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

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NAAC Accredited
'A' Grade 2014

website: kud.ac.in

No.KU/Aca(S&T)/RPH-394A/2021-22/1155 Date: 29 OCT 2021

ಅಧಿಸೂಚನೆ

ವಿಷಯ: 2021–22ನೇ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನಿಂದ ಎಲ್ಲ ಸ್ನಾತಕ ಕೋರ್ಸಗಳಿಗೆ 1 ಮತ್ತು 2ನೇ ಸೆಮೆಸ್ಟರ್ NEP-2020 ಮಾದರಿಯ ಪಠ್ಯಕ್ರಮವನ್ನು ಅಳವಡಿಸಿರುವ ಕುರಿತು.

ಉಲ್ಲೇಖ: 1. ಸರ್ಕಾರದ ಅಧೀನ ಕಾರ್ಯದರ್ಶಿಗಳು(ವಿಶ್ವವಿದ್ಯಾಲಯ 1) ಉನ್ನತ ಶಿಕ್ಷಣ ಇಲಾಖೆ ಇವರ ಆದೇಶ ಸಂಖ್ಯೆ: ಇಡಿ 260 ಯುಎನ್ಇ 2019(ಭಾಗ–1), ದಿ:7.8.2021.
2. ವಿಶೇಷ ವಿದ್ಯಾವಿಷಯಕ ಪರಿಷತ್ ಸಭೆಯ ನಿರ್ಣಯ ದಿನಾಂಕ: 19.08.2021
3. ಈ ಕಚೇರಿ ಸುತ್ತೋಲೆ ಸಂ.No. KU/Aca(S&T)/RPH-394A/2021-22/18 ದಿ:21.08.2021.
4. ಸರ್ಕಾರಿ ಆದೇಶ ಸಂ ಇಡಿ 260 ಯುಎನ್ಇ 2019(ಭಾಗ–1),ಬೆಂಗಳೂರು ದಿ. 15.9.2021.
5. ಎಲ್ಲ ಅಭ್ಯಾಸಸೂಚಿ ಮಂಡಳಿ ಸಭೆಗಳ ನಡವಳಿಗಳು
6. ಎಲ್ಲ ನಿಖಾಯಗಳ ಸಭೆಗಳು ಜರುಗಿದ ದಿನಾಂಕ: 24,25–09–2021.
7. ವಿಶೇಷ ವಿದ್ಯಾವಿಷಯಕ ಪರಿಷತ್ ಸಭೆಯ ನಿರ್ಣಯ ಸಂಖ್ಯೆ: 01 ದಿನಾಂಕ: 28.9.2021.
8. ಈ ಕಚೇರಿ ಸುತ್ತೋಲೆ ಸಂ.No. KU/Aca(S&T)/RPH-394A/2021-22/954 ದಿ:30.09.2021.
9. ಎಲ್ಲ ನಿಖಾಯದ ಡೀನರು / ಸಂಪನ್ಮೂಲ ತಜ್ಞರ ಸಭೆ ದಿನಾಂಕ 21.10.2021.
10. ಎಲ್ಲ ಸ್ನಾತಕ ಅಭ್ಯಾಸಸೂಚಿ ಮಂಡಳಿ ಅಧ್ಯಕ್ಷರುಗಳ ಸಭೆ ದಿನಾಂಕ 22.10.2021.
11. ವಿಶೇಷ ವಿದ್ಯಾವಿಷಯಕ ಪರಿಷತ್ ಸಭೆಯ ನಿರ್ಣಯ ಸಂಖ್ಯೆ: 01 ದಿನಾಂಕ: 27.10.2021.
12. ಮಾನ್ಯ ಕುಲಪತಿಗಳ ಆದೇಶ ದಿನಾಂಕ: 29-10-2021

ಮೇಲ್ಕಾಣಿಸಿದ ವಿಷಯ ಹಾಗೂ ಉಲ್ಲೇಖಗಳನ್ವಯ ಮಾನ್ಯ ಕುಲಪತಿಗಳ ಆದೇಶದ ಮೇರೆಗೆ, 2021–22ನೇ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನಿಂದ ಅನ್ವಯವಾಗುವಂತೆ, ಎಲ್ಲ B.A./ BPA (Music)/BVA/ BTTM/ BSW/ B.Sc./B.Sc. Pulp & Paper Science/ B.Sc. (H.M)/ BCA/ B.A.S.L.P./ B.Com/ B.Com (CS)/ & BBA ಸ್ನಾತಕ ಕೋರ್ಸಗಳ 1 ಮತ್ತು 2ನೇ ಸೆಮೆಸ್ಟರ್‌ಗಳಿಗೆ NEP-2020 ರಂತೆ ವಿಶೇಷ ವಿದ್ಯಾವಿಷಯಕ ಪರಿಷತ್ ಸಭೆಯ ಅನುಮೊದಿತ ಪಠ್ಯಕ್ರಮಗಳನ್ನು ಈಗಾಗಲೇ ಪ್ರಕಟಪಡಿಸಿದ್ದು, ಮುಂದೆ ದಿನಾಂಕ 04.10.2021 ವರೆಗೆ ಸರಕಾರವು ಕಾಲಕಾಲಕ್ಕೆ ನೀಡಿದ ನಿರ್ದೇಶನಗಳನ್ನು ಅಳವಡಿಸಿಕೊಂಡು ದಿನಾಂಕ 27.10.2021 ರಂದು ಜರುಗಿದ ವಿದ್ಯಾವಿಷಯಕ ಪರಿಷತ್ ಸಭೆಯಲ್ಲಿ ಅನುಮೊದನೆ ಪಡೆದು ಕ.ವಿ.ವಿ. ಅಂತರ್ಜಾಲ www.kud.ac.in ದಲ್ಲಿ ಭಿತ್ತರಿಸಲಾಗಿದೆ. ಸದರ ಪಠ್ಯಕ್ರಮಗಳನ್ನು ಕ.ವಿ.ವಿ. ಅಂತರ್ಜಾಲದಿಂದ ಡೌನಲೋಡ ಮಾಡಿಕೊಳ್ಳಲು ಸೂಚಿಸುತ್ತ ವಿದ್ಯಾರ್ಥಿಗಳ ಹಾಗೂ ಸಂಬಂಧಿಸಿದ ಎಲ್ಲ ಬೋಧಕರ ಗಮನಕ್ಕೆ ತಂದು ಅದರಂತೆ ಕಾರ್ಯಪ್ರವೃತ್ತರಾಗಲು ಕವಿವಿ ಅಧೀನದ/ಸಂಲಗ್ನ ಮಹಾವಿದ್ಯಾಲಯಗಳ ಪ್ರಾಚಾರ್ಯರುಗಳಿಗೆ ಸೂಚಿಸಲಾಗಿದೆ.

29/10/21
ಕುಲಸಚಿವರು.

ಅಡಕ: ಮೇಲಿನಂತೆ

ಗೆ,

ಕರ್ನಾಟಕ ವಿಶ್ವವಿದ್ಯಾಲಯದ ವ್ಯಾಪ್ತಿಯಲ್ಲಿ ಬರುವ ಎಲ್ಲ ಅಧೀನ ಹಾಗೂ ಸಂಲಗ್ನ ಮಹಾವಿದ್ಯಾಲಯಗಳ ಪ್ರಾಚಾರ್ಯರುಗಳಿಗೆ. (ಕ.ವಿ.ವಿ. ಅಂರ್ತಜಾಲ ಹಾಗೂ ಮಿಂಚಂಚೆ ಮೂಲಕ ಬಿತ್ತರಿಸಲಾಗುವುದು)

ಪ್ರತಿ:

1. ಕುಲಪತಿಗಳ ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿಗಳು, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
2. ಕುಲಸಚಿವರ ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿಗಳು, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
3. ಕುಲಸಚಿವರು (ಮೌಲ್ಯಮಾಪನ) ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿಗಳು, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
4. ಅಧೀಕ್ಷಕರು, ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆ / ಗೌಪ್ಯ / ಜಿ.ಎ.ಡಿ. / ವಿದ್ಯಾಂಡಳ (ಪಿ.ಜಿ.ಪಿಎಚ್.ಡಿ) ವಿಭಾಗ, ಸಂಬಂಧಿಸಿದ ಕೋರ್ಸುಗಳ ವಿಭಾಗಗಳು ಪರೀಕ್ಷಾ ವಿಭಾಗ, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
5. ನಿರ್ದೇಶಕರು, ಕಾಲೇಜು ಅಭಿವೃದ್ಧಿ / ವಿದ್ಯಾರ್ಥಿ ಕಲ್ಯಾಣ ವಿಭಾಗ, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.

Practical Subject

KARNATAK UNIVERSITY, DHARWAD

04 - Year B.A./B.Sc. (Hons.) Program

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SYLLABUS

Subject: GEOGRAPHY

[Effective from 2021-22]

DISCIPLINE SPECIFIC CORE COURSE (DSCC) FOR SEM I & II,

OPEN ELECTIVE COURSE (OEC) FOR SEM I & II and

SKILL ENHANCEMENT COURSE (SEC) FOR SEM I

AS PER N E P - 2020

Karnatak University, Dharwad

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

Effective from 2021-22

Sem	Type of Course	Theory/ Practical	Instruction hour per week	Total hours of Syllabus / Sem	Duration of Exam	Formative Assessment Marks	Summative Assessment Marks	Total Marks	Credits
I	DSCC 1	Theory	04hrs	56	02 hrs	40	60	100	04
		Practical	04 hrs	52	03 hrs	25	25	50	02
	OEC-1	Theory	03 hrs	42	02 hrs	40	60	100	03
	*SEC-1	Practical	03 hrs	30	02 hrs	25	25	50	02
II	DSCC2	Theory	04 hrs	56	02 hrs	40	60	100	04
		Practical	04 hrs	52	03 hrs	25	25	50	02
	OEC-2	Theory	03 hrs	42	02 hrs	40	60	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**

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 – I

Subject: Geography
Discipline Specific Course (DSC)

The course of B.A/ B. Sc in I semester has two papers (Theory Paper –I for 04 credits & Practical Paper -II for 2 credits) for 06 credits: Both the papers are compulsory. Details of the courses are as under.

Course No.-1 (Theory)

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
Course-01	DSCC	Theory	04	04	56 hrs	2hrs	40	60	100

Course No.1 (Theory): Title of the Course (Theory): Principles of Geomorphology

Course Outcome (CO):

After completion of course (Theory), 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**.**

Syllabus- Course 1(Theory): Title : Principles of Geomorphology	**Total Hrs: 56**
Unit-I : Introduction of Geomorphology	**14 hrs**
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.	
Unit-II : Systems and Cycles of the Solid Earth	**14 hrs**
Internal structure of the earth. Alfred Wegener's Continental Drift. Theory of Isostacy: 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.	

Unit-III: The Dynamics of Earth	**14 hrs**
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.	
Unit-IV: Evolution of Landforms	**14 hrs**
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).	

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. Brunsden D. (1985) Geomorphology in the Service of Man: The Future of Geography, Methnen, 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 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.

B.A / B.Sc. Semester – I

Subject: Geography
Discipline Specific Course (DSC)

Course No.-1 (Practical)

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
Course-01	DSCC	Practical	02	04	52 hrs	3hrs	25	25	50

Course No.1 (Practical): Title of the Course (Practical): **Morphological Analysis**

Course Outcome (CO):

After completion of course (Practical), 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.

List of the Experiments for 52 hrs / Semesters

1. Identification of Mineral samples: Iron ore, Bauxite ore and Manganese.
2. Identification of Rock Samples: Granite, Basalt, Lime Stones, Sandstone, quartzite, and marble.
3. Extraction and interpretation of geomorphic information from Topographical maps.
4. Preparation of contour map from Toposheets.
5. Construction of Relief Profiles-serial, Super imposed, Projected and Composite.
6. Slope Maps (Wentworth method),Slope (isotan and isosin) and aspects, maps and Hypsometric curve and integral.
7. Drainage Morphometry: delineation of watershed, stream ordering.
8. Morphometric analysis: mean stream length, drainage density and drainage frequency.

General instructions:

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

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

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

Total 25 marks

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

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. Brunsden D. (1985) Geomorphology in the Service of Man: The Future of Geography, Methnen, 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.

B.A / B.Sc. Semester – I

Subject: Geography
Open Elective Course (OEC-1)
(OEC for other students)

Course No.	Type of Course	Theory / Practical	Credits	Instruction hour per week	Total No. of Lectures/Hours / Semester	Duration of Exam	Formative Assessment Marks	Summative Assessment Marks	Total Marks
OEC-1	OEC	Theory	03	03	42 hrs	2hrs	40	60	100

OEC-1: Title of the Course: **Introduction to Physical Geography**

Course Outcome (CO):

After completion of 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.

Syllabus- OEC: Title : Introduction to Physical Geography	**Total Hrs: 42**
Unit-I : Shape ,Structure of the earth Surface, rocks and Agents of denudation.	**14 hrs**
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.	
Unit-II: Structure, Composition of Atmosphere	**14 hrs**
Structure and Composition of Atmosphere. **We**ather and Climate. Atmospheric Temperature, Heat Budget of the atmosphere Atmospheric Pressure, Winds and Precipitation	

Unit-III: Ocean Floor.	**14 hrs**
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.	

Books recommended:

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.Kisalaya publication, New Delhi
4. R.N.Tikka (2002) Physical Geography. KedarnathRamnath&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://oxfordbibilographies.com

https://ncrt.nic.in

https://www.nationalgeographic.org.

https://researchguide.deartmath.edn

https://journals.sagepub.com

B. A / B.Sc. Semester - I

Subject: Geography
SKILL ENHANCEMENT COURSE (SEC)-I

Title of Paper: Geographical Statistics

Type of Course	Theory / Practical	Credits	Instruction hour per week	Total No. of Lectures/Hours / Semester	Mode of Examination	Duration of Exam	Formative Assessment Marks	Summative Assessment Marks	Total Marks
SEC-I	Theory + Practical	02	03hrs	30	Practical	2hr	25	25	50

Course Outcome (CO):

After completion of Skill Enhancement 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.

List of the Experiments for 52 hrs / Semesters

1. Methods of data collection, sources of the data and sampling methods.
2. Processing the data, tabulation and formation of frequency.
3. Measures of Central Tendency and its significance.
4. Calculation of Mean for grouped and ungrouped data.
5. Calculation of Median for grouped and ungrouped data.
6. Calculation of Mode for grouped and ungrouped data.
7. Measures of Dispersion and its importance.
8. Calculation of Quartile Deviation for grouped and ungrouped data.
9. Calculation of Mean Deviation for grouped and ungrouped data.
10. Calculation of Standard Deviation for grouped and ungrouped data.

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

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

Total 25 marks

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

Note: Same Scheme may be used for IA(Formative Assessment) examination

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 Publiscations, New Delhi.
3. Gupta CB. (1979): An introduction to statistical methods, Vika publishing house pvt. Ltd. New Delhi.
4. Murray R. Spiegal (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

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

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

Faculty of Social Science / Science and Technology
04 - Year UG Honors programme: 2021-22
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.

B.A / B.Sc. Semester – II

Subject: Geography
Discipline Specific Course (DSC)

The course Geography in I semester has two papers (Theory Paper –I for 04 credits & Practical paper-II for 2 credits) for 06 credits: Both the papers are compulsory. Details of the courses are as under.

Course No.-2 (Theory)

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
Course-02	DSCC	Theory	04	04	56 hrs	2hrs	40	60	100

Course No.2 (Theory): Title of the Course (Theory): **Principles of Climatology**

Course Outcome (CO):

After completion of course (Theory), students will be able to:

CO 1 : To define the field of climatology and to understand the atmospheric composition and structure.

CO 2 : To outline the mechanism and process of solar radiation transfer to earth surface and to ex- plain the temperature distribution and variation according to time and space.

CO 3 : To illustrate and explain the air pressure system, wind regulating forces and the formation of the Atmospheric Disturbance.

CO 4 : To understand and compute the air humidity as well as to explain the process of Condensation and formation of precipitation and its types.

CO 5 : To understand the principles of climatology and explain in detail.

Syllabus- Course 2(Theory): Title : Principles of Climatology	**Total Hrs: 56**
Unit-I : Composition and Structure of the Atmosphere	**14 hrs**
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.	
Unit-II : Atmospheric Temperature	**14 hrs**
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 Enegry Budget: Incoming shortwave solar radiation, Outgoing Longwave Terrestrial radiation, Albedo. Net Radiation and Latitudinal Heat Balances.	

Unit-III : Atmospheric Pressure and Winds	14 hrs
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.	
Unit-IV : Atmospheric Moisture	**14 hrs**
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.	

Books recommended:

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

B.A / B.Sc. Semester – II

Subject: Geography
Discipline Specific Course (DSC)

Course No.-2 (Practical)

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
Course-02	DSCC	Practical	02	04	52 hrs	3hrs	25	25	50

Course No.2 (Practical): Title of the Course (Practical) : **Weather Analysis**

Course Outcome (CO):

After completion of course (Practical), 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 dray Bulb thermometer for measuring humidity.

CO 5 : To interprete the daily weather map seasonally.

List of the Exercises for 52 hrs / Semesters

1. Structure and functions of the Indian Meteorological Department (IMD). Collection of temperature data from IMD website.
2. Plotting of downloaded temperature data using graphical methods-line graph.
3. Centigrade and Fahrenheit thermometer for measuring temperature.
4. Mercurial Barometer and Aneroid Barometer for measuring atmospheric pressure.
5. Wind Vane and cup-anemometer.
6. Wet and Dry bulb thermometer for measuring humidity,
7. Rainguage- Dial type for measuring rainfall and Rainfall Trend Analysis (monthly and annual).
8. Interpretation of Indian Daily Weather charts Seasonally.

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.

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

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

Total 25 marks

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

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.
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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

B.A / B.Sc. Semester – II

Subject: Geography
Open Elective Course (OEC-2)
(OEC for other students)

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

OEC-2: Title of the Course: **Basics of Natural Disasters**

Course Outcome (CO):

After completion of course, students will be able to:

CO 1 : To define the natural disasters related to Lithosphere.

CO 2 : To identify the different types of atmospheric disasters and their impact.

CO 3 : To identify the different types of atmospheric disasters and their impact.

CO 4 : To define the biospheric disasters and their impact.

Syllabus- OEC: Title : Basics of Natural Disasters	**Total Hrs: 42**
Unit-I : Introduction to Natural Disaster	**14 hrs**
Meaning, definition and scope of natural disaster. Lithosphere and Natural Disasters. Earthquakes, volcanoes, Landslides and Avalanches.	
Unit-II : Atmosphere and Hydrosphere Natural Disasters	**14 hrs**
Meaning and importance of Atmosphere causes for natural disaster. Heat wave and wild fire. Cloud burst, hailstorm. Drought and famines. Meaning and importance of hydrosphere and causes of natural disaster. Tsunami, Hurricanes and cyclones. Floods and flash floods.	
Unit-III : Biospher and Natural Disasters	**14 hrs**
Significance of biosphere and causes of natural disasters. Epidemics and pandemics. Covid -19 and its effects. Techniques and technology to mitigate natural disasters.	

Books recommended:

1. 1. Dr. MrinaliniPandey 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. ShaileshShukla, ShamnaHussain Biodiversity, Environment and Disaster Management Unique Publications
6. C. K. Rajan, NavalePandharinath Earth and Atmospheric Disaster Management : Nature and Manmade B S Publication.

Websites:

https://www.naturalgeographic.com
https://www.cdc.gov.
https://www.n-d-a.org
https://askatechteacher.com
https://ndma.gov.in

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

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

Faculty of Science
04 - Year UG Honors programme:2021-22

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

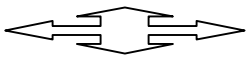
2. Question number 07- 11 carries 05Marks each. Answer any 04 questions : 20 marks

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
ವಿದ್ಯಾಮಂಡಳ (ಎಸ್&ಟಿ) ವಿಭಾಗ

ಸ್ವಾತಂತ್ರ್ಯದ ಅಮೃತ ಮಹೋತ್ಸವ

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website: kud.ac.in

No. KU/Aca(S&T)/SSL-394A/2022-23/1056 Date: 23 SEP 2022

ಅಧಿಸೂಚನೆ

ವಿಷಯ: 2022–23ನೇ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನಿಂದ ಎಲ್ಲ ಸ್ನಾತಕ ಕೋರ್ಸಗಳಿಗೆ 3 ಮತ್ತು 4ನೇ ಸೆಮೆಸ್ಟರ್ NEP-2020 ಮಾದರಿಯ ಪಠ್ಯಕ್ರಮವನ್ನು ಅಳವಡಿಸಿರುವ ಕುರಿತು.

ಉಲ್ಲೇಖ: 1. ಸರ್ಕಾರದ ಅಧೀನ ಕಾರ್ಯದರ್ಶಿಗಳು(ವಿಶ್ವವಿದ್ಯಾಲಯ 1) ಉನ್ನತ ಶಿಕ್ಷಣ ಇಲಾಖೆ ಇವರ ಆದೇಶ ಸಂಖ್ಯೆ: ಇಡಿ 260 ಯುಎನ್ಇ 2019(ಭಾಗ–1), ದಿ:7.8.2021.
2. ವಿಜ್ಞಾನ & ತಂತ್ರಜ್ಞಾನ ನಿಖಾಯ ಸಭೆಯ ಠರಾವುಗಳ ದಿನಾಂಕ: 06.09.2022
3. ವಿಶೇಷ ವಿದ್ಯಾವಿಷಯಕ ಪರಿಷತ್ ಸಭೆಯ ನಿರ್ಣಯ ಸಂ. 01, ದಿನಾಂಕ: 17.09.2022
4. ಮಾನ್ಯ ಕುಲಪತಿಗಳ ಆದೇಶ ದಿನಾಂಕ: 22-09-2022

ಮೇಲ್ಕಾಣಿಸಿದ ವಿಷಯ ಹಾಗೂ ಉಲ್ಲೇಖಗಳನ್ವಯ ಮಾನ್ಯ ಕುಲಪತಿಗಳ ಆದೇಶದ ಮೇರೆಗೆ, 2022–23ನೇ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನಿಂದ ಅನ್ವಯವಾಗುವಂತೆ, **ವಿಜ್ಞಾನ & ತಂತ್ರಜ್ಞಾನ** ನಿಖಾಯದ ಎಲ್ಲ ಸ್ನಾತಕ ಕೋರ್ಸಗಳ ರಾಷ್ಟ್ರೀಯ ಶಿಕ್ಷಣ ನೀತಿ (NEP)-2020 ರಂತೆ 3 ಮತ್ತು 4ನೇ ಸೆಮೆಸ್ಟರ್‌ಗಳಿಗಾಗಿ ವಿಶೇಷ ವಿದ್ಯಾವಿಷಯಕ ಪರಿಷತ್ ಸಭೆಯ ಅನುಮೋದಿತ ಪಠ್ಯಕ್ರಮಗಳನ್ನು ಪ್ರಕಟಪಡಿಸಿದ್ದು, ಸದರ ಪಠ್ಯಕ್ರಮಗಳನ್ನು ಕ.ವಿ.ವಿ. www.kud.ac.in ಅಂತರ್ಜಾಲದಿಂದ ಡೌನಲೋಡ ಮಾಡಿಕೊಳ್ಳಲು ಸೂಚಿಸುತ್ತಾ, ವಿದ್ಯಾರ್ಥಿಗಳು ಹಾಗೂ ಸಂಬಂಧಿಸಿದ ಎಲ್ಲ ಬೋಧಕರ ಗಮನಕ್ಕೆ ತಂದು ಅದರಂತೆ ಕಾರ್ಯಪ್ರವೃತ್ತರಾಗಲು ಕವಿವಿ ಅಧೀನದ / ಸಂಲಗ್ನ ಮಹಾವಿದ್ಯಾಲಯಗಳ ಪ್ರಾಚಾರ್ಯರುಗಳಿಗೆ ಸೂಚಿಸಲಾಗಿದೆ.

ಕುಲಸಚಿವರು.

ಅಡಕ: ಮೇಲಿನಂತೆ

ಗೆ,
ಕರ್ನಾಟಕ ವಿಶ್ವವಿದ್ಯಾಲಯದ ವ್ಯಾಪ್ತಿಯಲ್ಲಿ ಬರುವ ಎಲ್ಲ ಅಧೀನ ಹಾಗೂ ಸಂಲಗ್ನ ಮಹಾವಿದ್ಯಾಲಯಗಳ ಪ್ರಾಚಾರ್ಯರುಗಳಿಗೆ. (ಕ.ವಿ.ವಿ. ಅಂತರ್ಜಾಲ ಹಾಗೂ ಮಿಂಚಂಚೆ ಮೂಲಕ ಬಿತ್ತರಿಸಲಾಗುವುದು)

ಪ್ರತಿ:

1. ಕುಲಪತಿಗಳ ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿಗಳು, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
2. ಕುಲಸಚಿವರ ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿಗಳು, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
3. ಕುಲಸಚಿವರು (ಮೌಲ್ಯಮಾಪನ) ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿಗಳು, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
4. ಅಧೀಕ್ಷಕರು, ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆ / ಗೌಪ್ಯ / ಜಿ.ಎ.ಡಿ. / ವಿದ್ಯಾಂಡಳ (ಪಿ.ಜಿ.ಪಿಎಚ್.ಡಿ) ವಿಭಾಗ, ಸಂಬಂಧಿಸಿದ ಕೋರ್ಸುಗಳ ವಿಭಾಗಗಳು ಪರೀಕ್ಷಾ ವಿಭಾಗ, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
5. ನಿರ್ದೇಶಕರು, ಕಾಲೇಜು ಅಭಿವೃದ್ಧಿ / ವಿದ್ಯಾರ್ಥಿ ಕಲ್ಯಾಣ ವಿಭಾಗ, ಕ.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	Instructionhour per week	Total hours of Syllabus / Sem	Duration of Exam	FA Marks	SA Marks	Total Marks	Credits
III	**DSCC- T 3 033GEO011**	Theory	04hrs	56	02 hrs	40	60	100	04
	DSCC-P3 033GEO012	Practical	04 hrs	52	03 hrs	25	25	50	02
	OEC 3 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 includingdefinitions.

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

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

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

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

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

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

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

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

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

B.A / 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**
Chapter No. 1: Nature, scope and growth of human geography, Branches in human geography. Themes in Geography, man-environment debate in human Geography. **Chapter No. 2:** Approaches to man-environment relationship: Environmental Determinism and Possibilism, Neo-determinism (stop and go determinism). **Chapter No. 3:** Approaches to study human geography: Descriptive approach Regional approach, Areal Differentiation approach and spatial organization approach. Quantitative revolution and locational analysis. Welfare or Humanistic approach, Radical approach, Behavioral approach. Regional Synthesis.	
Unit – 2 : Cultural Patterns and Process:	**14**
Chapter No. 4. Concept of Culture, Material and Non-material culture Cultural Regions, culturalTraits and Complexes, cultural Hearths. Major cultural realms of the world. **Chapter No. 5.** Race: Characteristics and classification. Broad racial groups of the world and theirdistribution. Linguistic and ethnic diversity. **Chapter No. 6.** Major Religions and their Distribution: Hinduism, Christianity, Islam and Buddhism. **Assignment:** Students will have to select nearby area and study religions and their characteristics and submit the report.	
Unit – 3: Human Economic Activities:	**14**
Chapter No. 7. Primary Economic Activities. Agriculture: Primitive Subsistence, Intensivesubsistence, Plantation Agriculture, Extensive Commercial grain cultivation, Mixed Farming, Dairy Farming. Forestry, fishing and mining. **Chapter No. 8.** Secondary Activities: Manufacturing – Cotton Textile and Iron & Steel. Concept of Manufacturing Region. Industrial Regions of the world. New Industrial Policy. **Chapter No. 9.** Tertiary Activities: Trade and commerce, Retail Trading services, wholesale trading. Trade balance and trade policy. Major tribes, tribal areas and their problems.	
Unit – 4 : Population, Transport & Communication & Settlements:	**14**
Chapter No. 10. Population: Resource Relationships and regional resource development**.** Transport and communications: Factors, Types and Distribution of Roads, Railway, airway and waterways. Services: Formal and Informal sector. Information technology.	

Chapter No. 11. Urban Settlements: Origin and evolution, hierarchy, trends and patterns of urbansettlements. Urban morphology. Concept of Primate City and rank size rule. Functional classification of towns, Rural-urban fringe. **Chapter No. 12.** Problems and remedies ofurbanization. Central Place theory Rural Settlements – types, patterns and factors influencing on distribution. **Field Study:** Students have to study human resource development in local area and prepare a report.	

References:

1. Dickens and Pitts (1963) Introduction to Human Geography,
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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	Instructio nhour per week	Total No. of Lectures/Hours / Semester	Duration of Exam	Formative Assessment Marks	Summative Assessmen t Marks	Total Marks
Course-III	DSCC-P3 **033GEO012**	Practical	02	04	52 hrs	3hrs	25	25	50

Course Objectives:

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

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

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

Content of Practical Course Conduct all exercises with Goal, Procedure, devices, findings and diagram.	**52 Hrs**
Unit –1: Maps and Maps Scales:	
Exercise-1: **Maps:** Definition, Elements of maps (scale, direction, map projection, conventional signs and symbols, legend), Types of maps, Uses of maps.	**06**
Exercise-2: **Map Scales:** Definition and Types- Verbal Scale (VS), Representative Fraction (RF),Graphical Scale.	**06**
Exercise-3: Conversion of scale - VS into RF and RF into VS (Minimum 2 examples each), Exercise on measuring distance on map and converting map distance into grounddistance.	**06**
Exercise-4: Field-based Activity: Students are to be prepared a report by reading of maps in thefield and collection of data and its representation.	**10**
Unit – 2 : Map Projections:	
Exercise-5: Meaning and purpose of latitudes and longitude. Map Projections: Classification of map projections and their properties.	**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 standardparallel.	
Exercise-8: Construction of the Zenithal projections - Zenithal Polar Gnomonic Projection. Introduction to UTM Projection.	**08**

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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
OEC-III	**OEC 3** **003GEO051**	Theory	03	03	42 hrs	2hrs	40	60	100

Course Objectives:

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

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

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

Content of OE 3Theory 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 Significanceof Agriculture, Types of farming. **Chapter No. 5.** Agro Climatic Regions of India Agricultural Crops: Rice, Wheat, Sugarcane, cotton, Tea and Coffee. **Chapter No. 6.** Green Revolution, White Revolution, Blue revolution, Blue Revolution. **Assignment:** Selecting a mining / quarrying / industrial region students have to study the locational factors and prepare a report.	
Unit – 3: Minerals, Energy Resources and Industries:	**10**
Chapter No. 7. Significance and locational factors. Distribution of Iron ore, Manganese, Bauxite, Coal, Petrol. **Chapter No. 8.** Distribution and production of industries: Cotton Textile, Jute, Iron and Steel,Aluminum and Paper. **Chapter No. 9.** Special Economic Zones	

Unit – 4 : Transportation and Communication in Regional Development:	12
Chapter No. 10. Roadways, Railway, airways waterways. **Chapter No. 11.** Ports and National Water Ways **Chapter No. 12.** Indian Space Programmes.	

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   Allahabad – UP.
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4. Tiwari RC. (2008) Geography of India, Prayagpustak Bhavan, 20-A, University Road, Allahabad- UP.
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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**
Chapter No. 1: Location, size and extent. Major physiographical regions (northern mountains, northern great plains, peninsular plateau and coastal plains and islands) and their characteristics. **Chapter No.2:** Climate: Seasonal weather characteristics, climatic zones. Mechanism andcharacteristics of Indian monsoons; Tropical cyclones and western disturbances**.** **Chapter No. 3:** Floods and droughts. Drainage system. Soil: types, erosion and conservation. Vegetation: Types, distribution, afforestation, social forestry programs, national parks, wildlife sanctuaries, and biosphere reserves.	
Unit – 2 : Water and Agricultural Resources:	**14**
Chapter No. 4. Water resources of India, surface and groundwater, water demand and utilization. Irrigation: Sources, types and intensity. Issues and challenges: water resources scarcity, **Chapter No. 5.** Water conservation and management. watershed management, rain water harvesting, recycle and reuse of water. Interlinking of rivers. National water policies, national water mission, Jalashakti Abhiyaan. Command area development and water management. Central Water Commission and Water Tribunal and their role. **Chapter No. 6.** Agriculture: Landuse and cropping pattern – meaning and concepts, landuse and cropping Patten in India, agro-climatic regions, green revolution – causes and effects, hunger index and malnutrition; food security and right to food to achieve Zero hunger and Good Health and Wellbeing. **Assignment:** Selecting a region students have to study the locational factors nearby industry and prepare a report.	
Unit – 3: Industries, transportation and communication:	**14**
Chapter No. 7. Locational factors of industries, major industrial regions and their characteristics, Classification of Industries: Agro-based, mineral-based, forest-based and animal-based industries. Special Economic Zones: Industrial / economic corridor. **Chapter No. 8.** Transport & Communication: Significance, growth and development – Road ways, railway, waterway, airway and pipeline networks and their complementary andcompetition. **Chapter No. 9.** Communication: Means of communication their significance.	
Unit – 4 : Human Resource:	**14**
Chapter No. 10. Growth, distribution and density of population. **Chapter No. 11.** Composition of population: Age, sex, rural-urban population composition. Migration: meaning, factors, types, causes and consequences. **Chapter No. 12.** Human Development in India: Measures, levels of development based on HDI,Human Gender Development Index (GDI) **Field Study:** Selecting a region / district students have to examine the levels of Human Development using HDI and prepare a report.	

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5. https://dpiit.gov.in/
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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	Instructio nhour per week	Total No. of Lectures/Hours / Semester	Duration of Exam	Formative Assessment Marks	Summative Assessmen t Marks	Total Marks
Course-III	DSCC-P4 **033GEO012**	Practical	02	04	52 hrs	3hrs	25	25	50

Course Objectives:

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

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

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

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

References:

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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
OEC-III	OEC **4** **003GEO051**	Theory	03	03	42 hrs	2hrs	40	60	100

Course Objectives:

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

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

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

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

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

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

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

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

GENERAL PATTERN OF THEORY QUESTION PAPER FOR DSCC/ OEC

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

Part-A

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

Part-B

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

Part-C

3. Question number 12-15 carries 10 Marks each. Answer any 03 questions : 30 marks
   (Minimum 1 question from each unit and 10 marks question may have sub questions for 7+3 or 6+4 or 5+5 if necessary) **Total: 60 Marks**

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

Scheme of Practical Examination

(distribution of marks): 25 marks for Semester endexamination.

Sl. NO	Scheme of Practical Examination	Allotted Marks
1.	Interpretation and Analysis	15 Marks (5X3)
2	Viva-Voce	05 Marks
3	Journal	05 Marks
	Total	**25 Marks**

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

KARNATAK UNIVERSITY, DHARWAD
ACADEMIC (S&T) SECTION

ಕರ್ನಾಟಕ ವಿಶ್ವವಿದ್ಯಾಲಯ, ಧಾರವಾಡ
ವಿದ್ಯಾಮಂಡಳ (ಎಸ್&ಟಿ) ವಿಭಾಗ

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No. KU/Aca(S&T)/JS/MGJ(Gen)/2023-24/59 Date: 04/09/2023

ಅಧಿಸೂಚನೆ

ವಿಷಯ: 2023–24ನೇ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನಿಂದ ಎಲ್ಲ ಸ್ನಾತಕ ಪದವಿಗಳಿಗೆ 5 ಮತ್ತು 6ನೇ ಸೆಮೆಸ್ಟರ್ NEP-2020 ಪಠ್ಯಕ್ರಮವನ್ನು ಅಳವಡಿಸಿರುವ ಕುರಿತು.

ಉಲ್ಲೇಖ: 1. ಸರ್ಕಾರದ ಅಧೀನ ಕಾರ್ಯದರ್ಶಿಗಳು(ವಿಶ್ವವಿದ್ಯಾಲಯ 1) ಉನ್ನತ ಶಿಕ್ಷಣ ಇಲಾಖೆ ಇವರ ಆದೇಶ ಸಂಖ್ಯೆ: ಇಡಿ 104 ಯುಎನ್ಇ 2023, ದಿ: 20.07.2023.

2. ವಿದ್ಯಾವಿಷಯಕ ಪರಿಷತ್ ಸಭೆಯ ನಿರ್ಣಯ ಸಂಖ್ಯೆ: 2 ರಿಂದ 7, ದಿ: 31.08.2023.

3. ಮಾನ್ಯ ಕುಲಪತಿಗಳ ಆದೇಶ ದಿನಾಂಕ: 04/09/2023

ಮೇಲ್ಕಾಣಿಸಿದ ವಿಷಯ ಹಾಗೂ ಉಲ್ಲೇಖಗಳನ್ವಯ ಮಾನ್ಯ ಕುಲಪತಿಗಳ ಆದೇಶದ ಮೇರೆಗೆ, 2023–24ನೇ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನಿಂದ ಅನ್ವಯವಾಗುವಂತೆ, ಎಲ್ಲ B.A./ BPA (Music) /BVA / BTTM / BSW/ B.Sc./B.Sc. Pulp & Paper Science/ B.Sc. (H.M)/ BCA/ B.A.S.L.P./ B.Com/ B.Com (CS) / BBA & BA ILRD ಸ್ನಾತಕ ಪದವಿಗಳ 5 ಮತ್ತು 6ನೇ ಸೆಮೆಸ್ಟರ್‌ಗಳಿಗೆ NEP-2020ರ ಮುಂದುವರೆದ ಭಾಗವಾಗಿ ವಿದ್ಯಾವಿಷಯಕ ಪರಿಷತ್ ಸಭೆಯ ಅನುಮೋದಿತ ಕೋರ್ಸಿನ ಪಠ್ಯಕ್ರಮಗಳನ್ನು ಕ.ವಿ.ವಿ. ಅಂತರ್ಜಾಲ www.kud.ac.in ದಲ್ಲಿ ಭಿತ್ತರಿಸಲಾಗಿದೆ. ಸದರ ಪಠ್ಯಕ್ರಮಗಳನ್ನು ಕ.ವಿ.ವಿ. ಅಂತರ್ಜಾಲದಿಂದ ಡೌನಲೋಡ ಮಾಡಿಕೊಳ್ಳಲು ಸೂಚಿಸುತ್ತ ವಿದ್ಯಾರ್ಥಿಗಳ ಹಾಗೂ ಸಂಬಂಧಿಸಿದ ಎಲ್ಲ ಬೋಧಕರ ಗಮನಕ್ಕೆ ತಂದು ಅದರಂತೆ ಕಾರ್ಯಪ್ರವೃತ್ತರಾಗಲು ಕವಿವಿ ಅಧೀನದ/ಸಂಲಗ್ನ ಮಹಾವಿದ್ಯಾಲಯಗಳ ಪ್ರಾಚಾರ್ಯರುಗಳಿಗೆ ಸೂಚಿಸಲಾಗಿದೆ.

04/9/23
ಕುಲಸಚಿವರು.

ಅಡಕ: ಮೇಲಿನಂತೆ

ಗೆ,
ಕರ್ನಾಟಕ ವಿಶ್ವವಿದ್ಯಾಲಯದ ವ್ಯಾಪ್ತಿಯಲ್ಲಿ ಬರುವ ಎಲ್ಲ ಅಧೀನ ಹಾಗೂ ಸಂಲಗ್ನ ಮಹಾವಿದ್ಯಾಲಯಗಳ ಪ್ರಾಚಾರ್ಯರುಗಳಿಗೆ. (ಕ.ವಿ.ವಿ. ಅಂರ್ತಜಾಲ ಹಾಗೂ ಮಿಂಚಂಚೆ ಮೂಲಕ ಬಿತ್ತರಿಸಲಾಗುವುದು)

ಪ್ರತಿ:

1. ಕುಲಪತಿಗಳ ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿಗಳು, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
2. ಕುಲಸಚಿವರ ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿಗಳು, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
3. ಕುಲಸಚಿವರು (ಮೌಲ್ಯಮಾಪನ) ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿಗಳು, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
4. ಅಧೀಕ್ಷಕರು, ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆ / ಗೌಪ್ಯ / ಜಿ.ಎ.ಡಿ. / ವಿದ್ಯಾಂಡಳ (ಪಿ.ಜಿ.ಪಿಎಚ್.ಡಿ) ವಿಭಾಗ, ಸಂಬಂಧಿಸಿದ ಕೋರ್ಸುಗಳ ವಿಭಾಗಗಳು ಪರೀಕ್ಷಾ ವಿಭಾಗ, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
5. ನಿರ್ದೇಶಕರು, ಕಾಲೇಜು ಅಭಿವೃದ್ಧಿ / ವಿದ್ಯಾರ್ಥಿ ಕಲ್ಯಾಣ ವಿಭಾಗ, ಕ.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	CourseTitle	Instruction hour/ week	Total hours / sem	Duration of Exam	Marks			Credits
								Formative	Summative	Total	
V	DSCC-9	Theory	**035 GEO 011**	Population Resources and Dynamics	04hrs	56	02 hrs	40	60	100	04
	DSCC-10	Practical	**035 GEO 012**	Techniques in Population Geography	04 hrs	56	03 hrs	25	25	50	02
	DSCC-11	Theory	**035 GEO 013**	Fundamentals of Remote Sensing	04hrs	56	02 hrs	40	60	100	04
	DSCC-12	Practical	**035 GEO 014**	Interpretation of Aerial Photos and Satellite Images	04 hrs	56	03 hrs	25	25	50	02
	SEC-3	Practical	**035 GEO 061**	Fundamentals of Cartography	04hrs	56	03 hrs	25	25	50	02
	Total										**26**
VI	DSCC-13	Theory	**036 GEO 011**	Environmental Geography	04hrs	56	02 hrs	40	60	100	04
	DSCC-4	Practical	**036 GEO 012**	Methods in Environmental Geography	04 hrs	56	03 hrs	25	25	50	02
	DSCC-15	Theory	**036 GEO 013**	Fundamentals of Geographic Information Systems	04hrs	56	02 hrs	40	60	100	04
	DSCC-16	Practical	**036 GEO 014**	GIS for Map-Making	04 hrs	56	03 hrs	25	25	50	02
	Internship-1		**036 GEO 091**	Internship/ Mini Project/ Field Based Report				50	0	50	02
	Total										**26**

Karnatak University, Dharwad

B.A. in **Geography**

Effective from 2023-24

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

B.A/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. Tripati ((2000) Population geography, commonwealth publishers, New Delhi.
7	Kayastha SL. (1998) Geography of Population, Rawat publications, jaipur.
8	Clerk I (1984) Geography of populations, approaches and applications, pergamon press, Oxford, UK.
9	Ritu Malik (2013), Changes in population Dynamics, Sanjay Prakashan
10	Prthvish Nag, G.C.Debnath (2021), Population Geography, Bharti Prakashan, Varanasi
11	Nanjannavar.S.S (2017) : Janasankhya Bhugola Shastra, Prabhu Publications, Dharwad.
	Resource Websites:
1	https://censusindia.gov.in/census.website/
2	https://mea.gov.in/icm.htm
3	https://population.un.org/wpp/
4	https://www.popcouncil.org/research/india
5	https://www.cdc.gov/csels/dsepd/ss1978/lesson3/section3.html

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

B.A/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. Tripati ((2000) Population geography, commonwealth publishers, New Delhi.
7	Kayastha SL. (1998) Geography of Population, Rawat publications, jaipur.
8	Clerk I (1984) Geography of populations, approaches and applications, pergamon press, Oxford, UK.
9	Ritu Malik (2013), Changes in population Dynamics, Sanjay Prakashan
10	Prthvish Nag, G.C.Debnath (2021), Population Geography, Bharti Prakashan, Varanasi
11	Nanjannavar.S.S (2017) : Janasankhya Bhugola Shastra, Prabhu Publications, Dharwad.
	Resource Websites:
1	https://censusindia.gov.in/census.website/
2	https://mea.gov.in/icm.htm
3	https://population.un.org/wpp/
4	https://www.popcouncil.org/research/india
5	https://www.cdc.gov/csels/dsepd/ss1978/lesson3/section3.html

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

The same shall be used for semester end Examination

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

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

B.A/ 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. 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.
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1	Remote Sensing: https://nptel.ac.in/courses/105/108/105108077/
2	Introduction to Remote Sensing: https://nptel.ac.in/courses/121/107/121107009/
3	Digital Image Processing of Remote Sensing Data: https://nptel.ac.in/courses/105/107/105107160/
4	Remote Sensing and GIS: https://nptel.ac.in/courses/105/103/105103193/
5	Remote Sensing Essentials: https://nptel.ac.in/courses/105/107/105107201/
6	Remote Sensing: Principles and Applications: https://nptel.ac.in/courses/105/101/105101206/
7	Basics of Remote sensing, GIS & GNSS technology and their applications:
8	https://onlinecourses.swayam2.ac.in/aic20_ge05/preview
9	http://rst.gsfc.nasa.gov/Front/tofc.html.
	Web Resources
1	Projections: https://map-projections.net/imglist.php
2	Textbook of Canadian Remote Sensing: https://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/earthsciences/pdf/resource/tutor/fundam/pdf/fundamentals_e.pdf
3	ITC Netherlands, Principles of Remote Sensing https://webapps.itc.utwente.nl/librarywww/papers_2009/general/principlesremotesensing.
4	Pdf http://earthobsevatory.nasa.gov/Library/RemoteSensing
5	https://earthexplorer.usgs.gov/
6	https://bhuvan.nrsc.gov.in/home/index.php
7	https://map-projections.net/imglist.php

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

The same shall be used for semester end Examination

BA/ 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: Constriction of the Projections.
CO4: Understand the 2d and 3d Views.
CO5: Construct the map based on the cartographic principles.

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

References

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

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

The same shall be used for semester end Examination

B.A./ 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.
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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.
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20	Cheryl Simon Silve& Ruth S. De Fries (1991) One Earth One Future-Our chaining Global Environment, National Academy of Sciences, Affiliated to East-West Press Pvt. Ltd. New Delhi.
21	Strahler A.N. and Strahler A.H. (1977) Geography and Man's Environment, John Wiley & Sons, New York
22	Goldsmith Edward et al. (1988) The Earth Report – The Essential Guide to Global Issues, Price Stern Solan Inc. California, USA
23	Nanjannavar.S.S (2017): Parisara Bhugolshastra, Prabhu Publications, Dharwad.
	Websites:
1	https://moef.gov.in/en/
2	http://environmentclearance.nic.in/
3	https://ndma.gov.in/
4	https://bhuvan.nrsc.gov.in/home/index.php
5	http://www.indiaenvironmentportal.org.in/

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

B.A/ 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: Identity micro-Biomes in the local region.

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

CO 4: Identify the waste disposal sites

CO 5: Handle GPS in field.

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

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.
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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/

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

The same shall be used for semester end Examination

B.A/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. Aera, perimeter, length by coordinates and various international measures. **Assignment:** students need to prepare hand drawn maps with the help of graticules.	**14**
Unit III	**Data and Scale:** Spatial Data and its structures; Sources and Types of data. Collection, Data errors and relationships. Large Scale V/S small scale; Generalization precision and accuracy data.	**14**
Unit IV	**Geo-processing and Visualization**: Spatial and Non-Spatial Queries; Proximity analysis, Preparation of Terrain and Surface models. Hotspot and density mapping. Types of maps, thematic maps and its types, relief maps, flow maps and cartograms. Tabulations: Graphs and Pivot tables. **Case Study:** Students need to collect available spatial and non-spatial data of all the talukas of their districts from online resources.	**14**

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

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

B.A/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**
Formative Assessment as per guidelines.	

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**
Formative Assessment as per guidelines.	

Internship:

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

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

Note;

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

UG Programme: 2023-24

GENERAL PATTERN OF THEORY QUESTION COURSE FOR DSCC/ OEC

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

Part-A

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

Part-B

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

Part-C

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

Total: 60 Marks

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