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/ 954

Date: 30 SEP 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 ಸಂಖ್ಯೆ ಇಡಿ 260 ಯುಎನ್ಇ 2019(ಭಾಗ–1), ಬೆಂಗಳೂರು ದಿನಾಂಕ: 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. ಮಾನ್ಯ ಕುಲಪತಿಗಳ ಆದೇಶ ದಿನಾಂಕ: 30.09.2021

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 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.

ಅಡಕ: ಮೇಲಿನಂತೆ

30/09/21

(ಡಾ. ಹನುಮಂತಪ್ಪ ಕೆ.ಟಿ.)
ಕುಲಸಚಿವರು.

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 / ಔಪ್ಯ / ಜಿ.ಎ.ಡಿ. / ವಿದ್ಯಾಮಂಡಳ (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

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

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SYLLABUS

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.Sc. (Hons.)

Effective from 2021-22

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

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

KARNATAK UNIVERSITY
DHARWAD
Syllabus for under Graduate Programme in GEOGRAPHY
B. A. / B.Sc. (BASIC/ HONS) GEOGRAPHY, 2021-22.
Particulars of the Semester wise Theory and Practical Papers and paper codes

Semester	Paper Code	Title of the Paper	Course
I	Geog. T 1.1	Principles of Geomorphology	DSC
	Geog. Pr. 1.1	Morphological Analysis	DSC
	Geog. OE T. 1.2	Physical Geography	O E
	Geog. Pr. 1.2	Geographical Statistics	SEC
II	Geog. T 2.1	Principles of Climatology	DSC
	Geog. Pr. 2.1	Weather Analysis	DSC
	Geog. OE. T 2.2	Basics of Natural Disaster.	O E
	Geog. T 2.3	Environmental Studies	AECC

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

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

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

SEMESTER I

Title of the Course: GEOG. T 1.1: Principles of Geomorphology

Credits: 04 **Maximum Marks: 70 + 30 IA Marks.**

Teaching Hours: 56 **04 Hours per week.**

Duration of exam: 3 hrs.

Course Objectives:

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

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

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

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

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

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./ (BASIC/ HONS) GEOGRAPHY

SEMESTER I

Title of the Course: GEOG. Pr. 1.1: MORPHOLOGICAL ANALYSIS:

Credits: 02 **Maximum Marks: 35 + 15 IA Marks.**

Teaching Hours: 52 **04 Hours per week.**

Duration of exam: 3 hrs.

Course Objectives:

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

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

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

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

Text Books:

1. Ahmed 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.

SEMESTER I

Title of the Course: OE 1.1: Introduction to Physical Geography.

Credits: 03 **Maximum Marks: 70 + 30 IA Marks.**

Teaching Hours: 44 **03 Hours per week.**

Duration of exam: 3 hrs.

Course Objectives:

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

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

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

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

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

References

1. B.S. Negi (1993) Physical Geography. S.J. Publication, Meerut
2. D.S.Lal (1998) Climatology.Chaitnya publishing house, Allahabad
3. K. Siddhartha (2001) Atmosphere, Weather and Climate.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

SEMESTER I

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

Credits: 02 **Maximum Marks: 35+15 IA Marks.**

Teaching Hours: 30 **01 Therory+02Practical =3 Hours per week.**

Duration of exam: 3 hrs.

Course Objectives:

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

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

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

SEC– 1.1 Practical: Basic Statistics.	**30 Hrs**
Introduction to Statistics: Definition, Scope and Importance of Statistics in Geographical Studies. Exercise No. 1: Methods of data collection, sources of the data and sampling methods. Exercise No. 2: Processing the data, tabulation and formation of frequency. Exercise No. 3: Measures of Central Tendency and its significance. Exercise No. 4: Calculation of Mean for grouped and ungrouped data. Exercise No. 5: Calculation of Median for grouped and ungrouped data. Exercise No. 6: Calculation of Mode for grouped and ungrouped data. Exercise No. 7: Measures of Dispersion and its importance. Exercise No. 8: Calculation of Quartile Deviation for grouped and ungrouped data. Exercise No. 9: Calculation of Mean Deviation for grouped and ungrouped data. Exercise No. 10: Calculation of Standard Deviation for grouped and ungrouped data.	

References:

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

SEMESTER II

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

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

Credits: 04 **Maximum Marks: 70 + 30 IA Marks.**

Teaching Hours: 56 **04 Hours per week.**

Duration of exam: 3 hrs.

Course Objectives:

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

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

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

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

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

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:

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

Websites:

https://science.jrank.org

https://www.clearias.com

https://www.nationalgeographic

https://www.space.com

https://www.noaa.gov

https://www.climate.nasa.gov

https://www.weather.gov

https://www.cengage.com

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

Title of the Course: GEOG. Pr. 2.1: WEATHER ANALYSIS
Credits: 02 **Maximum Marks: 35 + 15 IA Marks.**
Teaching Hours: 52 **04 Hours per week.**
Duration of exam: 3 hrs

Course Objectives:

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

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

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

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

Rainguage- Dial type for measuring rainfall and Rainfall Trend Analysis (monthly and annual). **Exercise-5:** Interpretation of Indian Daily Weather charts Seasonally. ***Note: Students are expected to download weather charts of the four Seasons.***	**12**

Reference:

1. Lutgens, Frederic K. & Tarbuck, Edward J. (2010). The Atmosphere: An Introduction to Meteorology. New Jersey: Pearson Prentice Hall.
2. Oliver, John E. & Hidore, John J. (2003). Climatology: An Atmospheric Science. Delhi: Pearson Education.
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5. Critchfield, H.J., (1975): general Climatology, Prentice Hall, New Jersey.
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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
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https://www.climate.nasa.gov
https://www.weather.gov
https://www.cengage.com

SEMESTER II

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

Credits: 03 **Maximum Marks: 70 + 30 IA Marks.**
Teaching Hours: 44 **03 Hours per week.**
Duration of exam: 3 hrs.

Course Objectives:

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

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

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

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

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

References

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

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

GENERAL PATTERN OF THEORY QUESTION PAPER FOR DSCC / OEC
(70marks for semester end Examination with 3 hrs duration)

Part-A

1. Question number 1-6 carries 2 marks each. Answer any 05 questions : 10 marks

Part-B

2. Question number 7- 14 carries 05Marks each, Answer any 06 questions : 30 marks

Part-C

3. Question number 15-18 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: 70 Marks

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