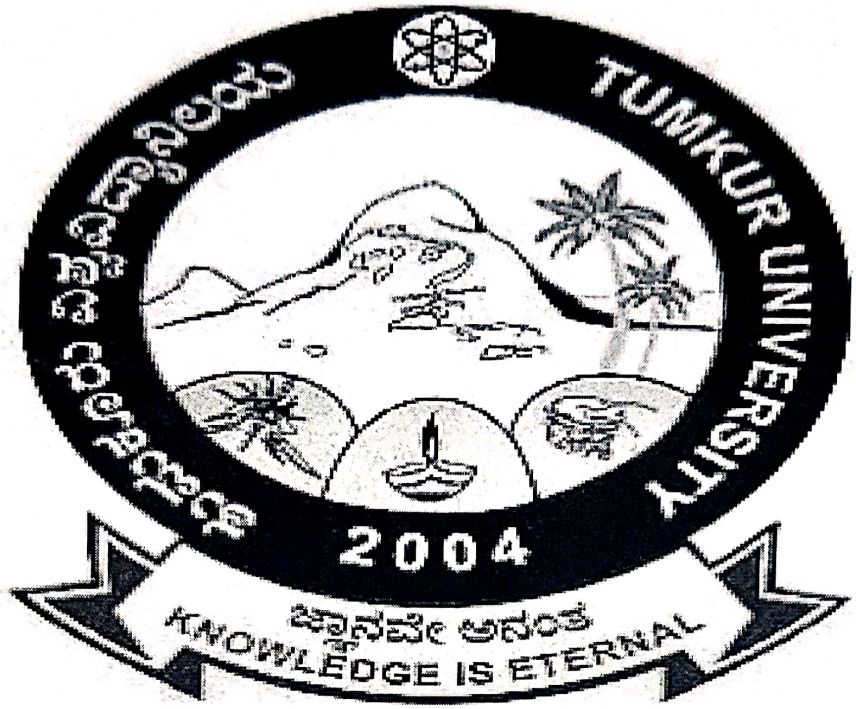

TUMKUR UNIVERSITY, TUMKUR

SUBJECT: GEOGRAPHY

Syllabus for V AND VI semester

BA/B.Sc Geography

2026-27 onwards

DEPARTMENT OF GEOGRAPHY
TUMKUR UNIVERSITY, TUMKUR-572103

PROF. SHARADAMMA.S.B
ASSISTANT PROFESSOR &
CHAIRMAN BOS IN GEOGRAPHY

NO BOS: UG: 2026-27/ 591

DATE: 22-05-2026

TO
The Registrar
Tumkur University
Tumkur - 572103.

Respected Sir/Madam

Subject: Submission of BOS Geography (UG) Proceeding.
Reference: BOS: UG: 2026-27/30.04.2026

This is for your kind information that, the Board of Studies in Geography (UG) meeting held on 19th MAY 2026 at 10.30 A.M.

Board members of UG Geography gathered for the meeting and framed the course structure, titles and detailed syllabus for the newly framed Vth and VI th semester BA Geography as per the SEP directed by University of Tumkur.

Kindly acknowledge the same Attachment

1. BOS Proceeding copy
2. Newly Framed 5th and 6th semester BA Geography Syllabus with contents.

Thanking you.

Prof.SHARADAMMA.S.B
Chairman
BOS in Geography (UG)
Tumkur University, Tumkur

Proceeding

Of Curriculum and Syllabus for BA/B.Sc Geography Under Graduate Programme in Geography

As per the guidelines issued in the Govt.of Karnataka order No. ED 166 UNE 2023 Bengaluru, Date 08-05-2024, to implement the State Education Policy. The BOS, Geography UG Committee meeting was held 19th MAY, 2026 (Tuesday) in the Tumkur University Tumkur at 10.30 AM. The BOS meeting is conveyed to discuss and finalized curricula and syllabus for One Year under graduate program commencing during 2026-27 for V & VI Semester and also to discuss and finalize the total structure of the Geography Course for whole BA/B.Sc Program.

At the outset Prof. Sharadamma.S.B. Chairman BOS in Geography, UG and Assistant Professor, Department of Geography, Govt. First Grade College , Tiptur-572201, welcomed the committee members for the meeting and informed that University has directed to conduct BOS Meeting to approve curriculum and syllabus for BA/B.Sc. Geography under graduate program in Geography to be commenced in 2026-27 which has been designed on par with guidelines given in the above mentioned SEP implementation order.

Subsequently the BOS, UG Committee members discussed thoroughly and recommended as under:

	Item	Recommendations of the committee
1	Approval of the curriculum and syllabus for BA/B.Sc. Geography Under Graduate Programme in to be commenced in 2026-27 (V & VI SEM)	The BOS Committee resolved the curriculum and syllabus for BA/B.Sc Geography to be commenced in 2024-25.
2	Approval of the curriculum and syllabus for BA/B.Sc. Geography Under Graduate Programme in Geography	The BOS Committee resolved the curriculum structure for BA/B.Sc Geography Under Graduate Programme in Geography

Prof. Sharadamma.S.B. Professor and Chairman BOS assured that the recommendation of the committee will be submitted to the University for further processing. The meeting concluded with vote of thanks.

Prof.SHARADAMMA.S.B
Chairman
BOS in Geography (UG)
Tumkur University, Tumkur

Members of BOS		
Sl.No	**Name and Address**	**Signature**
1	Prof. Sharadamma.S.B., Chairman, BOS- UG and HOD Department of Geography, Govt. First Grade College, Tiptur-572201. Mob No: 9164995987 E-mail: sbsharada7@gmail.com	
2	Mr. A.M.Kantharaju Lecture, Pallagatti Adavappa College, Tiptur Mob no: 9008730177 E-mail: amkantharaju@gamil.com	
3	Mr. Boregowda.M.L Lecture, Pallagatti Adavappa College, Tiptur Mob no: 9844418025 E-mail: boregowdaml@gamil.com	
4	Dr.Kantharaju Lecture, Govt. First Grade College, Tiptur. Mob No: 9113674630 E-mail: rkantha218@gamil.com	

Prof.SHARADAMMA.S.B
Chairman
BOS in Geography (UG)
Tumkur University, Tumkur

BACHELOR OF ARTS – V & VI SEM GEOGRAPHY COURSE MATRICS
REGULAR SEP SYLLABUS 2026-27 ONWARDS

SEM	TYPES OF PAPER	PAPER TITLE	HOURS PER WEEK	DURATION OF THE EXAM	IA	EXAM	TOTAL MARKS	CREDITS
V	DSC GE-1 Theory	Population Resource and Dynamics (OR) Regional Geography of Asia Excluding India (Optional paper)	04	03 HRS	20	80	100	04
V	DSC GE-2 Theory	Fundamentals of Remote sensing (OR) Economic Geography of World. (Optional paper)	04	03 HRS	20	80	100	04
V	DSC GE-1 Practical	Techniques in Population Geography	04	03 HRS	10	40	50	03
V	DSE GE-SEC	Natural Disaster and Environmental Management	02	1.5 HRS	10	40	50	02
VI	DSC GE-3 Theory	Environmental Geography (OR) Regional Geography of North America. (Optional paper)	04	03 HRS	20	80	100	04
VI	DSC GE-3 Theory	Fundamentals of Geographical Information Systems. (OR) Regional Geography of Karnataka (Optional paper)	04	03 HRS	20	80	100	04
VI	DSC GE-1 Practical	GIS for Map Making	04	03 HRS	10	40	50	03
VI	DSE GE-SEC	Geography of Tourism	02	1.5 HRS	10	40	50	02

Prof.SHARADAMMA.S.B
Chairman
BOS in Geography (UG)
Tumkur University, Tumkur

Scheme of Valuation: Theory

CONTACT HOURS / WEEK	CREDITS	Scheme of Valuation: Max. Marks: 100 Continues Internal Assessment (IA)	Semester end Exam (SEE)
DSC-O4 HOURS	04	C1- TEST -10 MARKS C2- ASSIGNMENT/FIELD ACTIVITIES- 10 MARKS	C3-80 MARKS
DSC-O3 HOURS	03	C1- TEST -10 MARKS C2- ASSIGNMENT/FIELD ACTIVITIES- 05 MARKS	C3-80 MARKS
DSC-O2 HOURS	02	C1- TEST -10 MARKS	C3-40 MARKS

Scheme of Valuation: Practical

CONTACT HOURS / WEEK	CREDITS	Scheme of Valuation: Max. Marks: 100 Continues Internal Assessment (IA)	Semester end Exam (SEE)
DSC P-O4 HOURS	02	C1- TEST -05 MARKS C2- RECORD -05 MARKS	C3-40 MARKS

- Practical classes will be conducted in batches. Each batch will consist of

  1. 1 to 19 students supervised by one teacher.
  2. 20-29 students supervised by two teachers.

- In each semester 75% attendance is compulsory for both theory and practical classes.

Prof.SHARADAMMA.S.B
Chairman
BOS in Geography (UG)
Tumkur University, Tumkur

TUMKUR UNIVERSITY, TUMKUR
Bachelors of Arts and Science
Subject: GEOGRAPHY
QUESTION PAPER PATTERN- SEP V& VI SEMESTER SEP

Instructions:
1. Answer all parts
2. Draw maps and diagram wherever necessary.

Time: 03 hours Max Marks: 80

PART-A

I. Answer any FIVE question of the following. 5x2=10

1.
2.
3.
4.
5.
6.
7.

PART-B

II. Answer any SIX question of the following. 6x5=30

8.
9.
10.
11.
12.
13.
14.
15.

PART-C

III. Answer any FOUR question of the following. 4x10=10

16.
17.
18.
19.
20.
21.

Prof.SHARADAMMA.S.B
Chairman
BOE in Geography (UG)
Tumkur University, Tumkur

TUMKUR UNIVERSITY, TUMKUR
Bachelors of Arts and Science
Subject: GEOGRAPHY
QUESTION PAPER PATTERN- SEP V& VI SEMESTER

Instructions:

3. Answer all parts
4. Draw maps and diagram wherever necessary.

Time: 1.5 hours

Max Marks: 40

PART-A

I. Answer any FIVE question of the following. 5x2=10

1.
2.
3.
4.
5.
6.
7.

PART-B

II. Answer any FOUR question of the following. 4x5=20

8.
9.
10.
11.
12.
13.

PART-C

III. Answer any ONE question of the following. 1x10=10

14.
15.
16.

Prof.SHARADAMMA.S.B
Chairman
BOS in Geography (UG)
Tumkur University, Tumkur

Government of Karnataka

Curriculum

Program Name	BA / BSc in Geography	Semester	5
Course Title	Population Resources and Dynamics		
Course Code:	5.1	No. of Credits	4
Contact hours	60 Hours	Duration of SEA/Exam	3 hours
Formative Assessment Marks	20	Summative Assessment Marks	80

Course Pre-requisite(s): No Pre-requisite course(s)

Course Outcomes (COs): After the successful completion of the course, the student 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

Contents	60 Hrs
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.	10
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.	20
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.	15
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)	15

THEORY-PAPER- 5.1 A 'REGIONAL GEOGRAPHY OF ASIA EXCLUDING INDIA (OPTIONAL Paper)

60hrs

Unit-I 1. Asia in the context of the World.
2. Physical features climate, major river system and vegetation — 12 hrs

Unit-II 1. Mineral resources – Iron/ore, Manganese
2. Power Resources - Coal, Petroleum, Bauxite — 10 hrs

Unit-III 1. Agriculture - Geographical distribution and production of Crops - Rice, Sugarcane, Tea, Cotton, Rubber
2. Industries - Factors of Location, distribution and production of - Iron and Steel, cotton textile — 14 hrs

Unit-IV 1. Transport - Modes of transport and their network of roads, Railways, - Trans- Siberian; and Airways
2. Major international ports- Karachi, Colombo, Rangoon, Jakarta, Shanghai and Tokyo — 12 hrs

Unit-V Geographical account of the countries
a) China b) Japan
c) Srilanka d) Pakistan — 12 hrs

Reference:

1. Geography of Asia .•Dudley Stamp
2. Asia's Land and People - Cressey
3. The pattern of Asia - Ginsbury N.
4. Japan - Trewartha.
5. Far East - Nall
6. South East Asia - Fisher C.A .
7. The Middle East - Fisher W.B.
8. Geography of Asia - Shivakumar Tiwari
9. Monsoon Lands of Asia - Rawson B.C.
10. South Asia - Jpseph, B.L.C.

KannadaVersion:

11. Asia Pradeshika Bhoogolashastra- Dr.Gangaranath
12. Asia Pradeshika Bhoogolashastra –Prof.Mahadevappa

Government of Karnataka

Curriculum

Program Name	BA / BSc In Geography	Semester	V
Course Title	Fundamentals of Remote Sensing		
Course Code:	5.2	No. of Credits	04
Contact hours	60 Hours	Duration of SEA/Exam	3 hours
Formative Assessment Marks	20	Summative Assessment Marks	80

Course Pre-requisite(s): No Pre-requisite course(s)

Course Outcomes (COs): After the successful completion of the course, the student 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

Contents	60 Hrs
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).	15
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, hyperspectral 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.	20
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.	15
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.	10

V-SEMESTER

THEORY-PAPER-5.2/4 ECONOMIC GEOGRAPHY OF THE WORLD
[OPTIONAL PAPER]

Unit-I
1. Field and Scope of Economic Geography
2. Man and Environment – Study of Environmental factors and their influence on the Economic activities. 10 hrs.

Unit-II
1. Soil Resources-Types, distribution, Conservation, and soil-profile.
2. Marine Resources – Major Fishing Groups of the World, Production and Trade. 10 hrs.

Unit-III
1. Mineral Resources – Distribution, Production and Trade of Iron ore, Manganese, Bauxite.
2. Power Resources – Distribution, Production and Trade of Coal, petroleum, atomic minerals. 15 hrs.

Unit-IV
1. Agricultural Resources – Distribution, Production and trade of wheat, cotton, sugar-cane, coffee.
2. Major Manufacturing Industries, Iron and Steel, Cotton Textile and ship building. 15 hrs.

Unit-V
1. Transportation – Mode of transportation – trans – continental roadways and railways.
2. Major ocean routes – North Atlantic Oceanroute Suez and Panama canals. Major Ports-Shanghai, Singapore, Sydney & New York. 10 hrs.

Books Recommended:

1. Economic Geography – Alaxander, J.V.
2. Economic Geography – Jones C.F. and Darkenwald E.B.
3. Economic and Commercial Geography – Khanna & Gupta.
4. A new Approach to Economic Geography – Guha and Chattoraj.
5. Fundamentals of Economic Geography – Bangston and Van Royen.
6. Handbook of Economic Geography - Chisolm.
7. Economic and Industrial Geography –Smith and Russel.
8. World Resources and Resource Trade – Khanna & Gupta.
9. Economic and Commercial Geography – Chowdhari M.R.

Kannada Version :

1. Prapancha Arthika Bhugola Shastra – P. Mallappa.
2. Prapancha Arthika Bhugola Shastra – S.S. Nanjannavar.

Government of Karnataka
Curriculum

Program Name	BA / BSc In Geography	Semester	5
Course Title	Techniques In Population Geography	Practical Credits	02
Course Code	GEO C10-P	Contact Hours	40 Hours
Formative Assessment	10 Marks	Summative Assessment	40 Marks

Course Pre-requisite(s): No Pre-requisite course(s)

Course Outcomes (COs):
After the successful completion of the course, the student 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 dataCO5 Formulate the future trend of the data

1. Sources of population data: Census of India, UNPD (united nations population division), birth and death registry VSS (Vital statistics survey), NSS (National Sample Survey), NFHS (National Family and Health Survey),
2. Population distribution and density
   a) Thematic maps for population Distribution-patterns (dot map, Choropleth maps).
   b) Calculation of Population Growth rate,
   c) Calculation of population projection, arithmetic method,
   d) Calculation of population Density, arithmetic density, and agriculture density.
3. Calculation of different types of fertility and mortality rates for any one region Eg: India / Kamataka /District, using the Census of India latest data.
   a) Crude birth rate,
   b) General fertility rate, Total fertility rate
   c) Crude death rate/ Mortality rate, Infant mortality rate
   d) Age-specific mortality rate
   e) Sex-specific mortality rate
4. Thematic maps for Population composition: construction of population pyramids for Age, Sex, Rural and Urban, for important places on outline map Eg: India / Kamataka /District, using the Census of India latest data.

Course Articulation Matrix: Mapping of Course Outcomes (COs) with Program Outcomes (POs 1-15)

Course Outcomes (COs) / Program Outcomes (POs)	Program Outcomes (POs)											
	1	2	3	4	5	6	7	8	9	10	11	12
CO1	3	-	-	-	-	1	-	-	2	-	2	-
CO2	2	-	-	3	-	1	-	-	2	-	2	-
CO3	1	-	3	-	-	1	2	-	2	-	2	-
CO4	1	-	1	-	-	1	-	-	2	-	2	-
CO5	1	-	1	-	1	1	2	-	2	-	2	-

Pedagogy: Interactive Lectures, Inquiry-based Learning, Cooperative Learning.

Formative Assessment for Practical	
Assessment Occasion/ type	**Marks**
Sessional Tests-1	05
Practical Record Maintenance	05
Total	**10 Marks**
Formative Assessment as per guidelines.	

References	
1	Chandna R.C. (2009), Geography of Population, Kalyani Publicishers, Aneari Road, Daryaganj, New Delhi.
2	Majid Hussain (1999), Human Geography, Rawat publications, Jaipur.
3	Trewartha GT. (1959) A Geography of Population, world Patterns, John Wiley and Sons Inc. New York.
4	Ghosh BN. (1987) Fundamentals of population Geography s, sterling publishing company, New Delhi
5	Jingam ML. B.K. Bhat, JN Deasi (2003) Demography, Urinda Publishers Pvt. Ltd. Delhi.
6	R.K. Tripati ((2000) Population geography, commonwealth publishers, New Delhi.
7	Kayastha SL. (1998) Geography of Population, Rawat publications, jaipur.
8	Clerk I (1984) Geography of populations, approaches and applications, pergamon press, Oxford, UK.
9	Ritu Malik (2013), Changes in population Dynamics, Sanjay Prakashan
10	Prthvish Nag, G.C.Debnath (2021), Population Geography, Bharti Prakashan, Varanasi
	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

V SEMESTER – SKILL PAPER
NATURAL DISASTER AND ENVIRONMENTAL MANAGEMENT

No of Theory credits	No of Lecture hours/ semester	No of Practical credits	No of Practical classes
02	40	00	00

Course Outcomes:

1. Understand the basics concepts in Natural Disasters
2. Study types of Natural Disaster and their effects

Course Objectives – This course aims to:

1. The paper is intended to provide a general concept in the dimensions of disasters caused by nature beyond the human control.
2. Introduce a holistic classification of natural disasters considering the Earth Sciences.
3. Demonstrate the devastating effect off natural disasters to society.

Content of Theory Course

Unit-1: Introduction of Natural Disasters **12**

Meaning, Definition and Scope.
Lithosphere and Natural Disasters.
Earthquakes and Volcanoes.
Landslide and Avalanches.

Unit-2: Atmosphere and Natural Disasters **08**

Heat wave and Wildfire.
Cloud burst, Hailstorm.
Drought and Famines.

Unit-3: Hydrosphere and Natural Disasters **10**

Tsunami.
Hurricanes and Cyclones.
Floods and Flash Floods.

Unit-4: Biosphere and Natural Disasters **10**

Epidemics and Pandemics.
Covid-19 and its effects.
Techniques and technology to mitigate natural disasters.

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. Jobgir Singh: "Disaster Management: Future Challenges and Opportunities" K W Publishers Pvt.Ltd.
4. J.P Singh: "Disaster Management" Lakshmi Publications.
5. Shailesh Shukla- Sharma Hussain: "Biodiversity Environment and Disaster Management" Unique Publications.

Government of Karnataka

Curriculum

Program Name	BA / BSc In Geography	Semester	6
Course Title	Environmental Geography		
Course Code:	6.1	No. of Credits	4
Contact hours	60 Hours	Duration of SEA/Exam	3 hours
Formative Assessment Marks	20	Summative Assessment Marks	80

Course Pre-requisite(s): No Pre-requisite course(s)

Course Outcomes (COs): After the successful completion of the course, the student 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.

Contents	60 Hrs
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	10
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.	20
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.	15
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.	15

	Formative Assessment as per guidelines.

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/

VI-SEMESTER

THEORY-PAPER-6.1A REGIONAL GEOGRAPHY OF NORTH AMERICA
[OPTIONAL PAPER]

Credit - 04

60 HOURS

Unit-I Location, size, & Frontiers of North America.
Physical Features, Climate, Drainage, Vegetation and Soil — 15 hrs.

Unit-II Agriculture – Characteristics of American Agriculture
Agricultural regions of North America – Special reference to cotton belt and corn-belt of Prairie provinces. — 10 hrs.

Unit-III
1. Mineral Resources – Iron ore, Manganese.
2. Power Resources – Coal, Petroleum — 10 hrs.

Unit-IV
1. Industries – Distribution, factors of location, and production of iron and steel, cotton, textile, automobiles.
2. Fisheries – Distribution, Production and Trade — 10 hrs.

Unit-V
1. Transport and International Trade, Modes of Transport, Network – Roads, Railways, Waterways and Airways.
2. Population – Growth, Distribution and Density. — 15 hrs.

Books recommended:

1. Regional landscapes of United States of America and Canada – Birdsall, S.S.
2. North America - Patterson, J.H.
3. North America – Monkhonse F.J. and Clain.
4. North America – Smith J. Russels and Philips M.D.
5. North America – Its countries and Regions – Watson J.W.
6. Canada: A Geographical Interpretation – Warkentia, Joha.
7. Economic Geography – Alexander J.W.

Government of Karnataka

Curriculum

Program Name	BA / BSc in Geography	Semester	6
Course Title	Fundamentals of Geographic Information Systems		
Course Code:	6.2	No. of Credits	4
Contact hours	60 Hours	Duration of SEA/Exam	3 hours
Formative Assessment Marks	20	Summative Assessment Marks	80

Course Pre-requisite(s): No Pre-requisite course(s)

Course Outcomes (COs): After the successful completion of the course, the student 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.

Contents	60 hrs
Introduction: Definition, scope, of GIS in digital world; Components, functionalities, merits and demerits, global market. Interdisciplinary domains, and its integration with GIS.	10
Geodesy and Spatial Mathematics: Meaning scope of geodesy, geographical coordinates, latitude, longitudes; Datum: WGS-84, vs 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.	20
Data and Scale: Spatial Data and its structures; Sources and Types of data collection. Data errors, and relationships. Large Scale vs Small Scale; Generalization; precision and accuracy of data.	15
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.	15

VI-SEMESTER
THEORY-PAPER-6.2A-REGIONAL GEOGRAPHY OF KARNATAKA
(Optional Paper)

Credits-04

60hrs

Unit-I 1. Location, size and extent, relief features, drainage system and climate.
2. Resources - soils and forests. *14 hrs*

Unit-II 1. Irrigation - Major and minor irrigational schemes, multi purpose projects - Tungabhadra, Upper Krishna and KRISHNA RAJA SAGAR.
2. Agriculture - Major Crops
(i) Food crops - Paddy, Ragi, Jowar
(ii) Industrial crops - Cotton and Sugarcane
(iii) Beverage crop - Coffee *12 hrs*

Unit-III 1. Mineral Resources - Iron ore, Manganese and Gold
2. Power Resources - Hydroelectricity, Thermal Power, Kaiga nuclear plant *12 hrs*

Unit-IV 1. Industries - Iron and Steel, Sugar, Cement and Information Technology
2. Transportation-
(i) Roadways, Railways, Airways
(ii) Ports and harbours *12 hrs*

Unit-V 1. Population - Growth, density and distribution
2. Major urban centres - Bangalore, Mysore, Hubli, Dharwad and Mangalore *10 hrs*

Reference:

1. Geography of Mysore State - Mishra R.P.
2. Regional Geography of Karnataka - Reddy N.B.K., and Murthy
3. Geography of Karnataka- Ramachandra Rao
4. Geography of Karnataka - Mallappa P.
5. Geography of Karnataka- Nanjannavar S.S.
6. Karnataka Economy - Gamber S.G. and Nanjannavar S.S.
7. Planning Regions of Karnataka- Achyuthi Rao T.N.
8. Geography of Karnataka- Dr. Ranganath

Kannada Version

9. Karnataka Bhoogolashastra- Prof.M.B.Gowdara
10. Karnataka Bhoogolashastra Prof.P.Mallappa
11. Karnataka Bhoogolashastra Dr.Ranganath

Government of Karnataka

Curriculum

Program Name	BA / BSc in Geography	Semester	6
Course Title	GIS for map-making	Practical Credits	02
Course Code		Contact Hours	40 Hours
Formative Assessment	10 Marks	Summative Assessment	40 Marks

Practical Content

1. Draw manually point, line, and polygon using a toposheet
2. Draw vector structures from the toposheet with reference to settlements, roads, water bodies, etc.
3. Create raster structures of a portion of the toposheet using a graph sheet.
4. Downloading images from the internet portal (Bhuvan);
5. Different image formats
6. File management
7. Geo-referencing of toposheet
8. Digitize the Point line polygon, creating layers.
9. Buffer analysis,
10. proximity analysis,
11. Map layout, map composition, and map designing

Pedagogy: Interactive Lectures, Inquiry-based Learning, Cooperative Learning.

Formative Assessment for Practical	
Assessment Occasion/ type	**Marks**
Sessional Tests-1	05
Practical Record Maintenance	05
Total	**10 Marks**

Formative Assessment as per guidelines.

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)

VI- SEMESTER,

THEORY-PAPER-SEC GEOGRAPHY OF TOURISM

40hrs

Unit-I 1. Tourism - Meaning, Origin, Development and Significance of Tourism
2. Types of tourists - Domestic and Foreign — 8 hrs

Unit-II Factors influencing Tourism
a) Physical factors
b) Economic, Commercial and Socio-Cultural factors
c) Role of Government — 8 hrs

Unit-III Tourism Infrastructure
Accommodation, Transport and Communication and Supporting Services — 8 hrs

Unit-IV Tourism in Karnataka
a) Growth
b) Major Tourist Centers — 8 hrs

Unit-V Tourism Development in India (Excluding Karnataka)
a) Tourism Potential- Major tourist centers of India
b) Importance of Tourism in the Economy of India
c) Impact of Tourism on Environment in India — 8 hrs

Reference:

1. Tourism Development - Principles and Practices - Bhatia A.K.
2. A Geography of Tourism - Robinson H.,
3. Tourism in India. History and Development - Bhatia A.K.
4. Successful Tourism Planning and Management, New Delhi, - Cross Section Publications, Seth P.N.
5. 'Tourism Blessing or Blight - Young George
6. 'Hindu' Survey of Indian Environment' Since 1991, Hindu Annual Publications, Chennai,

KannadaVersion:

7. Karnataka Pravasodyama- Ondu Bhoogolika chinthane- Dr.Vodayar.A.K.
8. Parisara-Dr.Shivarama karantha
9. Bharathada Pravasodyama Ithihasa-Prof.P.Phalaksha.
10. Bharathada Pravasodyama Ithihasa-Dr.Shivarudraswamy.