



# **BENGALURU CITY UNIVERSITY**

**CHOICE BASED CREDIT SYSTEM**

**(as per SEP 2024)**

## **Syllabus for I & II Semester B.A / B.Sc. Geography**

**2024-25**

# Proceedings

## of curriculum and syllabus for B.A/B.Sc. Geography Under Graduate Program in Geography


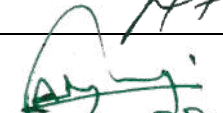

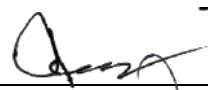

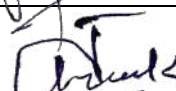
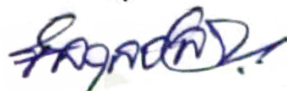
As per the guidelines issued in the Government of Karnataka order No: ED 166 UNE 2023 Bengaluru, Date: 08/05/2024, to implement the State Education Policy, the BOS, Geography UG Committee meeting was held on 27<sup>th</sup> and 28<sup>th</sup> of June 2024 in the Central College, Bangalore City University at 10.30 am. The BOS meeting is conveyed to discuss and finalize curricula and syllabus for Three Years under Graduate Program commencing during 2024-25 for I & II Semesters and also to discuss and finalize the total structure of the Geography course for whole BA/BSc Programme.

At the outset **Prof. Rajasekaran D**, Professor and Chairman BOS UG, HOD, Department of Geography, Govt. First Grade College, Ramanagram-562159, Welcomed the Committee Members for the meeting and informed that University has directed to conduct BOS meeting to approve **Curriculum and Syllabus for B. A. / B. Sc. Geography Under Graduate Program** in Geography to be commenced in 2024-25 which has been designed on par with the guidelines given in the above-mentioned SEP implementation order.

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

Item	Recommendations of the Committee
1 Approval of the curriculum and syllabus for B. A / B. Sc. Geography Under Graduate Programme in Geography to be commenced in 2024-25 (I & II Sem)	The BOS Committee resolved curriculum and Syllabus for B. A / B. Sc. Geography Under Graduate Programme in Geography to be commenced in 2024-54 (I & II Sem.)
2 Approval of Curriculum Structure for B. A / B. Sc. Geography Under Graduate Programme in Geography.	The BOS Committee resolved Curriculum Structure for B. A / B. Sc. Geography Under Graduate Programme in Geography.

**Prof. Rajasekaran D**, Professor and Chairman, BOS assured that the recommendations of the committee will be submitted to the University for further processing. The meeting concluded with vote of thanks.

Members of BOS Committee		
	Name, designation and address	Signature
1.	<b>Prof. Rajasekaran D</b> , Professor and HOD, Department of Geography, Govt. First Grade College, Ramanagara	
2.	<b>Dr. Ashok Hanjagi</b> , Professor and Chairman, Department of Geography, Bangalore University, Bangalore - 560056	
3.	<b>Dr. Surendra P.</b> , Assistant Professor, Department of Geography, Bangalore University, Bangalore - 560056	
4.	<b>Dr. Shivamurthy H. N</b> , Associate Professor, Department of Geography, Govt. Arts College, Bangalore-01	
5.	<b>Jagadeesha N</b> , Assistant Professor, Department of Geography, Govt. Arts College, Bangalore-01	
6.	<b>Dr. L. T. Naik</b> , Associate Professor, Department of Geography, Karnataka Science College, Dharwad - 58001	
7.	<b>Sri. K N Mahadevaprasad</b> , Department of Geography, Maharani's Arts College for Women, Mysore -570006	

  
**Prof. Rajasekaran D**  
Professor and Chairman, BOS, UG  
Bangalore City University

## Syllabus Aims:

The aims of the syllabus describe the B.A. / B.Sc in Geography at Undergraduate Level. These aims outline the educational context in which syllabus content should be viewed. Many of these aims may be delivered by the use of suitable case-studies, through application of geographical skills and through practical field visits.

The BA. / B.Sc Geography syllabus aims to enable students to:

1. Know the significance of scale in studying geography
2. Know the processes functioning at various scales within physical and human environments
3. Improve a sense of space, place and location
4. Develop consciousness of the relevance of geography to understanding and solving contemporary environmental problems
5. Realization of the main fundamentals of physical geography and human geography and the interconnectedness between them
6. Explain the causes and effects of change over space and time on physical and human environments
7. Develop an insight into the nature, value, limitations and importance of different approaches to analyze and explanation in geography
8. Increase the knowledge and ability to use and apply appropriate skills and techniques including fieldwork
9. Improve a logical approach in order to present a structured, coherent and evidence-based argument
10. Develop a concern for accuracy and objectivity in extracting, recording, processing, presenting, analyzing and interpreting geographical data

PROGRAMME OUTCOMES		
PO1	Geographical Knowledge	Give an explanation of relevant terms and concept of geography including definitions
PO2	Project Management	Recognize geographical principles, theories and models to manage projects and achieve its objectives.
PO3	Problem Analysis	Find solution to environmental and Human problems
PO4	Modern Tool	Application of modern tools and techniques to interpret how processes bring changes in systems, distributions and environments.
PO5	Research of Complex Problems	Apply research-based knowledge to provide valid conclusions and demonstrate skill of analysis and synthesis of geographical information.
PO6	Communication	Communicate effectively by identifying human activities and use geographical data to identify trends and patterns.
PO7	Design / development of solutions	Carry out investigation into the complex and interactive nature of physical and human environments.
PO8	Geography and Society	To inspect the environmental and societal issues and compare between the places, environments and people.
PO9	Multi-disciplinary Settings	Assemble geographical evidence, ideas and arguments with multi-disciplinary setting.
PO10	Ethics	Develop ethical principles and commit to professional ethics and responsibilities and norms of scientific practices.
PO11	Life-long Learning	Understand the effects of geographical processes and change on physical and human environments and life-long learning of geographical studies.
PO12	Environment and Sustainability	Assess how the viewpoints of different groups of people, potential conflicts of interest and other factors interact in the management of physical and human environments to bring environmental sustainability.

**Regulations**

- To be eligible to take "GEOGRAPHY" as one of the optional subjects at the U.G. level, a student must have completed a pre-university course or an equivalent course.
- The subject "GEOGRAPHY" for this scheme must be taught by a Master's degree holder in Geography.
- Geography at the undergraduate level consists of six semesters, with six theory papers and six practical papers, including two electives in both the III and IV semesters.
- Each theory paper consists of 100 marks (80 for theory + 20 for internal assessment).
- Each practical paper consists of 50 marks (40 for practical + 10 for internal assessment).
- Each theory paper will have a minimum of 56 hours of teaching, and each practical paper will have a minimum of 56 hours of teaching per semester.
- The duration of each semester is 18 weeks, excluding the examination period.
- Practical classes will be conducted in batches. Each batch will consist of:
  - 1 to 19 students supervised by one teacher.
  - 20 to 29 students supervised by two teachers.
- Each batch, regardless of the number of students, will be supervised by the appropriate number of teachers to ensure proper instruction, supervision of practical activities, and correction of records.
- In each semester, 75% attendance is compulsory for both theory and practical classes.

**Programme Structure**

Semester	Paper Code	Title of the Paper	Type of the Paper	Hours/Week	Duration of Exam (Hours)	IA	Exam	Total Marks	Credits
I	DSCGE101	Principles of Geomorphology	DSC	4	3	20	80	100	3
	DSCGEP101	Landscape Analysis Techniques	DSCP	3	3	10	40	50	2
II	DSCGE201	Principles of Climatology	DSC	4	3	20	80	100	3
	DSCGEP201	Meteorological Techniques	DSCP	3	3	10	40	50	2
III	DSCGE301	Human Geography	DSC	4	3	20	80	100	3
	DSCGEP301	Map Projections	DSCP	3	3	10	40	50	2
	ELGE3.1	Introduction to Physical Geography	Elective	3	2	15	35	50	2
	ELGE3.2	Introduction to Karnataka Geography	Elective	3	2	15	35	50	2
IV	DSCGE401	Geography of India	DSC	4	3	20	80	100	3
	DSCGEP401	Cartographic Techniques	DSCP	3	3	10	40	50	2
	ELGE4.1	Introduction to Indian Geography	Elective	3	2	15	35	50	2
	ELGE4.2	Introduction to World Regional Geography	Elective	3	2	15	35	50	2
V	DSCGE501	GIS and Remote Sensing	DSC	4	3	20	80	100	3
	DSCGEP501	Techniques in GIS and Remote Sensing	DSCP	3	3	10	40	50	2
VI	DSCGE601	World Economic Geography	DSC	4	3	20	80	100	3
	DSCGEP601	Quantitative Techniques in Geography	DSCP	3	3	10	40	50	2

Note: All the DSC Courses are compulsory. Students can choose any one elective in III and IV semester.

**Question Paper Pattern:**

The Theory exam will be conducted for 80 Marks and it consists of 3 Parts namely short, medium and long answer questions.

Part – A Each question carries 2 marks and student has to answer 10 questions out of 12.

Part – B Each question carries 5 marks and student has to answer 6 questions out of 8.

Part – C Each question carries 10 marks and student has to answer 3 questions out of 5.

Program Name	<b>BA / BSc in Geography</b>	Semester	<b>I</b>
Course Title	<b>Principles of Geomorphology</b>		
Course Code:	<b>DSCGE101</b>	No. of Credits	<b>3</b>
Contact hours	<b>56 Hours</b>	Duration of SEA/Exam	<b>3 hours</b>
Formative Assessment Marks	<b>20</b>	Summative Assessment Marks	<b>80</b>

**Course Outcomes (COs):** After the successful completion of the course, the student will be able to:

- CO 1. Describe and explain physical and human geography, geomorphology, and the geological time scale.  
CO 2. Analyze and interpret Earth's internal structure and key geological theories.  
CO 3. Evaluate and report on recent volcanic and earthquake events.  
CO 4. Differentiate and assess rock characteristics, types, and the rock cycle, along with weathering and mass movements.  
CO 5. Investigate and describe landform evolution and denudation agents through a local landscape field study report.

#### Syllabus

**56 Hrs**

<b>Introduction:</b> Introduction to Geography: Physical and Human Geography; Introduction to Geomorphology: Meaning, Development and Scope; Principles of Geomorphology; Geological Time Scale; Distribution of Continents and Oceans.	10
<b>Systems and Cycles of the Solid Earth:</b> Internal Structure of The Earth; Alfred Wegener's Continental Drift Theory; Isostasy: Views of Pratt and Airy; Convectional Current Theory; Concept of Sea Floor Spreading; Plate Tectonics; Earth's Movements: Endogenetic and Exogenetic forces; <b>Case Study:</b> Volcano, Earthquake: reporting of latest incidents.	17
<b>The Dynamics of Earth:</b> Folds and Faults; Vulcanicity and Earthquake; Rocks: Characteristics, types, importance, and rock cycle; Weathering: meaning, types and controlling factors; Mass Movement: meaning, controlling factors, types.	14
<b>Evolution of Landforms:</b> 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; Groundwater, Sea Waves, Wind and Glaciers and Resultant Landforms; Drainage Patterns. <b>Field Study:</b> Write a report about any local landscape.	15

#### Formative Assessment for Theory

Assessment type	Marks
Sessional Tests	10
Seminars / Presentations / Assignment / Case study / Field-Study / Project work etc.	10
<b>Total</b>	<b>20 Marks</b>

Program Name	<b>BA / BSc in Geography</b>	Semester	<b>I</b>
Course Title	<b>Landscape Analysis Techniques</b>	Practical Credits	<b>02</b>
Course Code	<b>DSCGEP101</b>	Contact Hours	<b>42 Hours</b>
Formative Assessment	<b>10 Marks</b>	Summative Assessment	<b>40 Marks</b>

**Course Outcomes (COs):** After the successful completion of the course, the student will be able to:

- CO 1. Identify and classify rock and mineral samples using their properties.  
CO 2. Calculate and analyze the specific gravity and density of rocks.  
CO 3. Construct and interpret various types of relief profiles.  
CO 4. Create and evaluate hypsometric curves and integrals.  
CO 5. Conduct and analyze watershed morphometry and stream ordering.

- Exercise 1. Identification of Rocks and Minerals. Rock Samples: Granite, Basalt, Lime Stones, Sandstone, quartzite and marble.  
Exercise 2. Calculation of Specific Gravity and Density of Rocks.  
Exercise 3. Construction of Relief Profiles - Serial, Super imposed, Projected & Composite Profiles.  
Exercise 4. Delineation of Watershed.  
Exercise 5. Hypsometric Curve and Integral, Dissection Index and Melton Ruggedness Number.  
Exercise 6. Stream Ordering and Morphometric Analysis: Mean Stream Length, Drainage Density and Drainage Frequency.  
Exercise 7. Construction of longitudinal profile of a stream.  
**Field Study:** Measurement of channel cross-sections in the field.

**Formative Assessment for Practical**

<b>Assessment type</b>	<b>Marks</b>
Sessional Tests-1/Lab Activity	05
Case study / <b>Field-Study</b> / Project work etc.	05
<b>Total</b>	<b>10 Marks</b>

**Textbooks**

1. Ahmed E. (1985) Geomorphology, Kalyani Publishers, New Delhi.
2. Singh, Savindra. Geomorphology. Kalyani Publication, 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 Nanjannavar, Physical Geography (Kannada Version)

**References**

1. Bloom A.L. (1978) Geomorphology: A Systematic Analysis of Late Cenozoic Landforms Prentice – Hall of India, New Delhi.
2. Brunnsden D. (1985) Geomorphology in the Service of Man: The Future of Geography, Methnen, U.K.
3. Chorley, R.J., Schumm, S. A. and Sugden, D.E. 1984: Geomorphology, Methuen, London
4. Cooke, R.U. and Warren, 1973: Geomorphology in Deserts, Bats ford, London
5. Dayal, P. 1996: Textbook of Geomorphology, Shukla Book Depot, Patna.
6. Goudie Anrew et.al. (1981) Geomorphological Techniques, George Allen & Unwin, London.
7. Homes A. (1965) Principles of Physical Geology, 3rd Edition, ELBSS Edn.
8. Strahler A.N. (1968) The Earth Sciences, Harper & Row Intl. Edn, New York
9. Thornberry W.D. (1969) Principles of Geomorphology 2nd Edition, Wiley Intl. Edn. & Wiley, 1984.
10. Verstappen H. (1983) Applied Geomorphology, Geomorphological Surveys for Environmental Development, Elsevier, Amsterdam

**Reference Websites**

1. <http://www.solarviews.com/eng/earth.htm>
2. <http://www.moorlandschool.co.uk/earth/tectonic.htm>
3. <https://www.usgs.gov/>
4. <https://www.ksndmc.org/>

Program Name	<b>BA / BSc in Geography</b>		Semester	<b>II</b>
Course Title	<b>Principles of Climatology</b>			
Course Code:	<b>DSCGE201</b>	No. of Credits	<b>3</b>	
Contact hours	<b>56 Hours</b>	Duration of SEA/Exam	<b>3 hours</b>	
Formative Assessment Marks	<b>20</b>	Summative Assessment Marks	<b>80</b>	
<b>Course Outcomes (COs):</b> After the successful completion of the course, the student will be able to: CO 1. Describe and explain climatology, including weather vs. climate, and atmospheric structure and composition. CO 2. Analyze and interpret climatic data on temperature, pressure, insolation, and global energy budget. CO 3. Evaluate and report on factors influencing winds, humidity, precipitation, fog, and clouds. CO 4. Classify and assess global climates using Koppen and Thornthwaite's methods, and evaluate climate change theories. CO 5. Conduct and present a field study on data collection methods at a local weather station.				
<b>Syllabus</b>				<b>56 Hrs</b>
<b>Introduction:</b> Nature and Scope of Climatology; Atmospheric Sciences: Climatology and Meteorology; Determinants and Difference between Weather and Climate; Origin of the Atmosphere; Structure of the Atmosphere; Composition of the atmosphere. <b>Assignment:</b> Students have to collect the climatic data of their native town and prepare a report.				14
<b>Temperature and Pressure:</b> Insolation and Factors affecting the Insolation; Heating and Cooling Process of the Atmosphere; Distribution of the temperature: Vertical and Horizontal; Inversion of temperature; Global Energy Budget; Influencing Factors on Atmospheric Pressure; Distribution of the Atmospheric Pressure; Pressure Gradient.				15
<b>Winds and Humidity:</b> Influencing Factors of Winds, Types; Tri-cellular Meridional Circulation; Jet Streams; Humidity: Sources (Hydrological Cycle); Humidity Measurements; Stability and Instability; Types of Precipitation, Fog and Clouds; Air Masses and Fronts.				17
<b>Global Climate:</b> Classification of Climate – Koppen and Thornthwaite's Classification; Climate Change - Theories of Climate Change, Causes and Consequences, <b>Field Activity:</b> Students will have to visit and study a local area Weather Station and prepare report on how it gathers data and sends to the main station.				10
<b>Formative Assessment for Theory</b>				
<b>Assessment type</b>			<b>Marks</b>	
Sessional Tests			10	
Seminars / Presentations / Assignment / Case study / Field-Study / Project work etc.			10	
<b>Total</b>			<b>20 Marks</b>	
Program Name	<b>BA / BSc in Geography</b>		Semester	<b>II</b>
Course Title	<b>Meteorological Techniques</b>		Practical Credits	<b>02</b>
Course Code	<b>DSCGEP201</b>		Contact Hours	<b>42 Hours</b>
Formative Assessment	<b>10 Marks</b>	Summative Assessment	<b>40 Marks</b>	
<b>Course Outcomes (COs):</b> After the successful completion of the course, the student will be able to: CO 1. Understand and explain the principles of thermometers, barometers, wind vanes, cup-anemometers, and rain gauges. CO 2. Collect and analyze temperature and rainfall data from the IMD website. CO 3. Create and interpret various climatic diagrams to visualize weather data. CO 4. Measure and calculate relative humidity and dew point using relevant instruments and charts. Interpret and assess Indian daily weather charts and conduct a field study to measure weather elements.				
Exercise 1. Working Principles of Thermometers, Barometers, Wind Vane, Cup-Anemometer and Rain Gauge Exercise 2. Collection of temperature data from IMD website – Max, Min and Avg Temperature, Monthly Rainfall Exercise 3. Plotting of downloaded data into Climatic Diagrams: Climograph, Hythergraph, Ombrothermic Diagrams and Ergo Graph. Exercise 4. Measuring RH and Dew Point using Wet and Dry Bulb Thermometer and Psychrometric chart. Exercise 5. Interpretation of Indian Daily Weather charts – Pressure Conditions and Pressure Gradient Exercise 6. Interpretation of Indian Daily Weather charts – Wind Direction, Wind rose, Wind Velocity Exercise 7. Interpretation of Indian Daily Weather charts – Cloud Condition. <b>Field Study:</b> Measurement of Weather Elements of a given place with the Weather Instruments.				

**Formative Assessment for Practical**

<b>Assessment type</b>	<b>Marks</b>
Sessional Tests-1/Lab Activity	05
Case study / <b>Field-Study</b> / Project work etc.	05
<b>Total</b>	<b>10 Marks</b>

**Textbooks**

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 Nanjannavara, Physical Geography (Kannada Version)

**References**

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)