocean floor:	11
<p>Chapter No. 10. Distribution of Land and Sea, Submarine Relief of the Ocean,</p> <p>Chapter No. 11. Temperature and Salinity of Sea Water. Ocean Tides, Waves and Deposits, Ocean currents: Atlantic, Pacific and Indian Oceans.</p> <p>Chapter No. 12. Marine Resources: Biotic, mineral and energy resources.</p>	

References

1. B.S. Negi (1993) Physical Geography. S.J. Publication, Meerut
2. D.S.Lal (1998) Climatology. Chaitnya publishing house, Allahabad
3. K. Siddhartha (2001) Atmosphere, Weather and Climate. Kishalaya publication, New Delhi
4. R.N.Tikka (2002) Physical Geography. Kedarnath Ramnath & co, Meerut.
5. P Mallappa, Physical Geography (Kannada Version).
6. Ranganath Principles of Physical Geography (Kannada Version).
7. Nanjannavar S S: Physical Geography (Kannada Version).
8. Hugar M R Physical Geography part-1 (Kannada Version).
9. Goudar M B, Physical Geography (Kannada Version).

Websites:

- <https://oxfordbibliographies.com>
- <https://ncert.nic.in>
- <https://www.nationalgeographic.org>.
- <https://researchguide.deartmath.edu>
- <https://journals.sagepub.com>

SEMESTER I

Title of the Course: Geog. SEC Pr. 1.2: Geographical Statistics.

Credits: 02

Teaching Hours: 30

Maximum Marks: 35+15 IA Marks.
01 Theory+02Practical =3 Hours per week.

Duration of exam: 3 hrs.

Course Objectives:

1. To define the statistics and its importance for analysis.
2. To discuss the methods of data collection, tabulation and sampling.
3. To understand the measures of central tendency and its types.
4. To discuss the measures of dispersion and its types.

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

- 1 To Define statistics and enable to use for analysis.
- 2 To handle the data collection, tabulation and sampling.
- 3 To enable the calculations of mean, median and mode.
- 4 To enable to handle the calculations of measures of dispersion.

SEC- I.1 Practical: Basic Statistics.	30 Hrs
<p>Introduction to Statistics: Definition, Scope and Importance of Statistics in Geographical Studies.</p> <p>Exercise No. 1: Methods of data collection, sources of the data and sampling methods.</p> <p>Exercise No. 2: Processing the data, tabulation and formation of frequency.</p> <p>Exercise No. 3: Measures of Central Tendency and its significance.</p> <p>Exercise No. 4: Calculation of Mean for grouped and ungrouped data.</p> <p>Exercise No. 5: Calculation of Median for grouped and ungrouped data.</p> <p>Exercise No. 6: Calculation of Mode for grouped and ungrouped data.</p> <p>Exercise No. 7: Measures of Dispersion and its importance.</p> <p>Exercise No. 8: Calculation of Quartile Deviation for grouped and ungrouped data.</p> <p>Exercise No. 9: Calculation of Mean Deviation for grouped and ungrouped data.</p> <p>Exercise No. 10: Calculation of Standard Deviation for grouped and ungrouped data.</p>	

References:

1. Haymond and Mccullah (1974), Quantitative techniques in geography, An introduction, Oxford London.
2. Aslam Mohamed (1977): Statistical Methods in Geographical Studies, Rajesh Publications, New Delhi.
3. Gupta CB. (1979): An introduction to statistical methods, Vika publishing house pvt. Ltd. New Delhi.
4. Murray R. Spiegel (1972): Theory and problems of statistics, Mc. Grawhill Book co. New York.
5. Singh RL. (2016): elements of Practical Geography, Kalyani Publishers, New Delhi.

Websites:

<https://www.statistics.com>

<https://www.amstat.org>

<https://quora.com>

<https://www.statisticsshowto.com>

SEMESTER II

B. A./ B.Sc./ (BASIC/ HONS) GEOGRAPHY

Title of the Course: GEOG. T 2.1: PRINCIPLES OF CLIMATOLOGY

Credits: 04

Teaching Hours: 50

*note
00265005*

**Maximum Marks: 70 + 30 IA Marks,
04 Hours per week.**

Duration of exam: 3 hrs.

Course Objectives:

1. To define the field of climatology and components of the climate system.
2. To introduce various dimensions of climatology like structure and composition.
3. To understand the global atmospheric pressure, temperature and wind system.
4. To study the concept of global climate change and global warming.

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

1. To define the field of climatology and to understand the atmospheric composition and structure..
2. To outline the mechanism and process of solar radiation transfer to earth surface and to explain the temperature distribution and variation according to time and space..
3. To illustrate and explain the air pressure system, wind regulating forces and the formation of the Atmospheric Disturbance.
4. To understand and compute the air humidity as well as to explain the process of Condensation and formation of precipitation and its types.

Content of Theory Course 2	56 Hrs
Unit –I: Composition and Structure of the Atmosphere:	14
Chapter No. 1: Nature and Scope of Climatology, Atmospheric Sciences, Climatology and Meteorology. Chapter No. 2: Origin and structure of the Atmosphere: Troposphere, Stratosphere, Mesosphere, Ionosphere, Exosphere and their characteristics. Chapter No. 3: Composition of the atmosphere Weather and Climate	
Unit – 2 : Atmospheric Temperature :	14

<p>Chapter No. 4. Insolation: Definition, Mechanism, Solar Constant. Factors affecting the Insolation: Angle of incidence, length of the day, Sunspots, Distance between the earth and the sun, effect of the atmosphere.</p> <p>Chapter No. 5. Heating and cooling process of the atmosphere-Radiation, Conduction, convection and advection. Temperature: meaning and Influencing Factors on the Distribution of Temperature.</p> <p>Chapter No. 6. Distribution of the temperature: Vertical, Horizontal, and Inversion of temperature. Global Energy Budget: Incoming shortwave solar radiation, Outgoing Longwave Terrestrial radiation, Albedo. Net Radiation and Latitudinal Heat Balances.</p>	
<p>Unit – 3: Atmospheric Pressure and Winds:</p>	<p>14</p>
<p>Chapter No. 7 Atmospheric Pressure: Influencing factors on atmospheric pressure. Vertical and Horizontal Distribution of the atmospheric pressure and Pressure Belts, Pressure Gradient.</p> <p>Chapter No. 8. Tri-cellular-Hadley, Ferrel's and Polar Cells. Winds: influencing factors, Types - planetary, seasonal, local winds, Variable winds- Cyclones and anti-cyclones.</p> <p>Chapter No. 9. Air-Masses and Fronts: Definition, Nature, Source Regions and Classification of Air Masses.</p>	
<p>Unit – 4 : Atmospheric Moisture:</p>	<p>14</p>
<p>Chapter No. 10. Humidity: Sources, influencing factors and types-Absolute, Relative and Specific.</p> <p>Chapter No. 11. Hydrological cycle: process of evaporation, condensation. Clouds and its types. Precipitation and its forms.</p> <p>Chapter No. 12. Climate Change: Causes and consequences, recent issues- floods, drought and global warming.</p>	

Text Books:

1. Lal, D. S. (1998). Climatology. Allahabad: Chaitanya Publishing House.
2. P Mallappa, Physical Geography (Kannada Version).
3. Rangasath Principles of Physical Geography (Kannada Version).
4. Nanjannavar S S: Physical Geography (Kannada Version).
5. Hagar M R Physical Geography part-I (Kannada Version).
6. Goudar M B. Physical Geography (Kannada Version).
7. Kolhapure and S S Nanjan, Physical Geography (Kannada Version).

Reference:

8. Lutgens, Frederic K. & Tarbuck, Edward J. (2010). The Atmosphere: An Introduction to Meteorology. New Jersey: Pearson Prentice Hall.
9. Oliver, John E. & Hidore, John J. (2003). Climatology: An Atmospheric Science. Delhi: Pearson Education.
10. Singh, S. (2005). Climatology. Allahabad: Prayag Pustak Bhawan.
11. Barry, R.G. and Chorley, R.J. (2003): Atmosphere, Weather and Climate; Psychology Press, Hove; East Sussex.
12. Critchfield, H.J., (1975): general Climatology, Prentice Hall, New Jersey.
13. Mather, J.R. (1974): Climatology: Fundamentals and Applications; Mc Craw Hill Book Co., U.S.A.
14. Rumney, G.R. (1968): Climatology and the World Climates, Macmillan, London.
15. Trewartha, G.T. (1980): An Introduction to Climate; McGraw Hill, New York, 5th edition, (International Student Edition).

Websites:

<https://science.jrank.org>

<https://www.clearias.com>

<https://www.nationalgeographic>

<https://www.space.com>

<https://www.noaa.gov>

<https://www.climate.nasa.gov>

<https://www.weather.gov>

<https://www.cengage.com>

code 012950012

SEMESTER II
B. A./ B.Sc./ (BASIC/ HONS) GEOGRAPHY

Title of the Course: GEOG. Pr. 2.1: WEATHER ANALYSIS

Credits: 02

Teaching Hours: 52

Maximum Marks: 35 + 15 IA Marks.

04 Hours per week.

Duration of exam: 3 hrs

Course Objectives:

1. To define the minerals, rocks and their characteristics.
2. To explore the students to extract the geomorphic information from the topographical maps.
3. To understand the slope analysis from different methods.
4. To study the drainage Morphometric and its characteristics.

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

- 1 To identify the different types of minerals through their characteristics.
- 2 To interpret the topographical maps extracted the geomorphic information.
- 3 To illustrate the slope analysis and prepare the Hypsometric curve and integral
- 4 To delineate the watershed area, stream ordering, drainage density and drainage frequency.

Content of Practical Course P.II	52 Hrs
Conduct all exercises with Goal, Procedure, devices, findings and diagram.	
Unit -1: Measurement of Weather Elements.	
Exercise-1: Structure and functions of the Indian Meteorological Department (IMD). Collection of temperature data from IMD website.	10
Exercise-2: Plotting of downloaded temperature data using graphical methods-line graph.	10
Exercise-3: Centigrade and Fahrenheit thermometer for measuring temperature. Mercurial Barometer and Aneroid Barometer for measuring atmospheric pressure and Wind Vane and cup-anemometer.	10
Unit - 2: Interpretation of Weather charts.	
Exercise-4: Wet and Dry bulb thermometer for measuring humidity,	10

Rain gauge- Dial type for measuring rainfall and Rainfall Trend Analysis (monthly and annual).

Exercise-5: Interpretation of Indian Daily Weather charts Seasonally.

Note: Students are expected to download weather charts of the four Seasons.

12

Reference:

1. Lutgens, Frederic K. & Tarbuck, Edward J. (2010). The Atmosphere: An Introduction to Meteorology. New Jersey: Pearson Prentice Hall.
2. Oliver, John E. & Hidore, John J. (2003). Climatology: An Atmospheric Science. Delhi: Pearson Education.
3. Singh, S. (2005). Climatology. Allahabad: Prayag Pustak Bhawan.
4. Barry, R.G. and Chorley, R.J. (2003): Atmosphere, Weather and Climate; Psychology Press, Hove; East Sussex.
5. Critchfield, H.J., (1975): general Climatology, Prentice Hall, New Jersey.
6. Mather, J.R. (1974): Climatology: Fundamentals and Applications; Mc Craw Hill Book Co., U.S.A.
7. Rumney, G.R. (1968): Climatology and the World Climates, Macmillan, London.
8. Trewartha, G.T. (1980): An Introduction to Climate; McGraw Hill, New York, 5th edition, (International Student Edition).

Websites:

<https://science.jrank.org>

<https://www.clearias.com>

<https://www.nationalgeographic>

<https://www.space.com>

<https://www.noaa.gov>

<https://www.climate.nasa.gov>

<https://www.weather.gov>

<https://www.cengage.com>

Code
172GE0061

SEMESTER II

Title of the Course: OE 2.2: Basics of Natural Disasters

Credits: 03

Teaching Hours: 44

Maximum Marks: 70 + 30 IA Marks.

03 Hours per week.

Duration of exam: 3 hrs.

Course Objectives:

1. To discuss the natural disasters related to Lithosphere.
2. To discuss the atmospheric disasters and their types.
3. To understand the hydrospheric disasters and their types.
4. To study the biospheric disasters and their impact.

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

- 1 To define the natural disasters related to Lithosphere.
- 2 To identify the different types of atmospheric disasters and their impact.
- 3 To discuss the nature and types of hydrospheric disasters.
- 4 To define the biospheric disasters and their impact.

Content of Open Elective Course 2.1	44 Hrs
Unit -1: Introduction to Natural Disaster:	11
Chapter No. 1: Meaning, definition and scope of natural disaster.	
Chapter No. 2: Lithosphere and Natural Disasters.	
Chapter No. 3: Earthquakes, volcanoes, Landslides and Avalanches	
Unit -2 : Atmosphere and Natural Disasters:	11
Chapter No. 4. Meaning and importance of Atmosphere causes for natural disaster.	
Chapter No. 5. Heat wave and wild fire. Cloud burst, hailstorm.	
Chapter No. 6. Drought and famines.	
Unit - 3: Hydrosphere and Natural Disasters :	11

<p>Chapter No. 7. Meaning and importance of hydrosphere and causes of natural disasters.</p> <p>Chapter No. 8. Tsunami, Hurricanes and cyclones.</p> <p>Chapter No. 9. Floods and flash floods.</p>	
Unit - 4 : Biosphere and Natural Disasters:	11
<p>Chapter No. 10. Significance of biosphere and causes of natural disasters.</p> <p>Chapter No. 11. Epidemics and pandemics: Covid -19 and its effects.</p> <p>Chapter No. 12. Techniques and technology to mitigate natural disasters.</p>	

References

1. Dr. Mrinalini Pandey Disaster Management Wiley India Pvt. Ltd.
2. Tushar Bhattacharya Disaster Science and Management McGraw Hill Education (India) Pvt. Ltd.
3. Jagbir Singh Disaster Management : Future Challenges and Opportunities K W Publishers Pvt. Ltd.
4. J. P. Singhal Disaster Management Laxmi Publications.
5. Shailesh Shukla, Shamma Hussain Biodiversity, Environment and Disaster Management Unique Publications
6. C. K. Rajan, Navale Pandharinath Earth and Atmospheric Disaster Management : Nature and Manmade B S Publication.

Websites:

- <https://www.naturalgeographic.com>
- <https://www.cdc.gov/>
- <https://www.un-dp.org>
- <http://indiastrteacher.com>
- <https://india.gov.in>



III + IV Sem.

Geography



KARNATAK UNIVERSITY, DHARWAD
ACADEMIC (S&T) SECTION
ಕರ್ನಾಟಕ ವಿಶ್ವವಿದ್ಯಾಲಯ, ಧಾರವಾಡ
ವಿದ್ಯಾಭಿವೃದ್ಧಿ (ಎಸ್&ಟಿ) ವಿಭಾಗ



Tel: 0836 2215224
e-mail: wad@ku-dharwad.ac.in
Post: Nagar Dharwad 580003
Dist: D.D. Dharwad - 580003

www.kud.ac.in

website: kud.ac.in

No. KU/Acd(S&T)/SSL/394A/2022-23/1056

Date: 23 SEP 2022

ಅಧಿಸೂಚನೆ

ವಿಷಯ: 2022-23ರೇ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನಿಂದ ಎಲ್ಲ ಸ್ನಾತಕ ಶಿಕ್ಷಣಗಳಿಗಾಗಿ 3 ಮತ್ತು 4ನೇ ಸೆಮಿಸ್ಟರ್ NEP-2020 ಮಾದರಿಯ ಪ್ರಶ್ನೆಪಟ್ಟಿಯನ್ನು ಆಯವಾರ್ಥಿಯಿಂದ ಕುಳಿತು.

- 1. ಕರ್ನಾಟಕ ಅಭಿವೃದ್ಧಿ ಕಾರ್ಯದರ್ಶಿಗಳು(ವಿದ್ಯಾವಿಭಾಗ) ಅಧಿಕೃತ ಕಛೇರಿ ಮತ್ತು ಅಧಿಕಾರ ಸಂಖ್ಯೆ ಸಿಐ 260 ಏಪ್ರಿಲ್ 2019(ಭಾಗ-1), ದಿ:7.8.2021.
- 2. ವಿಶ್ವಕರ್ಮ & ಪದ್ಧತಿಯ ನಿಷ್ಠೆಯ ಸಭೆಯ ಅಧಿವೇಶನ ದಿನಾಂಕ 06.09.2022
- 3. ವಿಶೇಷ ವಿದ್ಯಾವಿಭಾಗದ ಸಂಖ್ಯೆ ಸಭೆಯ ದಿನಾಂಕ ಸಿ. 01, ದಿನಾಂಕ: 17.09.2022
- 4. ಮಾನ್ಯ ಸುಬರ್ದಾನ ಅಧಿಕಾರಿ ದಿನಾಂಕ: 22-09-2022

ವಿದ್ಯಾರ್ಥಿಯ ವಿಷಯ ತಿಳಿಸಿ ಅಧಿಕಾರಿಗಳಿಂದ ಮಾನ್ಯ ಸುಬರ್ದಾನ ಅಧಿಕಾರಿ ಮಾರ್ಚ್, 2022-23ರೇ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನಿಂದ ಅಧಿಕಾರಿಯಿಂದ, ವಿಶ್ವಕರ್ಮ & ಪದ್ಧತಿಯ ನಿಷ್ಠೆಯ ಎಲ್ಲ ಸ್ನಾತಕ ಶಿಕ್ಷಣಗಳಿಗೆ ಅಧಿಕಾರಿ ದಿನಾಂಕ (NEP-2020) ರಂತೆ 3 ಮತ್ತು 4ನೇ ಸೆಮಿಸ್ಟರ್ಗಳಿಗಾಗಿ ವಿಶೇಷ ವಿದ್ಯಾವಿಭಾಗದ ಸಂಖ್ಯೆ ಸಭೆಯ ಆಯವಾರ್ಥಿಯ ಪ್ರಶ್ನೆಪಟ್ಟಿಯನ್ನು ಪ್ರಕಟಗೊಳಿಸಿ, ಸಾರ ಪ್ರಶ್ನೆಪಟ್ಟಿಯನ್ನು ಕೆ.ವಿ.ವಿ. www.kud.ac.in ಅಂತರ್ಜಾಲದಿಂದ ಡೌನ್‌ಲೋಡ್ ಮಾಡಿಕೊಳ್ಳಲು ಸೂಚಿಸಿ, ವಿದ್ಯಾರ್ಥಿಗಳು ತಿಳಿಸಿ ಸಂಬಂಧಿಸಿದ ಎಲ್ಲ ಶಿಕ್ಷಣಕರ ಸಮಗ್ರ ತಿಳಿಸಿ ಅಧಿಕಾರಿ ಅಂತರ್ಜಾಲದಿಂದ ಕೆ.ವಿ.ವಿ. ಅಂತರ್ಜಾಲದಿಂದ ಪ್ರಕಟಗೊಳಿಸಿ ಅಂತರ್ಜಾಲದಿಂದ.

604-
22/9/22
ಸುಬರ್ದಾನ

ವಿಷಯ: ಮೇಲಿನಂತೆ

ಕರ್ನಾಟಕ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಪ್ರಾಚಾರ್ಯರಿಂದ ಬಂದ ಎಲ್ಲ ಅಭಿವೃದ್ಧಿ ಕಾರ್ಯದರ್ಶಿಗಳು (ಕೆ.ವಿ.ವಿ. ಅಂತರ್ಜಾಲದಿಂದ ತಿಳಿಸಿ ಅಧಿಕಾರಿ ಅಂತರ್ಜಾಲದಿಂದ)

ಪ್ರತಿ:

- 1. ಕರ್ನಾಟಕ ಅಭಿವೃದ್ಧಿ ಕಾರ್ಯದರ್ಶಿಗಳು, ಕೆ.ವಿ.ವಿ. ಧಾರವಾಡ.
- 2. ಕರ್ನಾಟಕ ಅಭಿವೃದ್ಧಿ ಕಾರ್ಯದರ್ಶಿಗಳು, ಕೆ.ವಿ.ವಿ. ಧಾರವಾಡ.
- 3. ಕರ್ನಾಟಕ (ವಿದ್ಯಾವಿಭಾಗ) ಅಭಿವೃದ್ಧಿ ಕಾರ್ಯದರ್ಶಿಗಳು, ಕೆ.ವಿ.ವಿ. ಧಾರವಾಡ.
- 4. ಅಧಿಕಾರಿ, ಪ್ರಶ್ನೆ ಪಟ್ಟಿ / ಸೆಮಿಸ್ಟರ್ / ವಿದ್ಯಾವಿಭಾಗ (ವಿದ್ಯಾವಿಭಾಗ) ವಿಭಾಗ, ಕರ್ನಾಟಕ ಶಿಕ್ಷಣದ ಅಧಿಕಾರಿಗಳು ಮತ್ತು ವಿಭಾಗ, ಕೆ.ವಿ.ವಿ. ಧಾರವಾಡ.
- 5. ಅಧಿಕಾರಿ, ಕರ್ನಾಟಕ ಅಭಿವೃದ್ಧಿ / ವಿಶ್ವಕರ್ಮ ಕಛೇರಿ ವಿಭಾಗ, ಕೆ.ವಿ.ವಿ. ಧಾರವಾಡ.




KARNATAK UNIVERSITY
DHARWAD

Syllabus for under Graduate Programme in GEOGRAPHY
 B. A. / B.Sc. (BASIC/ HONS) GEOGRAPHY, 2022-23
 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	Instruction hour 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 003GEO051	Theory	03 hrs	42	02 hrs	40	60	100	03
IV	DSC- T 4 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
Details of the other Semesters will be given later									

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 including definitions.
- 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 the process, factors and impact.
- PSO 4: Know the complex and interactive nature of physical and human environments and changing process.
- 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 maps of spatio-temporal changes.
- PSO 7: Demonstrate the skill of analysis of geographical information, evidences and cause and effects.
- 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 / B.Sc. 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 Assessment Marks	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	56Hrs
Unit –1: Introduction to Human Geography	14
<p>Chapter No. 1: Nature, scope and growth of human geography, Branches in human geography. Themes in Geography, man-environment debate in human Geography.</p> <p>Chapter No. 2: Approaches to man-environment relationship: Environmental Determinism and Possibilism, Neo-determinism (stop and go determinism).</p> <p>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.</p>	
Unit – 2 : Cultural Patterns and Process:	14
<p>Chapter No. 4. Concept of Culture, Material and Non-material culture Cultural Regions, cultural Traits and Complexes, cultural Hearths. Major cultural realms of the world.</p> <p>Chapter No. 5. Race: Characteristics and classification. Broad racial groups of the world and their distribution. Linguistic and ethnic diversity.</p> <p>Chapter No. 6. Major Religions and their Distribution: Hinduism, Christianity, Islam and Buddhism.</p> <p>Assignment: Students will have to select nearby area and study religions and their characteristics and submit the report.</p>	
Unit – 3: Human Economic Activities:	14
<p>Chapter No. 7. Primary Economic Activities. Agriculture: Primitive Subsistence, Intensive subsistence, Plantation Agriculture, Extensive Commercial grain cultivation, Mixed Farming, Dairy Farming. Forestry, fishing and mining.</p> <p>Chapter No. 8. Secondary Activities: Manufacturing – Cotton Textile and Iron & Steel. Concept of Manufacturing Region. Industrial Regions of the world. New Industrial Policy.</p> <p>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.</p>	
Unit – 4 : Population, Transport & Communication & Settlements:	14
<p>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.</p>	

Chapter No. 11. Urban Settlements: Origin and evolution, hierarchy, trends and patterns of urban settlements. Urban morphology. Concept of Primate City and rank size rule. Functional classification of towns, Rural-urban fringe.

Chapter No. 12. Problems and remedies of urbanization. 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, New York
7. S.D. Maurya (2012), Human Geography, Pravalika Publications, Allahabad
8. L.R.Singh(2005), Fundamentals of Human Geography, Sharda Pustak Bhawan, Allahabad

Websites:

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./ B.Sc./ (BASIC/ HONS) GEOGRAPHY
SEMESTER III**

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

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	DSCY-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		52 Hrs
Conduct all exercises with Goal, Procedure, devices, findings and diagram.		
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 ground distance.		06
Exercise-4: Field-based Activity: Students are to be prepared a report by reading of maps in the field 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.		08

Exercise-6: Construction of Cylindrical Projections - Cylindrical Equal Area Projection.

08

Exercise-7: Construction of the Conical Projections - Conical Projection with one and two standard parallel.

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. Prayogic 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./ B.Sc./ (BASIC/ HONS) GEOGRAPHY
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
003GEO051	OE 3	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 get 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 Theory Course	42Hrs
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 Significance of 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 <i>Yellow</i> 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 Gorakhpur- UP.
11. Kalpana Rajaram (2012), Geography of India, Spectrum Books Pvt. Ltd.
12. Y.I. Singh (2021), Geography of India, Global Net Publication

Websites:

1. <http://www.mapsofindia.com/geography/>
2. <https://agricoop.nic.in/en>
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/ B.Sc./ (BASIC/ HONS) GEOGRAPHY
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
<p>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.</p> <p>Chapter No.2: Climate: Seasonal weather characteristics, climatic zones. Mechanism and characteristics of Indian monsoons; Tropical cyclones and western disturbances.</p> <p>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.</p>	
Unit – 2 : Water and Agricultural Resources:	14
<p>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,</p> <p>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.</p> <p>Chapter No. 6. Agriculture: Land use and cropping pattern – meaning and concepts, land use and cropping Pattern 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.</p> <p>Assignment: Selecting a region students have to study the locational factors nearby industry and prepare a report.</p>	
Unit – 3: Industries, transportation and communication:	14
<p>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.</p> <p>Chapter No. 8. Transport & Communication: Significance, growth and development – Road ways, railway, waterway, airway and pipeline networks and their complementary and competition.</p> <p>Chapter No. 9. Communication: Means of communication their significance.</p>	
Unit – 4 : Human Resource:	14
<p>Chapter No. 10. Growth, distribution and density of population.</p> <p>Chapter No. 11. Composition of population: Age, sex, rural-urban population composition. Migration: meaning, factors, types, causes and consequences.</p> <p>Chapter No. 12. Human Development in India: Measures, levels of development based on HDI, Human Gender Development Index (GDI)</p> <p>Field Study: Selecting a region / district students have to examine the levels of Human Development using HDI and prepare a report.</p>	

References

1. Khullar DR. (2009): India: A Comprehensive Geography, Kalyani Publishers, 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 Publishing House 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, 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 Gorakhpur- UP.
11. Deshpande C. D., (1992): India: A Regional Interpretation, ICSSR, New Delhi.
12. Johnson, B. L. C., ed. (2001). Geographical Dictionary of India. Vision Books, New Delhi.
13. Mandal R. B. (ed.), (1990): Patterns of Regional Geography – An International Perspective. Vol. 3 – Indian Perspective.
14. Sdyasuk Galina and P Sengupta (1967): Economic Regionalisation of India, Census of India
15. Singh R. L., (1971): India: A Regional Geography, National Geographical Society of India.
16. Singh, Jagdish (2003): India - A Comprehensive & Systematic Geography, Gyanodaya Prakashan, Gorakhpur.
17. Singh, RB, Schickhoff, Udo, Mal, Suraj (Eds.) (2016) Climate Change, Glacier Response, and Vegetation 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 Regional Geography, 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.

B. A./ B.Sc./ (BASIC/ HONS) GEOGRAPHY

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	Instruction hour per week	Total No. of Lectures/Hours / Semester	Duration of Exam	Formative Assessment Marks	Summative Assessment Marks	Total Marks
Course-III	DSCC-IV 034GEO012	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 the 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	52 Hrs
Conduct all exercises with Goal, Procedure, devices, findings and diagram.	
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 method and 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 change over the time and submit a report.	08
Unit – 2 : Mapping Methods:	
Exercise-5: Mapping temperature distribution in India / Karnataka / District by using isopleth method and interpret.	08
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 and interpret.	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 Publishing House 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, New Delhi.
6. Ranganath (2007) Geography of India, Vidhyanidhi Prakashan, Station Road, Gadag-01.
7. Phani Deka and 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 Gorakhpur- UP.
11. **websites:**
<http://www.mapsofindia.com/geography/>

**B. A./ B.Sc./ (BASIC/ HONS) GEOGRAPHY
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
004GEO051	OE-4	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
<p>Chapter No. 1: Geographical Location, size and Administrative divisions. Coastal Regions, Western Ghats, Malanadu Regions and Maidana Regions of Karnataka.</p> <p>Chapter No. 2: Weather and Climate: Seasons, Distribution of Rainfall and Temperature, Climatic regions, Drought prone areas in Karnataka.</p> <p>Chapter No. 3: Drainage Systems: East flowing rivers and west flowing rivers.</p>	
Unit - 2 : Soils, Natural Vegetation and Irrigation:	10
<p>Chapter No. 4. Introduction, soil types and characteristics.</p> <p>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 in Karnataka.</p> <p>Chapter No. 6. Irrigation: Importance, Distribution of water resources, Irrigations – sources of irrigation, multipurpose river valley projects. River Disputes in Karnataka and River Linkages.</p>	

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.	12
Chapter No. 11. Industries: Sugar Industries, Silk Industries, Cotton Industries , 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: Potential zones, ecotourism and tourism development.	
Field Study: Students need to observe and prepare report regarding local industries and their role development of the region.	

References

1. Ranganath (2015), Geography of Karnataka, Publisher: Mysore Book House
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:

1. <https://ksrsac.karnataka.gov.in/>
2. <https://ksdma.karnataka.gov.in/english>
3. <https://raitamitra.karnataka.gov.in/english>
4. <https://www.karnatakaturism.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	8 th Week
Written test-2	10%	1 hr	12 th 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.



**KARNATAK UNIVERSITY, DHARWAD
ACADEMIC (S&T) SECTION**

**ಕರ್ನಾಟಕ ವಿಶ್ವವಿದ್ಯಾಲಯ, ಧಾರವಾಡ
ವಿದ್ಯಾವಿಜಯ (ಎಸ್&ಟಿ) ವಿಭಾಗ**



Tele: 0836-2216224
e-mail: academic.w@kud.ac.in
Pavase Nagar, Dharwad-580001
ಕಡತೆ ಸಿಬಿ, ಧಾರವಾಡ - 580001

ISSN: 0974-1000
1st Issue: 2014

website: kud.ac.in

No. KU/Aca(S&T)/IS/MG/Gen/2023-24/59

Date: 04/09/2023

ಅಧಿಸೂಚನೆ

- ವಿಷಯ: 2023-24ರೇ ಕ್ಷೇತ್ರೀಕೃತ ಕಾಲೇಜಿನ ಎಲ್ಲ ಸ್ನಾತಕ ಪದವಿಗಳಿಗೆ 5 ಮತ್ತು 6ನೇ ಸೆಮೆಸ್ಟರ್ NEP-2020 ನಡವಳಿಗಳನ್ನು ಅಳವಡಿಸುವ ಕುರಿತು.
- ಉಲ್ಲೇಖ: 1. ಕರ್ನಾಟಕ ಅಧೀನ ಕಾರ್ಯದರ್ಶಿಗಳು(ವಿಶ್ವವಿದ್ಯಾಲಯ) | ಉನ್ನತ ಕ್ಷೇತ್ರ ಇಲಾಖೆ ಇವರ ಆದೇಶ ಸಂಖ್ಯೆ ಇಡಿ 104 ಯುಎನ್/ಇ 2023, ದಿ: 20.07.2023.
2. ವಿದ್ಯಾವಿಜಯಿಕ ಪಾಂಚಜ್ ಸಭೆಯ ನಿರ್ಣಯ ಸಂಖ್ಯೆ: 2 ರಿಂದ 7, ದಿ: 31.08.2023.
3. ಮಾನ್ಯ ಕುಲಪತಿಗಳ ಆದೇಶ ದಿನಾಂಕ: 04/09/2023

ಮೇಲ್ಕೋಶಿತ ವಿಷಯ ಹಾಗೂ ಉಲ್ಲೇಖಗಳನ್ವಯ ಮಾನ್ಯ ಕುಲಪತಿಗಳ ಆದೇಶದ ಮೇರೆಗೆ, 2023-24ನೇ ಕ್ಷೇತ್ರೀಕೃತ ಕಾಲೇಜಿನ ಅನ್ವಯವಾಗುವಂತೆ, ಎಲ್ಲ B.A./ BPA (Music) /BVA / BTM / BSW/ B.Sc./B.Sc. Pulp & Paper Sciences/ B.Sc. (HLM)/ BCA/ B.A.S.L.P./ B.Com/ B.Com (CS)/ BBA & BA ILRD ಸ್ನಾತಕ ಪದವಿಗಳ 5 ಮತ್ತು 6ನೇ ಸೆಮೆಸ್ಟರ್ಗಳಿಗೆ NEP-2020ರ ಮುಂದುವರಿದ ಭಾಗವಾಗಿ ವಿದ್ಯಾವಿಜಯಿಕ ಪಾಂಚಜ್ ಸಭೆಯ ಅನುಮೋದಿತ ಕೋರ್ಸುಗಳ ಪದ್ಧತಿಗಳನ್ನು ಕೆ.ವಿ.ವಿ. ಅಂತರ್ಜಾಲ www.kud.ac.in ದಲ್ಲಿ ಛೇದಿಸಲಾಗಿದೆ. ಸದರ ಪದ್ಧತಿಗಳನ್ನು ಕೆ.ವಿ.ವಿ. ಅಂತರ್ಜಾಲದಿಂದ ಪರಿಶೀಲಿಸಿ ಮಾಹಿತಿ ಕೊಡಲು ಸೂಚಿಸುತ್ತ ವಿದ್ಯಾರ್ಥಿಗಳ ಹಾಗೂ ಸಂಬಂಧಿಸಿದ ಎಲ್ಲ ಮೇಲ್ದರ್ಜೆ ಗಮನಕ್ಕೆ ತಂದು ಆದರಂತೆ ಕಾರ್ಯಪ್ರವೃತ್ತರಾಗಲು ಕೆ.ವಿ.ವಿ. ಅಧೀನದ/ಸಂಬಂಧ ಮಹಾವಿದ್ಯಾಲಯಗಳ ಪ್ರಾಚಾರ್ಯರುಗಳಿಗೆ ಸೂಚಿಸಲಾಗಿದೆ.

ಅಡಕ: ಮೇರಿಟಾಂಟ್

(Handwritten Signature)
ಕುಲಸಚಿವರು.

ಗ. ಕರ್ನಾಟಕ ವಿಶ್ವವಿದ್ಯಾಲಯದ ವ್ಯಾಪ್ತಿಯಲ್ಲಿ ಬರುವ ಎಲ್ಲ ಅಧೀನ ಹಾಗೂ ಸಂಬಂಧ ಮಹಾವಿದ್ಯಾಲಯಗಳ ಪ್ರಾಚಾರ್ಯರುಗಳಿಗೆ. (ಕೆ.ವಿ.ವಿ. ಅಂತರ್ಜಾಲ ಹಾಗೂ ಮಿಂಚಂಚೆ ಮೂಲಕ ದತ್ತರಿಸಲಾಗುವುದು)

ಪ್ರತಿ:

1. ಕುಲಪತಿಗಳ ಅಪ್ಪ ಕಾರ್ಯದರ್ಶಿಗಳು, ಕೆ.ವಿ.ವಿ. ಧಾರವಾಡ.
2. ಕುಲಸಚಿವರ ಅಪ್ಪ ಕಾರ್ಯದರ್ಶಿಗಳು, ಕೆ.ವಿ.ವಿ. ಧಾರವಾಡ.
3. ಕುಲಸಚಿವರು (ಪೋಲ್ಯುಮಾನವಜ) ಅಪ್ಪ ಕಾರ್ಯದರ್ಶಿಗಳು, ಕೆ.ವಿ.ವಿ. ಧಾರವಾಡ.
4. ಅಧೀಕ್ಷಕರು, ಪ್ರಶ್ನೆ ಪತ್ರ / ಗೌಪ್ಯ / ಜಿ.ಎ.ಡಿ. / ವಿದ್ಯಾವಿಜಯ (ಕೆ.ವಿ.ವಿ.ಎಚ್.ಡಿ) ವಿಭಾಗ, ಸಂಬಂಧಿಸಿದ ಕೋರ್ಸುಗಳ ವಿಭಾಗಗಳು ಪರೀಕ್ಷಾ ವಿಭಾಗ, ಕೆ.ವಿ.ವಿ. ಧಾರವಾಡ.
5. ನಿರ್ದೇಶಕರು, ಕಾಲೇಜು ಅಧ್ಯಯನ / ವಿದ್ಯಾರ್ಥಿ ಕಲ್ಯಾಣ ವಿಭಾಗ, ಕೆ.ವಿ.ವಿ. ಧಾರವಾಡ.



KARNATAK UNIVERSITY, DHARWAD

B.A./B.Sc. 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

Karnatak University, Dharwad
B.Sc. in Geography
 Effective from 2023-24

Sem.	Type of Course	Theory/ Practical	Course Code	Course Title	Instructional 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-7	Practical	035 GEO 041	Fundamentals of Cartography	04hrs	56	03 hrs	25	25	50	02
	Total										
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-I		036 GEO 041	Internship/ Mini Project/ Field Based Report				50	0	50	02
Total											26

Karnatak University, Dharwad
B.A. in Geography
 Effective from 2023-24

Sem.	Type of Course	Theory/ Practical	Course Code	Course Title	Instruct on/ hour/ week	Total hours / sem	Duration of Exam	Marks			Credits
								Formative	Semester	Total	
V	DSCC-8	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/B.Sc. Semester – V
Discipline Specific Course (DSC)-9

Course Title: Population Resources and Dynamics

Course Code: 035 Geog 011(B.Sc)
015 Geog 011 (B.A)

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
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. Tripathi ((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
<i>Formative Assessment as per guidelines.</i>	

B.A/B.Sc. Semester – V

Discipline Specific Course (DSC)-10

Course Title: Techniques in Population Geography

Course Code: 035 Geog 012 (B. Sc)

015 Geog 012 (B.A)

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
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. Tripathi ((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
<i>Formative Assessment as per guidelines.</i>	

The same shall be used for semester end Examination

B.A/ B.Sc. Semester – V

Discipline Specific Course (DSC)-11

Course Title: Fundamentals of Remote Sensing

Course Code: 035 Geog 013 (B. Sc)

015 Geog 013 (B.A)

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
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. and 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 L.R.A. (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:
https://onlinecourses.swayam2.ac.in/aic20_ge05/preview
- 8 <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://earthobservatory.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
<i>Formative Assessment as per guidelines.</i>	

B.A/ B.Sc. Semester – V

Discipline Specific Course (DSC)-12

Course Title: Interpretation of Aerial Photos and Satellite Images

Course Code: 035 Geog 014 (BSC)
015 Geog 014 (B.A)

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
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. and 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 L.R.A. (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:
https://onlinecourses.swayam2.ac.in/aic20_ge05/preview
- 8 <http://rst.gsfc.nasa.gov/Front/tofc.html>
- 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_c.pdf
- 3 ITC Netherlands, Principles of Remote Sensing
https://webapps.itc.utwente.nl/librarywww/papers_2009/general/principlesremotesensing
- 4 Pdf <http://earthobservatory.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>

BA/ B.Sc. Semester – V
Skill Enhancement Course: SEC-3

Course Title: Fundamentals of Cartography

Course Code: 035 Geog 06 (B.Sc)
015 Geog 06 (B.A)

Type of Course	Theory / Practical	Credits	Instruction hour/ week	Total No. of Lectures/Hours / Semester	Duration of 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: Construction 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	Construction of Simple Cylindrical Projection.	06
8	Construction of Conical Projection.	06
9	Construction of Bone's Projection.	06
10	Construction 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.

B.A./ B.Sc. in Geography

VI Semester

W. e. f.: 2023-24

B.A/ B.Sc. Semester – VI

Discipline Specific Course (DSC)-13

Course Title: Environmental Geography

Course Code: 036 Geog 011 (B. Sc)

016 Geog 011 (B.A)

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
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/>

B.A/ B.Sc. Semester – VI

Discipline Specific Course (DSC)-14

Course Title: Methods in Environmental Geography

Course Code: 036 Geog 012 (B. Sc)

016 Geog 012 (B.A)

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
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: Identify 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

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

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/>

B.A/B.Sc. Semester – VI

Discipline Specific Course (DSC)-15

Course Title: Fundamentals of Geographic Information Systems

Course Code: 036 Geog 013 (B.Sc)

016 Geog 013 (B.A).

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
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. Area, 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
<i>Formative Assessment as per guidelines.</i>	

B.A/B.Sc. Semester – VI

Discipline Specific Course (DSC)-16

Course Title: GIS for Map-Making

**Course Code: 036 Geog 014 (B. Sc)
016 Geog 014 (B.A)**

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
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.
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 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
<i>Formative Assessment as per guidelines.</i>	

The same shall be used for semester end Examination

B.A/ B.Sc. Semester – VI INTERNSHIP

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

Course Code: 036 Geog 091 (B. Sc)

016 Geog 091 (B.A)

Type of Course	Theory / Practical	Credits	Instruction hour/ week	Total No. of Lectures/Hours / Semester	Duration of 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
<i>Formative Assessment as per guidelines.</i>	

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 6th 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.