VishwavidyanilayaKaryasoudha Crawford Hall, Mysuru- 570 005

www.uni-mysore.ac.in

Dated: 01.09.2023

No.AC2(S)/151/2020-21

Notification

Sub:- Syllabus and Scheme of Examinations of Geography (UG) (V & VI Semester) with effect from the Academic year 2023-24.

Ref:- 1. This office letter No: AC6/303/2022-23 dated: 28-07-2023.

2. Decision of BOS in Geography (UG) meeting held on 05-08-2023.

The Board of Studies in Geography (UG) which met on 05-08-2023 has resolved to recommended and approved the syllabus and scheme of Examinations of Geography programme (V & VI Semester) with effect from the Academic year 2023-24.

Pending approval of the Faculty of Science & Technology and Academic Council meetings the above said syllabus and scheme of examinations are hereby notified.

The syllabus and scheme of Examinations contents may be downloaded from the University website i.e., www.uni-mysore.ac.in.

To:-

- 1. All the Principal of affiliated Colleges of University of Mysore, Mysore.
- 2. The Registrar (Evaluation), University of Mysore, Mysuru. The Chairman, BOS/DOS, in Geography, Manasagangothri, Mysore.
- Director, Distance Education Programme, Moulya Bhavan, Manasagangotri, Mysuru.
- 4. The Director, PMEB, Manasagangothri, Mysore.
- 5. Director, College Development Council, Manasagangothri, Mysore.
- 6. The Deputy Registrar/Assistant Registrar/Superintendent, Administrative Branch and Examination Branch, University of Mysore, Mysuru.
- 7. The PA to Vice-Chancellor/Registrar/Registrar (Evaluation), University of Mysore, Mysuru.
- 8. Office Copy.



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DEPARTMENT OF STUDIES IN GEOGRAPHY UNIVERSITY OF MYSORE, MANASAGANGOTHRI, MYSURU - 570006, KARNATAKA

Prof. JAYASHREE. P

Professor &

Chairperson-BOS in Geography

No. MGGR/ 157/2023-24

Date:

Date: 17-08-2023

To,

The Registrar University of Mysore Mysuru-05

Respected Madam,

Sub: Submission of BOS Proceeding and Syllabus Framed for BA/B.Sc. Geography

Ref(01): No. AC6/303/2022-23 Dated: 28-07-2023

Ref(02): No. AC2(S)/151/2020-21 Dated: 08-08-2023

This is for your kind information that the Board of Studies in Geography (UG) meeting held on 05th August 2023 (Saturday) (Ref: 01) and Revised meeting on 10th August 2023 (Thursday) (Ref: 02) at the Mishra Hall, DOS in Geography, Manasagangothri, University of Mysore, Mysuru at 11.00 am.

The Agenda for the meeting are as follows:

- 1. Matters relating to Curriculum of B.Sc. / B.A. in Geography as per NEP
- 2. Finalization of 5th and 6th Semester syllabus of above said curriculum.

Board Members of UG Geography gathered for the meeting and framed the course structure, titles and detailed syllabus for the 5th and 6th Semester BA/B.Sc. Geography (for the constituent and affiliated colleges of University of Mysore) as per the NEP guidelines and directions from the University of Mysore.

Thanking you,

Yours sincerely,

Prof.P.Jayashree Chairman, BOS in Geography

CHAIRMAN
Board of Studies
Department of Studies in Geography
University of Mysore

Mysore-570006



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DEPARTMENT OF STUDIES IN GEOGRAPHY UNIVERSITY OF MYSORE, MANASAGANGOTHRI, MYSURU - 570006, KARNATAKA

Prof. JAYASHREE. P Professor & Chairperson-BOS in Geography

Date: 10-08-2023

Proceedings of the Board of Studies (BOS) in Geography (UG) Meeting held on 10th August 2023 (Thursday) at 11.00 am. at the

Mishra Hall. DOS in Geography. Manasagangothri, University of Mysore, Mysuru

The members of the **Board of Studies in Geography (UG)** meeting held on 05th August 2023 (Saturday) (Ref: 01) and Revised meeting on 10th August 2023 (Thursday) (Ref: 02) at the Mishra Hall, DOS in Geography, Manasagangothri, University of Mysore, Mysuru at 11.00 am.

The BOS Chairman welcomed the members of the committee and took the following agenda:

- 1. Matters relating to Curriculum of B.Sc. / B.A. in Geography as per NEP
- 2. Finalization of 5th and 6th Semester syllabus of above said curriculum.

Board Members of UG Geography unanimously framed the course structure, titles and detailed syllabus for the 5th and 6th Semester BA/B.Sc. Geography (for the constituent and affiliated colleges of University of Mysore) as per the NEP guidelines and directions from the University of Mysore.

List of members present and absent are follows

Cont....

CHAIRMAN

Board of Studies

Department of Studies in Geography
University of Mysore

University of Mysore

Mysore-570006

BOARD OF STUDIES IN GEOGRAPHY (CB) MANASAGANGOTHRI, MYSURU. MEETING HELD ON 05-08-2023.

1. Prof. Jayashree P. (Chairperson BOS) DOS in Geography, Manasagangothri, Mysuru

2.Prof. Asima Nusrath (Member) Professor DOS in Geography, Manasagangothri, Mysuru.

3. Prof. B. Chandrashekara (Member) Professor, DOS in Geography, Manasagangothri, Mysuru

4 .Prof. Arundas S (Member) Professor & Chairman, DOS in Geography, Manasagangothri, Mysuru

5. Prof. Nagaraju D (Member) DOS in Earth Science Manasagangothri, Mysuru.

6. Dr. H S Kumara (Member) Dept. of School of Planning & Architecture Manasagangothri, Mysuru.

7.Prof. Ashok D Hanjagi (Member) Dept. of Geography & Geoinformatic, Jnanabharathi campus, Bangalore University, Bangaluru-56

Mysuru. 9. Dr. Sri Knataprasad (Member) Dept. of Geography, GFG College

8. Dr. Vasuma M G (Member)

Bannur, Mysuru District

10. Dr. Saritha (Member) Dept. of Geography, GFG College K R Nagara, Mysuru District

11. Mr. Rajashekara Murthy (Member) Dept. of Geography, Maharani's Arts College for Women (Autonomous) Mysuru.

Dept. of Geography, Maharani's Arts College for Women (Autonomous)



NEP Curriculum Framework for Four-Year Undergraduate Multidisciplinary Programme (Honours) for B.A/ B.Sc. Geography

(For Constituent and Affiliated Colleges under University of Mysore)



5th and 6th Semester Syllabus B.A / B.Sc. (Hons.) in Geography

Curriculum for BA / BSc (Honours) in Geography 5th & 6th Semester





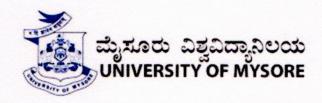
Syllabus Aims:

The aims of the syllabus describe the B.A. / B.Sc in Geography at 5th and 6th semester. 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
- Develop consciousness of the relevance of Geography to understanding and solving contemporary environmental problems
- Realisation 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
- Develop an insight into the nature, value, limitations and importance of different approaches to analyses 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
- Develop a concern for accuracy and objectivity in extracting, recording, processing, presenting, analysing and interpreting geographical data

			Program Outcomes (POs)				
By the end of the program the students will be able to:							
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.				



Syllabus for B.A/B.Sc. in Geography (V and VI Semester)

(As per the NEP Guidelines and University of Mysore Direction)

Sem.	Course Category	Course Code	Course Title	Credits		onal hours week	Duration of Exam		Mark	(S
No.	Category			Assigned	Theory	Practical	(Hrs.)	IA	Exam	Total
		DSC.T - 5.1	Population Resource and Dynamics (Theory)	4	4	-	2.5	40	60	100
		DSC.P - 5.1	Techniques in Population Geography (Practical)	2	-	4	2	25	25	50
V	DSC	DSC.T - 5.2	Fundamentals of Remote Sensing (Theory)	4	4	-	2.5	40	60	100
		DSC.P - 5.2	Satellite Image Interpretation and Aerial Photography (Practical)	2	-	4	2	25	25	50
		DSC.T - 6.1	Environmental Geography (Theory)	4	4	-	2.5	40	60	100
		DSC.P - 6.1	Methods in Environmental Geography(Practical)	2	-	4	2	25	25	50
VI	DSC	DSC.T - 6.2	Fundamentals of Geographical Information Systems (Theory)	4	4	-	2.5	40	60	100
		DSC.P - 6.2	Digital Mapping Techniques in GIS (Practical)	2	-	4	2	25	25	50
		SEC.P - 6.1	INTERNSHIP	2	-	4	2	25	25	50

Syllabus for B.A/B.Sc. in Geography (V Semester)

Curriculum

Program Name	BA / BSc in Geography		Semest	er 5
Course Title	Population F	Resources and	Dynamics	
Course Code:	DSC.T - 5.1		No. of Credi	ts 4
Contact hours 60 Hours			Duration of SEA/Exa	m 2.5 hours
Formative Assessment Marks		40	Summative Assessment Marks	60

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

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

CO1 Apply critical analysis skills on the demographic composition of a country.

CO2 Classify and evaluate migrations and their types.

CO3 Understanding the population resources.

CO4 Analyse population growth issues and challenges.

CO5 Investigate how migration takes place

Contents	60 Hrs
Introduction: Nature and Scope of Population Geography, Population Geography and Demography, Approaches to study population geography, Sources of Population Data. World population: Distribution-patterns, Population Growth, Density of Population, Population determinants with comparison to India.	15
Demographic change: Concepts of over, under & optimum population; Components of Population Change. Fertility and Mortality: Concepts, Measures of fertility and mortality, determinants, and world patterns of fertility and mortality. Demographic Attributes and Demographic Transition. Theories of Population Growth: Malthus, Sadler and Ricardo.	15
Assignment : Students must prepare a report relating to population change in their own area and submit a report.	
Migration: Meaning, types, causes, consequences. Theories of Migration: theory of migration by Ravenstein; and Comprehensive Theory by Lee, Population composition and characteristics - Age, Sex, rural-urban and occupational structure.	15
Case study: Students need to visit nearby village and get to know how and why migration takes place and submit report.	
Population as Resource: World Population Resource Regions. Social well-being and quality of life; population as a social capital. Contemporary Issues – Ageing of Population; Declining Sex Ratio; HIV/AIDS. Population policies in developed and developing countries. Population Policies in India. Human Development Index (HDI)	15

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

Pedagogy: Interactive Lectures, Inquiry-based learning, Blended learning, Case Studies.

Formative Assessment for Theory						
Assessment Occasion/ type	Marks					
Sessional Tests-1	10					
Sessional Tests-2	10					
Seminars / Presentations / Assignment	10					
Case study / Field-Study / Project work etc	10					
Total	40 Marks					

Refe	rences
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

Syllabus for B.A/B.Sc. in Geography (V Semester)

Curriculum

Formative Assessment 25 Marks			Summative A	Summative Assessment			
Course Code	DSC.P - 5.1 Contact Hours			60 Hours			
Course Title Techniques in Population Geography			Practical Credits	02			
Program Name	rogram Name BA / BSc in Geography			Semester	5		

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

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

CO1 Learn various methods of representative of demographic data

CO2 Apply various technologies in representation of demographic data

CO3 Analyse the trend and pattern of demographic data

CO4 Construct different diagrams using the data

CO5 Formulate the future trend of the data

	Contents	60 Hrs
registry Survey Note: \$	s of population data: Census of India, UNPD (united nations population division), birth and death VSS (Vital statistics survey), NSS (National Sample Survey), NFHS (National Family and Health), Students are expected to visit concerned websites and collect demographic data of concerned state at / taluk (Population by sex, Age, Rural-Urban, Literacy, Religion, Occupation structure)	15
Popula	tion distribution and density	
1.	Thematic maps for population Distribution-patterns (dot map, Choropleth maps).	
2.	Calculation of Population Growth rate,	15
3.	Calculation of population projection , arithmetic method,	
4.	Calculation of population Density, arithmetic density, agriculture density.	
	ation of different types of fertility and mortality rates for any one region Eg: India / Karnataka /District, Census of India latest data.	
1.	Crude birth rate,	
2.	General fertility rate, Total fertility rate	15
3.	Crude death rate/ Mortality rate, Infant mortality rate	
4.	Age specific mortality rate	
5.	Sex specific mortality rate	

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

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

Formative Assessment for Practical						
Assessment Occasion/ type	Marks					
Sessional Tests-1	05					
Sessional Tests-2	05					
Case study /Assignment / Field-activity / Project work etc	05					
Practical Record Maintenance	10					
Total	25 Marks					

Refe	rences and the second s
1	Chandna R.C. (2009), Geography of Population, Kalyani Publicishers, Aneari Road, Daryaganj, New Delhi.
2	Majid Hussain (1999), Human Geography, Rawat publications, Jaipur.
3	Trewartha GT. (1959) A Geography of Population, world Patterns, John Wiley and Sons Inc. New York.
4	Ghosh BN. (1987) Fundamentals of population Geography s, sterling publishing company, New Delhi
5	Jingam ML. B.K. Bhat, JN Deasi (2003) Demography, Urinda Publishers Pvt. Ltd. Delhi.
6	R.K. Tripati ((2000) Population geography, commonwealth publishers, New Delhi.
7	Kayastha SL. (1998) Geography of Population, Rawat publications, jaipur.
8	Clerk I (1984) Geography of populations, approaches and applications, pergamon press, Oxford, UK.
9	Ritu Malik (2013), Changes in population Dynamics, Sanjay Prakashan
10	Prthvish Nag, G.C.Debnath (2021), Population Geography, Bharti Prakashan, Varanasi
	Resource Websites:
1	https://censusindia.gov.in/census.website/
2	https://mea.gov.in/icm.htm
3	https://population.un.org/wpp/
4	https://www.popcouncil.org/research/india
5	https://www.cdc.gov/csels/dsepd/ss1978/lesson3/section3.html

Syllabus for B.A/B.Sc. in Geography (V Semester)

Curriculum

Program Name	BA / BSc in	Geography		Semester	V
Course Title	Fundamenta	ls of Remote	Sensing		
Course Code:	DSC.T - 5.2			No. of Credits	04
Contact hours	Contact hours 60 Hours		Durati	on of SEA/Exam	2.5 hours
Formative Assessment Marks 40		40	Summative Assessn	nent Marks	60

Cours	se Pre-requisite(s): No Pre-requisite course(s)	
CO2 CO3 CO4	Se Outcomes (COs): After the successful completion of the course, the student will be able to: 1. Define and describe the components of remote sensing and explain the history of remote sensing. 2. Differentiate between the types of remote sensors and platforms and analyze 3. Interpret aerial photographs and identify and compare digital and analog data. 4. Evaluate the applications of remote sensing, including the new satellite programs of India. 5. Analyze ground truth verification using Google Earth and evaluate its usefulness	
	Contents	60 Hrs
	luction to Remote Sensing:	
	Definition and components, History of Remote Sensing, Electromagnetic Magnetic Spectrum,	
b. c.	Interaction of EMR with the atmosphere and with the surface feature,	15
d.		
u.	urban area).	
Sense	ors & Platforms:	
a.	Types of orbits-sun-synchronous and geosynchronous, Sources of energy,	
b.		
C.	Resolution concept - Spectral, Radiometric, and temporal resolution. Platform types and characteristics.	15
d.		

b. Principles, Classification of Aerial photographs on the basis of Height and Tilt, Scales, Components

a. Indian remote sensing Centres and their activities, new satellite programs of India.

b. Different Satellites and their application in Land resources, Meteorology, and hydrology.

Aerial Photography:

a. Elements, Types and interpretation of Aerial photography,

d. Digital and Analog data, Image formats, Stereo pairs,

Ground truth verification using Google earth.

of camera, film, Aerial platforms.

e. Applications of Aerial Photography

Applications of Remote Sensing:

c. Elements of Aerial photo interpretation,

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CHAIRMAN
Board of Studies
Department of Studies in Geography
University of Mysore
Mysore-570006

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0	Pro	grar	n Oı	ıtco	mes	es (POs) 5 6 7 8 9 10 11 12 - 2 2 - 2 - 2						
Course Outcomes (COs) / Program Outcomes (POs)	1	2	3	4	5	6	7	8	9	10	11	12
CO1	3	-	-	-		2	-	-	2	-	2	-
CO2	2	-	-	-	-	2	2	-	2	-	2	-
CO3	1	-	1	3	-	2	2	-	2	-	2	-
CO4	1	-	2	-	-	2	2	-	2	-	2	-
CO5	1	-	3	3	-	2	2	-	2	-	2	-

Pedagogy: Blended learning, Interactive Lectures, MOOCs

Formative Assessment for T	Theory
Assessment Occasion/ type	Marks
Sessional Tests-1	10
Sessional Tests-2	10
Seminars / Presentations / Assignment	10
Case study / Field-Study / Project work etc	10
Total	40 Marks

Refe	rences
	Books
1	Lillesand T. Mand Kiefer R.W (2021), Remote Sensing and Image interpretation, 7 th Edition, John Wiley & Sons, Canada.
2	Jensen J. R, (2012), Remote Sensing of Environment: An Earth Resources Perspective, 2 nd 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, 2 nd 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, 5 th Edition, Prentice Hall, New Jersey.
8	Sabins, F.F. Jr, (1987), Remote Sensing; Principles and Interpretation, 2 nd Edition, W.H. Freeman and Co, New York.
9	Jensen, John R., (2005), Introductory Digital Image Processing, 3 rd Ed., Upper Saddle River, NJ: Prentice Hall, 526 pages.

Forb

CHAIRMAN

Board of Studies

Department of Studies in Geography
University of Mysore
Mysore-570006

Syllabus for B.A/B.Sc. in Geography (V Semester)

Curriculum

Program Name	n Name BA / BSc in Geography			Semester	V
Course Title	Satellit	te Image Interpretation a	and Aerial Photography	Practical Credits	02
Course Code	DSC.P	DSC.P - 5.2 Co		Contact Hours	60 Hours
Formative Asses	sment	25 Marks	Summative As	ssessment	25 Marks

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

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

CO1. Learn remote sensing techniques

CO2. Apply modern technology in various geographical area

CO3. Interpret remotely sensed data

CO4. Analyse digital imageries

CO5. Analyze ground truth verification using Google Earth and evaluate its usefulness

Practical Content	60 Hours
Basics:	
a) Basic information of the image (projection histogram, layers, pixel)	
b) Visual interpretation: color, texture, association, pattern, tone, shape.	15
c) Satellite Products and Band Characteristics, band combination	
Satellite Images:	
a) Satellite image downloading portals, Bhuvan, USGS explorer	
b) Image Enhancement: Radiometric, spatial enhancement	
c) Layers Stacking	15
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, USGC Websites	
Pre-Processing:	
a) Geometric and Radiometric Correction	
b) Spectral enhancement: Spectral Indices, NDVI	15
c) Image Classification: Supervised and Unsupervised	
d) Change Detection	
Aerial Photography:	
a) Determinants of Scales	
b) Types of Scales	15
c) Conversion of scales and interpretation through stereoscope.	

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Department of Studies in Geography
University of Mysore
Mysore-570006

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

Pedagogy: Interactive Lectures, Inquiry-based Learning, MOOCs

Formative Assessment for The	eory
Assessment Occasion/ type	Marks
Sessional Tests-1	05
Sessional Tests-2	05
Case study /Assignment / Field-activity / Project work etc	05
Practical Record Maintenance	10
Total	25 Marks

Refe	rences
	Books
1	Lillesand T. Mand Kiefer R.W (2021), Remote Sensing and Image interpretation, 7 th Edition, John Wiley & Sons, Canada.
2	Jensen J. R, (2012), Remote Sensing of Environment: An Earth Resources Perspective, 2 nd 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, 2 nd 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, 5 th Edition, Prentice Hall, New Jersey.
8	Sabins, F.F. Jr, (1987), Remote Sensing; Principles and Interpretation, 2 nd Edition, W.H. Freeman and Co, New York.
9	Jensen, John R., (2005), Introductory Digital Image Processing, 3 rd Ed., Upper Saddle River, NJ: Prentice Hall, 526 pages.
	Web Resources
1	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
2	ITC Netherlands, Principles of Remote Sensing https://webapps.itc.utwente.nl/librarywww/papers_2009/general/principlesremotesensing.
3	http://earthobsevatory.nasa.gov/Library/RemoteSensing
4	https://earthexplorer.usgs.gov/
5	https://bhuvan.nrsc.gov.in/home/index.php

NEP Question Paper Pattern for UG Semester

DSC

Paper Code:	DSC-I	Paper Title:	Principles of Geomorphology				
Duration of Exam	2.5 Hour	s	Max Marks	60			
Instruction:	Answer	all the sections					

Section-A

r any four of the following questions	(2X4=8)	Marks					
Father of Geography							
Types of Volcanoes							
Barkhans							
	Cenozoic Era Types of Volcanoes Types of Folds Weathering	Father of Geography Cenozoic Era Types of Volcanoes Types of Folds Weathering					

Section-B

		· · · · · · · · · · · · · · · · · · ·	
Answe	er any four of the following questions	(5X4=20)	Marks
7.	Explain inter-relationship between Physical and huma	an geography.	
8.	Explain Isostacy theory in the view of Pratt.		
9.	Explain Geological Time Scale.		
40			

10. Explain Tetrahedral hypothesis of Lowthian Green. 11. Explain the types of crustal movements.

12. Explain the depositional landforms of Wind.

Section-C

Answer any four of the following questions	(8X4=32)	Marks
13. Explain the scope and content of Physical Geography.		
14. Explain the Convection Current Theory.		
15. Explain types of folds.		
16. Explain "Glacier as an agent of Denudation"		
17. Explain Cycle of Erosion of Davis and Penk.		
18 What is weathering? Evolain its types		

6th SEMESTER BA / BSc Geography

Syllabus for B.A/B.Sc. in Geography (VI Semester)

Curriculum

Program Name	BA / BSc in	Geography	Semester	6
Course Title	Environmen	tal Geography		
Course Code:	DSC.T.6.1	r.6.1 No. of Credits		4
Contact hours	60 Hours Duration of SEA/Exam 2		2.5 hours	
Formative Asses	sment Marks	40	Summative Assessment Marks	60

Course Pre-requisite(s): No Pre-requisite course(s)	
Course Outcomes (COs): After the successful completion of the course, the student will be able to: CO1. Understand the interdisciplinary nature and the relationship between man and the environment. CO2. Know functioning of ecosystems, including the impact of human activity and global ecological changes. CO3. Evaluate man-made changes like pollution, environmental hazards, and the depletion of natural resource CO4. Examine environmental policy, impact assessment, and conservation measures. CO5. Apply knowledge of environmental geography to real-world situations.	
Contents	60 Hrs
Introduction to Environment Geography: Nature and Interdisciplinary Aspect of Environmental Geography. Ecological Approaches. Definition and Meaning of environment. Habitat. Ecological Niche. Biosphere and Biodiversity; bio-diversity and sustainable development. Biomes – major Biomes of the world. Man and Environmental Relationships	15
Ecosystem : Structure and Functioning of Ecosystem, Pond as an Ecosystem, ecosystem management and conservation; Principle of ecology; human ecological adaptation; influence of man on ecology and environment; global and regional ecological change & imbalance. Food Chains, Food Webs, Food Pyramid.	15
Man Induced Changes in Environment: Environmental Pollution, i.e. Air, Water, Noise, Solid Waste with special reference to India. Environmental Hazards, i.e. earth as Warehouses, Flood, Famines, Land Slides, Avalanches, Forest Fires, Impact of Green revolution and Extinction of Species. Man Made Ecosystem - Urban, Ecotourism, National Parks and Sanctuaries. Depletion of Ozone, Green House Effect and Acid Rain.	15
Principles of Environmental Management- Environmental Policy of India, (post 2000 AD). Environment Impact Assessment (EIA). Global Summits & Agencies of Environment Conservation. Environmental degradation, management and conservation; Problems of deforestation and conservation measures; Environmental policy; environmental hazards and remedial measures; Environmental education and legislation.	15

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

Pedagogy: Interactive Lectures, Inquiry-based learning, Blended learning, Case Studies.

Formative Assessment for Theory					
Assessment Occasion/ type	Marks				
Sessional Tests-1	10				
Sessional Tests-2	10				
Seminars / Presentations / Assignment	10				
Case study / Field-Study / Project work etc	10				
Total	40 Marks				

Refe	rences
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

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Syllabus for B.A/B.Sc. in Geography (VI Semester)

Curriculum

Program Name	BA / BSc in Geography			Semester	6
Course Title Methods in Environmental Geography			Practical Credits	02	
Course Code DSC.P.6.1		5.1		Contact Hours	60 Hours
Formative Assessment		25 Marks	Summative Ass	Summative Assessment	

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

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

CO6. Understand the interdisciplinary nature and the relationship between man and the environment.

CO7. Know functioning of ecosystems, including the impact of human activity and global ecological changes.

CO8. Evaluate man-made changes like pollution, environmental hazards, and the depletion of natural resources.

CO9. Examine environmental policy, impact assessment, and conservation measures.

CO10. Apply knowledge of environmental geography to real-world situations.

	Contents	60 Hrs
a)	List out Biotic and Abiotic elements in the local region.	15
b)	Identify and map micro Biomes in the local region and study the Biodiversity of the place.	
a)	List some ecosystem management and conservation methods in the local region for water bodies,	
b)	mapping of water bodies,	15
c)	Mapping of bore wells.	13
d)	Map the polluting points in the local area and their influence of man on local environment.	
a)	Mapping of Waste disposal sites	15
b)	Suitability of the site for waste disposal (with reference to height, location, land use, land value, slope)	13
a)	Mapping of parks and open spaces in the Neighborhood.	
b)	Mapping of areas in the Neighborhood where crowding is prevalent and type of land use around such places	15
	e: Educational / Study Tour is Mandatory. Each student should submit tour report for Internal	

Materials required for the practical survey

- a) Use Boundary map of the neighborhood area and GPS (field mapping)
- b) Google earth can also be used for mapping neighborhood area

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

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

Formative Assessment for Practical						
Assessment Occasion/ type	Marks					
Sessional Tests-1	05					
Sessional Tests-2	05					
Case study /Assignment / Field-activity / Project work etc	05					
Practical Record Maintenance	10					
Total	25 Marks					

Refer	ences
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
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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.

Syllabus for B.A/B.Sc. in Geography (VI Semester)

Curriculum

Program Name	BA / BSc in Geography		Semester	6
Course Title	Fundamentals of Geographical Information Systems			
Course Code:	DSC.T.6.2		No. of Credits	4
Contact hours	ntact hours 60 Hours		Duration of SEA/Exam	2.5 hours
Formative Assessment Marks		40	Summative Assessment Marks	60

Course	Pre-requi	site(s): No	Pre-requisite	course(s)
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Course Outcomes (COs): After the successful completion of the course, the student will be able to:

- CO1. Understand the definition, components, and interdisciplinary domains of GIS.
- CO2. Apply geodesy and spatial mathematics for measuring distances and coordinates.
- CO3. Analyze and evaluate spatial data structures, sources, errors, and scales for precision and accuracy.
- CO4. Perform geo-processing and visualization techniques including spatial and non-spatial queries.
- CO5. Collect and integrate spatial and non-spatial data for a case study using online resources.

Contents			
Introduction: Definition, scope, of GIS in digital world; Components, functionalities, merits and demerits, global market. Interdisciplinary domains, and its integration with GIS.	10		
Geodesy and Spatial Mathematics: Meaning scope of geodesy, geographical coordinates, latitude, longitudes; Datum: WGS-84, vs NAD-32. UTM; Aerial Distance measurement using Geographic and projected coordinates, Area, Perimeter, length by coordinates and various international measures.	20		
Assignment: students need to prepare hand drawn maps with the help of graticules.			
Data and Scale: Spatial Data and its structures; Sources and Types of data collection. Data errors, and relationships. Large Scale vs Small Scale; Generalization; precision and accuracy of data.	15		
Geo-processing and Visualization: Spatial and Non-Spatial Queries; Proximity analysis, Preparation of Terrain and Surface models. Hotspot and density mapping. Types of maps, thematic maps and its types, relief maps, flow maps and cartograms. Tabulations: Graphs and Pivot tables. Case Study: Students need to collect available spatial and non-spatial data of all the talukas of their districts from online resources.	15		

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

Pedagogy: Interactive Lectures, Inquiry-based learning, Blended learning, Case Studies.

Formative Assessment for Theory					
Assessment Occasion/ type	Marks				
Sessional Tests-1	10				
Sessional Tests-2	10				
Seminars / Presentations / Assignment	10				
Case study / Field-Study / Project work etc	10				
Total	40 Marks				

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Syllabus for B.A/B.Sc. in Geography (VI Semester)

Curriculum

Program Name	BA / BSc in Geography		Semester	6	
Course Title	Digital N	lapping Techniques in (GIS	Practical Credits	02
Course Code	ourse Code DSC.P - 6.2		Contact Hours	60 Hours	
Formative Assessment 25 Mai		25 Marks	Summative A	ssessment	25 Marks

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

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

- CO1. Students are trained to adapt the theoretical concepts in a practical way through the mathematical models of geography.
- CO2. Students will have the hands-on training on various modes of spatial and non-spatial data collection, data storage, data analytics, data interpretation and data display through the thematic maps.
- CO3. Students are exposed on spatial thinking to solve the geographical problems with range of proven mathematical and statistical models.
- CO4. Students can employ in various corporate and government organization where they deal to solve geographical problems.

Contents	60
Introduction a) Getting familiar with Datums and Projections b) Georeferencing Basemaps (SOI Toposheet, Cadastral Maps and others) c) Geographical Transformation (WGS84 to UTM and UTM to WGS84) d) Map, Map Scale, Precision and Accuracy of GIS Data	15
Geospatial Data Creation a) Creation of Shapefile and Geodatabases b) Digitization features such as settlements, roads, water bodies, etc. c) Topological Corrections and Rectification of Errors d) Validation of Spatial and Non-Spatial Data, QC/QA	15
Attribute Management a) Working with Census Data b) Working with GPS Data c) Working with Thematic Products (BHUVAN, KGIS, GSI-BHUKOSH)	15
Mapping and Visualisation a) Symbolisation of Data b) Mapping Elements c) Thematic Mapping and Interpretation d) Basic Geoprocessing Tools and Modelling.	15

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

Formative Assessment for Practical				
Assessment Occasion/ type	Marks			
Sessional Tests-1	05			
Sessional Tests-2	05			
Case study /Assignment / Field-activity / Project work etc	05			
Practical Record Maintenance	10			
Total	25 Marks			

Refe	rences
1	lan 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

Syllabus for B.A/B.Sc. in Geography (VI Semester)

Curriculum

Program Name	BA / BSc	in Geography	Semester	6
Course Title	INTERN	SHIP	Practical Credits	02
Course Code	SEC -	SHIP	Intern Hours Contact Hours	
Formative Assessment 25 Marks		25 Marks	Summative Assessment	25 Marks

Internship:

As per the NEP, Internships are mandatory for the students whereas an Internship is a period of time during which a student works for a company or organization in order to get experience of a particular type of work.

Note:

- a. Students can attend any of the following IPO's related to Geographical Studies.
- b. Students are mentored with one Internal Supervisor and one IPO's Supervisor.
- c. Interaction session from beginning of the Internship till the submission of report 20 hours per Supervisor. Remaining 70 hours for field work.
- d. Each candidate should submit attendance and certificate of Internship from the concerned IPO's and submit along with the Internship report.

List of Internship Providing Organizations (IPO's):

- 1. Government/Semi-Govt/NGO/Corporate companies related to geographical studies.
- 2. Real Estate agencies
- 3. Forest Department
- 4. Survey Department
- 5. Meteorological Department
- 6. Agricultural Department
- 7. Soil Testing Centers
- 8. Pollution Control Board
- 9. Census Office
- 10. Village/Taluk/Zilla Panchayaths
- 11. National Informatics Centers (NIC)
- 12. Town Panchayaths / Municipality / Corporation
- 13. Sewage boards
- 14. Slum boards
- 15. Karnataka Electricity Boards
- 16. Groundwater boards
- 17. Mines and Geology
- 18. Transport department
- 19. Department of Urban Development and Planning
- 20. Health department
- 21. Education department
- 22. Department of Animal Husbandry

(These are not limited to...)

NEP Question Paper Pattern for UG Semester

DSC

Paper Code:	DSC-I	Paper Title:	Paper Name	
Duration of Exam	2.5 Hour	s	Max Marks	60
Instruction:	Answer	all the sections	•	

Answer any four of the following questions	(2X4=8)	Marks
1.		
2.		
3.		
4.		
5.		
6.		

Section-B

Answer any four of the following questions	(5X4=20)	Marks
7.		
8.		
9.		
10.		
11.		
12.		

Section-C

000.011.0				
Answer any four of the following questions		(8X4=32)	Marks	
13.				
14.				
15.				
16.				
17.				
18.				

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NEP Assessment Pattern for UG Semester Internship

S.N	Description	Marks
1	It comprises Internal Assessment (IA) for C-1 = By the end of the 6 th week, the student should present their progress. C-2 = By the end of 14 th week, the student should submit and present final draft of Internship report.	25 Marks
2	Final Examination (C-3) a) For report carry 15 Marks b) For Viva-voce 10 Marks	25 Marks
3	 Report: Report should include the introduction, organization profile, field visits/ laboratory outcomes/ evidences /Photographs/ Interpretation and learning outcomes from the Internship Tenure At the time of final examinations (C-3) students should submit three copies of report with copy of Internship Certificate and attendance certificate from the Internship Providing Organizations. Along with the report should be counter signed by the Supervisor and Head of the Department. Final Examination (C-3) conducted by both Internal and External examiners. 	
	Total	50 Marks