AC No.:

Rayat Shikshan Sanstha's

KARMAVEER BHAURAO PATIL COLLEGE, VASHI,

EMPOWERED AUTONOMOUS COLLEGE

Sector-15- A, Vashi, Navi Mumbai -400 703

NAAC Grade "A+" with CGPA 3.53

Revised Syllabus

Program: M.A. Geography

MA-II

Semester: III and IV

(As per NEP 2020 with effect from the academic year 2024-25)

Rayat Shikshan Sanstha's

KARMAVEER BHAURAO PATIL COLLEGE, VASHI, NAVI MUMBAI

(Autonomous)

Department of Geography

MA in Geography

Program Outcomes (POs)

Learners are able to:

PO-1	**Disciplinary Knowledge**	Built conceptual foundation and application skills in the area of Physical Geography, Geomorphology, Growth and Development models, Agricultural Geography, Political Geography, Economic Geography, Industrial Geography seeking youth fit for employment as well as making appropriate/ rational decisions in their day to day personal and public life.
PO-2	**Research Skill**	Identify various economic problems, select and execute appropriate research method and methodology, conduct research rationally, writing (appropriate) meaningful report as well as dissertation and communicate it to the stakeholders.
PO-3	**Think Critically**	Develop critical thinking skill towards current Socio- economic issues, various policies, procedure for policy implementation and its lags, loopholes and find probable solutions to deal impediments/hurdles in life with courage and positive perspective.
PO-4	**Collaboration and Co-operation**	Speaking, reading, writing, listening, guiding etc. clearly in person and make meaning of the world by connecting people, ideas, books, media and technology.
PO-5	**Social Interaction and social justice**	Elicit views of others, mediate disagreements and help to reach the conclusions in group and contribute for social justice and inclusive growth.
PO-6	**Responsible and rational Citizens**	Strengthen human values, sense of social service, egalitarian, righteous conduct for self, family society and makes responsible and dutiful citizen.
PO-7	**Efficiency, Environment and Sustainability**	Understand the issues in context with environment, growth along with its procedure, needs and efforts taken at national and international level through MDGs and SDGs. for sustainable development. Analyse efficiency and future prospects with special reference to India.
PO-8	**Entrepreneurship and Ethics**	Strengthen entrepreneurial skills and ability to prepare a business plan and its execution. Also recognize different value systems based on own realization, understandings the moral dimensions of decisions, and accept responsibility for them.
PO-9	**Leadership and Teamwork**	Work cooperatively and lead proactively to achieve the goals of the organization by implementing the plans and projects in various field-based situations related to science, technology and society at large.
PO-10	**Self-directed-Life-long Learning and Progression**	Acquire the ability to engage in independent and life-long learning in the broadest context of socio-economic and technological changes. Identify relevant topic and go for highest research degrees like Ph. D. as well as occupy significant position and make it more meaningful.

PROGRAMME SPECIFIC OUTCOMES (PSOs)

POS1	**Geographical Knowledge**	Demonstrate advanced understanding of key theories, concepts, and methodologies in human and physical geography. Apply geographical knowledge to analyze and interpret complex spatial patterns and relationships.
PSO2	**Research Skills**	Conduct independent and original research in geography using appropriate research methods. Evaluate and synthesize existing literature to contribute to the advancement of geographical knowledge.
PSO3	**Spatial Analysis and GIS Skills**	Proficiently use Geographic Information Systems (GIS) and other spatial analysis tools to analyze and interpret spatial data. Apply spatial analysis techniques to address real-world geographical challenges.

M.A. PART-II GEOGRAPHY NEP2020 SYLLABUS, 2024-25

Semester III							
Course No.	**Course Title**	**Course Type**	**Course Code**	**CIE Marks**	**SEE Marks**	**Total**	**Credit Points**
3.1	Oceanography and Hydrology	Major	GEO501	40	60	100	4
3.2	Geographical Thought	Major	GEO502	40	60	100	4
3.3	Tools and Techniques of Spatial Analysis- III	Major	GEO503	40	60	100	4
3.4	Geography of Tribes with Special reference to India	Elective	GEO504A	40	60	100	4
	OR						
	Geoinformatics	Elective	GEO504B	40	60	100	
3.5	Research Project	RP	GEO505	40	60	100	6
Total						**500**	**22**
Semester IV							
4.1	Application of Remote Sensing Techniques in Geographical Studies	Major	GEO551	40	60	100	4
4.2	Geography of Hazards and Disaster Management	Major	GEO552	40	60	100	4
4.3	Geography of Water Resource Management	Major	GEO553	40	60	100	4
4.4	Tools and Techniques of Spatial Analysis- IV	Elective	GEO554A	40	60	100	4
	OR						
	Social and Cultural Geography	Elective	GEO554B	40	60	100	
4.5	Research Project	RP	GEO555	40	60	100	6
Total						**500**	**22**

Draft Syllabus under Autonomy

For M.A. Programme at Semester III & IV
with effect from the Academic Year 2024-25

OCEANOGRAPHY AND HYDROLOGY
(CORE COURSE)

Course Outcome:

The learner will be able to-

CO1: Explain the definition, nature and scope of oceanography and understand the history of oceanography.

CO2: Generate the distribution of temperature and salinity of ocean and predict the distribution of salinity and temperature.

CO3: Illustrate the water budget with the help of diagram and prepare a table of world water resources available.

CO4: Explain the world water balance and identify the how much amount of fresh water resources available on the earth's surface.

CO5: Discuss the topographical, meteorological factors that effect on evaporation process.

Modules at a Glance

OCEANOGRAPHY AND HYDROLOGY (GEO501)

Unit No.	Unit	Unit Wise Weightage of Marks (in %)
1	Fundamental Concepts in Oceanography	15
2	Ocean Currents and Resources	15
3	Introduction to Hydrology	15
4	Watershed, Its Characteristics and Evaporation Process	15

M. A.-II GEOGRAPHY

OCEANOGRAPHY AND HYDROLOGY

SEMESTER: III COURSE CODE: GEO501**, COURSE CREDITS: 4**

Teaching Hours 60 + Notional Hours 60 = Total hours 120

(Major Subject)

Units	Name of the Sub topics	No of Lectures
Unit – I Fundamental Concepts in Oceanography		15
1.1	Definition, , nature and scope of oceanography- History of Oceanography	
1.2	Age and origin of oceans, and ocean morphology	
1.3	Distribution of temperature, salinity and density of oceans	
Unit – II Ocean Currents and Resources		15
2.1	Ocean currents: Atlantic, Pacific and Indian Oceans.	
2.2	Oceanic waves and tsunamis, tides.	
2.3	Marine sediments and deposits	
2.4	Food and mineral resources of the sea.	
Unit – III Introduction to Hydrology		15
3.1	History of Hydrology	
3.2	World Water Balance, Global Freshwater Resources	
3.3	Hydrological cycle, Factors affecting movement of water, Patterns of movement	
3.4	Water Budget, World water Resources	
Unit – IV Watershed, Its Characteristics and Evaporation Process		15
4.1	Topographic and Effective Watershed	
4.2	Physiographic characteristics of a Watershed- Geometric &Drainage Network	
4.3	Agro-Pedo Geological Characteristics – Soil Cover, Soil type, Geology	
4.4	Metrological Factors influencing Evaporation- Physical Factors involved in Evaporation Process	

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3. Charlu, T.G.K. and Dutt, D. K. (1982), "Ground Water Development in India" Rural Electrification Corporation, New Delhi.
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12. Stewart, R. H. (2008). Introduction to Physical Oceanography.

GEOGRAPHICAL THOUGHT

(Major Subject)

Course Outcome:

CO1: To define the geographical thought.

CO2: To describe the contribution of modern geographers.

CO3: To solve the paradigms and philosophy in geography.

CO4: To examine laws theories and models in geography.

CO5: To judge the major approaches in geography

CO6: To assemble laws and theories in geography

Modules at a Glance

GEOGRAPHICAL THOUGHT (GEO502)

Unit No.	Unit	Unit Wise Weightage of Marks (in %)
1	Pre-Historical Review	15
2	Founders of Modern Geographical Thought	15
3	Dualism and Dichotomies in Geography	15
4	Measurements and explanation in Geography	15

M. A.-II GEOGRAPHY
GEOGRAPHICAL THOUGHT

SEMESTER: III COURSE CODE: GEO502**, COURSE CREDITS: 4**

Teaching Hours 60 + Notional Hours 60 = Total hours 120

(Major Subject)

Units	Name of the Sub Topics	No of Lectures
	Unit – I Pre-Historical Review:	15
1.1	Contributors and their Role in Geography	
1.2	Impact of Explorations and Discoveries	
1.3	Geographical Knowledge of the Ancient World: Greek-Roman Period, Contribution of Explorers	
1.4	Geography of Medieval Period: Contribution by Arab Geographers	
	Unit – II Founders of Modern Geographical Thought:	15
2.1	Alexander von-Humboldt, Carl Ritter,	
2.2	Friedrich Ratzel, Vidal de la Blache, Richard Hartshorne	
2.3	Marxist Geography, Radical Geography, Geography of Gender	
2.4	Evolutionary Biology and Geographical Thought, the Political Economy Perspective in Human Geography	
	Unit – III Dualism and Dichotomies in Geography:	15
3.1	Determinism verses Possibilism	
3.2	Systematic verses Regional Geography	
3.3	Conceptual and Methodological development:	
3.4	Paradigms and philosophy in Geography	
	Unit - IV Measurements and explanation in Geography:	15
4.1	Laws, theories and models	
4.2	Areal differentiation and Spatial Organization:	
4.3	Structure, Pattern & Process	
4.4	Approaches: Positivism, Humanism, Radicalism, Behaviouralism Quantitative revolution in Geography	
	Grand Total	**60**

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8. Majid Hussain (1999): Geographic Thought. Rawat Publishing House, Jaipur.

9. Richard Peet (1977): Radical Geography - Alternative view points on contemporary social issue. Methuen & Co. Ltd. London.

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11. Arild, H. J. (1999). Geography: History and Concepts. London: SAGE Publications.

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13. Dikshit, R. D. (1997). Geographical Thought: Contextual History of Ideas. New Delhi: Prentice Halls.

14. Goudie, A. (Ed) (2004). Encyclopedia of Geomorphology. London: Routledge.

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16. Richard, P. (1998). Modern Geographical Thought, Singapore: Blackwell.

17. Warf, B. (Ed) (2006). Encyclopedia of Human Geography. New Delhi: SAGE Publications.

❖ Web Resources:

1. www.wikipedia.org
2. www.encyclopedia.com
3. http://jgesnet.com

TOOLS AND TECHNIQUES OF SPATIAL ANALYSIS- III

(MAJOR SUBJECT)

Course Outcome:

The learner will be able to-

CO1: Reproduce the data in SPSS software and apply the process and calculate quantitative techniques.

CO2: Formulate the hypothesis and justify the hypothesis with the help of chi-square, T-test and ANOVA by using SPSS software.

CO3: Explain the concept, types and methods of correlation and regression in terms of SPSS.

CO4: Collect the primary data from different sources and determine the spatial variation.

CO5: Prepare the study tour report and submit to the department.

Modules at a Glance

TOOLS AND TECHNIQUES OF SPATIAL ANALYSIS – III

(GEO503)

Unit No.	Unit	Unit Wise Weightage of Marks (in %)
1	Quantitative Techniques for Spatial Analysis Using SPSS – I	20
2	Quantitative Techniques for Spatial Analysis Using SPSS – II	20
3	Environmental Indicators	15
4	Study Tour, Field Survey and Field Report	05

M.A.-II GEOGRAPHY (Major Subject)

TOOLS AND TECHNIQUES OF SPATIAL ANALYSIS - III

SEMESTER- III; COURSE CODE: GEO503**; COURSE CREDIT: 04**

Teaching Hours 60 + Notional Hours 60= Total hours 120

Units	Name of the Sub Topic	No of Lectures
Unit – I Quantitative Techniques for Spatial Analysis Using SPSS – I		20
1.1	Inferential statistics: Introduction; Hypothesis Testing - Chi square test, T-test applications; Analysis of variance (ANOVA).	
1.2	Time Series Analysis: growth and decline- index numbers- logarithmic scale- trend line by least square method.	
Unit – II Quantitative Techniques for Spatial Analysis Using SPSS-II		20
2.1	Correlation: Types of correlation; Methods of correlation- Spearman s rank correlation and Karl Pearson s coefficient of correlation; Partial Correlation.	
2.2	Regression: Introduction; Dependent and independent variables; scatter-gram-regression lines and residuals; construction of regression lines; least square method, Regression residuals: mapping and interpretation.	
Unit – III Environmental Indicators		15
3.1	Noise Pollution: Introduction; Use of sound measuring device; Temporal and spatial variation mapping based on primary data.	
3.2	Water Pollution: Introduction; identification, techniques used, temporal and spatial variation mapping based on primary data	
Unit – IV Study Tour, Field Survey and Field Report		05

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10. Envfor.nic.in
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12. http://mpcb.gov.in
13. Gupta, V.(1999): SPSS for beginners, V.J.Books Inc.
14. IBM SPSS Statistics 19 Brief Guide
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45. Snobble, J.K.(1970): Stereoscopic Air Photographs for Earth Science, Selve Bundett

GEOGRAPHY OF TRIBES WITH SPECIAL REFERENCE TO INDIA

DISCIPLINE SPECIFIC ELECTIVE (DSE)

Course Outcome:

The students will be able to

CO1: Define the Tribes, and explain the origin culture and family system, organization and its functions

CO2: Explain the tribal economy, and poverty, social status of tribal communities.

CO3: Describe the Tribal communities Development, tribal cultures and practices.

CO4: Elucidate the Territorial Distribution of Tribes in India

CO5: Elucidate Scheduled Areas and Role Tribal National of Movement, Pattern and trends of Tribal Development

CO6: Explain the approaches and Tribal Development Policies of Tribal study

Modules at a Glance

GEOGRAPHY OF TRIBES WITH SPECIAL REFERENCE TO INDIA

(GEO504A)

Unit No.	Unit	Unit Wise Weightage of Marks (in %)
1	Introduction	15
2	Tribes of India	15
3	Spatial Distribution of Tribes in India	15
4	Tribal Development Programmes in India	15

M.A.-II GEOGRAPHY

DISCIPLINE SPECIFIC ELECTIVE (DSE)

GEOGRAPHY OF TRIBES WITH SPECIAL REFERENCE TO INDIA

SEMESTER- III; COURSE CODE: GEO504A**; COURSE CREDIT: 04**

Teaching Hours 60 + Notional Hours 60= Total hours 120

Units	Name of the sub Topic	No of Lectures
	Unit – I Introduction	15
1.1	Tribes and tribal communities - a historical perspective	
1.2	Contemporary global distribution of tribes: Eskimos and Pigmies	
1.3	Geographical environment of tribal settlements	
1.4	Tribal society, culture and economy	
	Unit- II Tribes of India	15
2.1	Origin and Historical perspective of Tribes in India	
2.2	Demography of Indian Tribes	
2.3	Tribal Ethnicity in India	
2.4	Development of socio-politico- economy of tribes in India: Naga and Bhil	
	Unit- III Spatial Distribution of Tribes in India	15
3.1	Tribal' s of Himalayan region	
3.2	Tribal's of Central India	
3.3	Tribal's of Western India	
3.4	Tribal's of Southern India	
	Unit - IV Tribal Development Programmes in India	15
4.1	Need for Tribal Development Programmes in India	
4.2	Tribal Development Programmes in India	
4.3	Impact of Tribal Development Programmes in India	
4.4	Integrated Tribal Development Programmes in Maharashtra	

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Geoinformatics

DISCIPLINE SPECIFIC ELECTIVE (DSE)

Course Outcome:

On successfully completion of this course, the students will able to -

CO1: Explain the basics of Remote Sensing, Aerial photography and Photogrammetry.

CO2: Interpret the satellite image visually with the help of color composites.

CO3: Calculating Height from Stereo-pairs

CO4: Create database with the help of GPS device.

CO5: Understand the principles of Positional Accuracies, Relative Positioning, errors and sources in GPS surveys.

Modules at a Glance

Geoinformatics

(GEO504B)

Unit No.	Unit	Unit Wise Weightage of Marks (in %)
1	Fundamentals of Remote Sensing	15
2	Characteristics of Satellite data	15
3	Aerial Photography and Photogrammetry	15
4	Global Navigation Satellite System	15

M.A.-II GEOGRAPHY

DISCIPLINE SPECIFIC ELECTIVE (DSE)

Geoinformatics

SEMESTER- III; COURSE CODE: GEO504B; COURSE CREDIT: 04

Teaching Hours 60 + Notional Hours 60= Total hours 120

Units	Name of the sub Topics	No of Lectures
Unit – I Fundamentals of Remote Sensing		15
1.1	Definition and Concept, Nature and Scope of the Remote Sensing, Process of Remote Sensing	
1.2	Development of remote sensing – Global and Indian Scenario	
1.3	Electromagnetic Spectrum: Definition and Concept, Atmospheric window, Blackbody, Interaction of EMR with Target and atmosphere	
1.4	Spectral Reflectance Curve: Concept, curves for land, water bodies/oceans, vegetation In Optical, IR, Thermal bands	
Unit- II Characteristics of Satellite data		15
2.1	Types of platforms used for remote sensing, Types of orbits (Geostationary and polar), Types of Sensors - Active and Passive	
2.2	Types of resolutions - Spatial, Spectral, Radiometric and Temporal	
2.3	Visual Image Interpretation: Image display and color composites, elements of visual image interpretation	
2.4	Application of Remote Sensing	
Unit – III Aerial Photography and Photogrammetry		15
3.1	Fundamentals of aerial photography, Types of aerial photographs, photographic scale, measurements of distance, area and height	
3.2	Errors in Aerial Photography- Relief displacement, stereoscopic parallax, flight planning	
3.3	Hands on Practical- Calculating Height from Stereo-pairs	
3.4	Application of Aerial Photography and Photogrammetry	
Unit – IV Vector and Raster Data Analysis		15
4.1	Vector-based spatial analysis: single layer operations (extraction and proximity)	
4.2	Vector-based spatial analysis:multilayer operations (overlay operations)	
4.3	Raster-based spatial analysis: Spatial Interpolation and raster generation	
4.4	Raster reclassification, arithmetic, relational and logical operations	

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M.A.-II GEOGRAPHY
(CORE COURSE)
RESEARCH PROJECT
SEMESTER- III; COURSE CODE: GEO505; COURSE CREDIT: 06
Teaching Hours 60 + Notional Hours 60= Total hours 120

Rayat Shikshan Sanstha's
KARMAVEER BHAURAO PATIL COLLEGE, VASHI
DEPARTMENT OF GEOGRAPHY
Guidelines for Research Project

I. Research Project Proposal

A Research Project proposal will usually comprise the following sections:

1. Title of the Topic
2. Introduction – (one page)
3. Rationale
4. Aims and objectives
5. Research Questions (if any)
6. Literature review (Minimum 10 reviews)
7. Study area – (including map)
8. Data and Research Methodology
9. Organization of the Chapters
10. References

Guidelines for writing the proposal

a. The proposal needs to be prepared using a standard text processing software and must be printed in black text in standard typeface (Times New Roman, size 12). The line spacing should be 1.5 lines

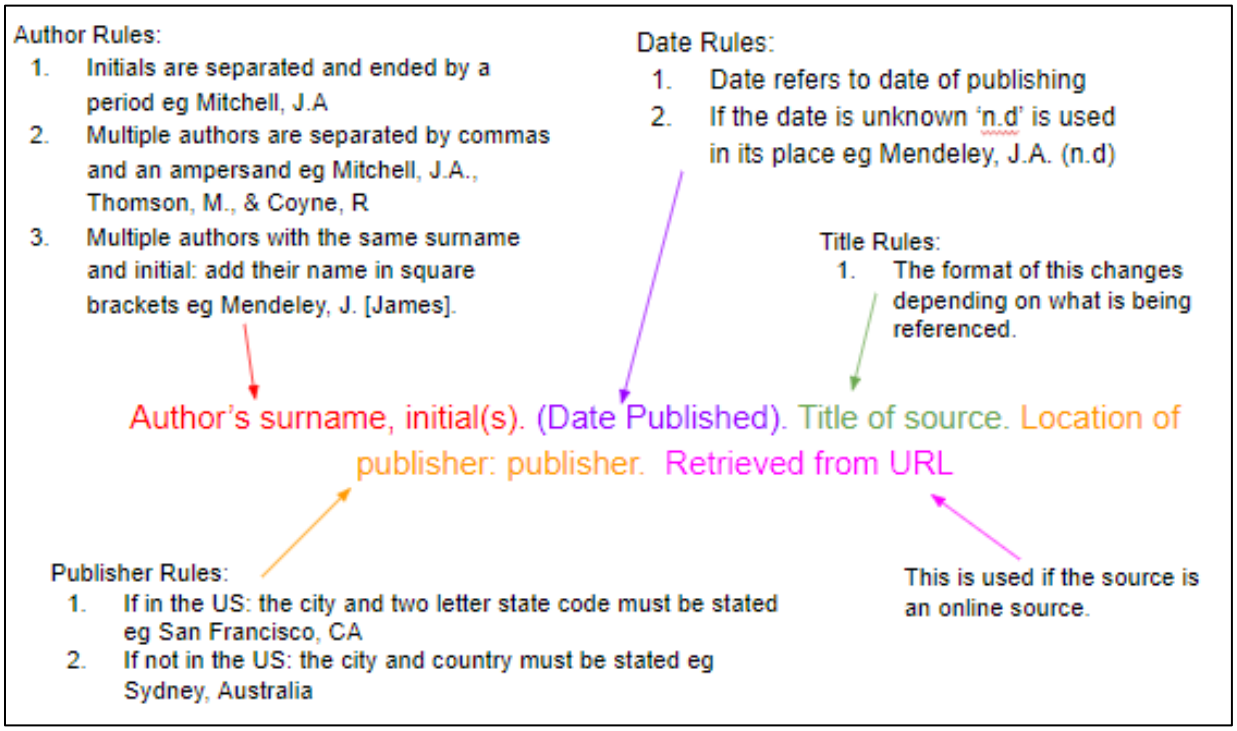
b. A4 (21 cm x 29.7 cm) is the recommended proposal paper size. Proposal should be printed **BOTH SIDE**.

c. The top, bottom and right side margins should be 2.54 cm, whereas, the left side margin should be 3.5 cm for both textual and non-textual (e.g., figures, tables) pages. For both the side printing mirror margins with inside margin should be taken.

d. The Arabic numerical numbering should start with the first page of the text in the proposal (chapter 1), all pages should be numbered consecutively and consistently in Arabic numerals (1, 2, 3, …) through the appendices.

e. Page numbers prior to Chapter 1 should be in lower case Roman numerals (i, ii, iii, …). The title page is considered to be page (i) but the number is not printed. ***All these pages should be single page printed.***

f. **References should be given in APA style (7th edition) at the end of the proposal. Please refer the following format.**



1) Journal article

Khan, M. A., Gupta, V. P., and Moharana, P. C. (2001). Watershed prioritization using remote sensing and geographical information system: a case study from Guhiya, India. *Journal of Arid Environments*, *49*(3), 465-475.

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4) From a website:

Sanger, M. (2000). Woman and the new race. Bartleby.com. http://www.bartleby.com/1013/ (Original work published 1920).

Kindly refer to the following format for first and second page of the proposal.

The last page of the proposal must carry student's as well as guide's signature.

Title of the Proposal

Research Project Proposal Submitted to
Rayat Shikshan Sanstha's
KARMAVEER BHAURAO PATIL COLLEGE, VASHI
(Empowered Autonomous)
Department of Geography
For the degree of
Master of Arts (M.A.) in the Subject of Geography

BY
Name of the student

Under the Guidance of
Name of the Guide

DEPARTMENT OF GEOGRAPHY

Title of the Proposal

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Signature of the Student	Signature of the Guide
Name of the Student	Name of the Guide

Draft Syllabus under Autonomy

For M.A. Programme at Semester IV

APPLICATIONS OF REMOTE SENSING TECHNIQUES IN GEOGRAPHICAL STUDIES
(Major Subject)

Course Outcome:

On successfully completion of this course, the students will able to -

CO1: Discuss about the Concept of stereoscopy and photogrammetry, geometric types of aerial photographs.

CO2: Calculate the photographic scale, measurements of distance, area and height, relief displacement, stereoscopic parallax, flight planning.

CO3: Interpret and analyze the satellite Images visually and digitally with the help of display and colour composites

CO4: Understand the basic principles, data processing and application of Hyperspectral remote sensing.

CO5: Perform Resource monitoring like LULC mapping, Wetland mapping, Urban fringes mapping, Soil mapping and identifying the water resource potential zones.

Modules at a Glance

APPLICATIONS OF REMOTE SENSING TECHNIQUES IN GEOGRAPHICAL STUDIES (GEO551)

Unit No.	Unit	Unit Wise Weightage of Marks (in %)
1	Aerial Photography	15
2	Principles and Fundamentals of Aerial Photo Interpretation	15
3	Hyperspectral Remote Sensing	15
4	Application of Remote Sensing	15

M.A.-II GEOGRAPHY

(Major Subject)

APPLICATIONS OF REMOTE SENSING TECHNIQUES IN GEOGRAPHICAL STUDIES

SEMESTER- IV; COURSE CODE: GEO551**; COURSE CREDIT: 04**

Teaching Hours 60 + Notional Hours 60= Total hours 120

Units	Name of the sub Topics	No of Lecture
	Unit – I Aerial Photography and Remote Sensing	15
1.1	Introduction to aerial camera, factors affecting image quality	
1.2	Vertical aerial photograph Relief and tilt displacement Stereoscopy, parallax Equation; flight planning Scale and height determination	
1.3	Image analysis Elements, Fundamentals of satellite images analysis: Types of Imagery, Visual image analysis, digital image analysis	
1.4	Basic principles of thermal and microwave remote sensing	
	Unit- II Hyperspectral Remote Sensing	15
2.1	Hyper spectral Imaging: Hyper spectral Concepts, data collection systems, normalization, Calibration techniques,	
2.2	Hyper-spectral satellite systems: Sensors, orbit characteristics, description of satellite Systems, data processing aspects, applications	
2.3	Classification techniques, airborne and space borne Hyper spectral sensors	
2.4	Data processing techniques; N-dimensional scatter plots, special angle mapping, Spectral Mixture analysis, Spectral Matching, Mixture tuned matched filtering	
	Unit- III Application of Remote Sensing in Natural Resource management	15
3.1	Land Use/Land Cover	
3.2	Wetland Mapping/ Forest Mapping	
3.3	Watershed Management	
	Unit- IV Application of Remote Sensing in Urban Planning	15
4.1	Urban Sprawl monitoring	
4.2	Network analysis	
4.3	Urban pollution monitoring and mapping	

REFERENCES:

1. Jenson, R.J. (2003): Remote Sensing of the Environment- An Earth Resources
2. Perspective, Pearson Education Series
3. American Society of Photogrammetry (1983): Manual of Remote Sensing, ASP Falls Church, V.A.
4. Barrett, E.C. and Curtis, L.F.(1992): Fundamentals of Remote Sensing in Air Photo interpretation, McMillan, New York.
5. Campbell, J. (1989): Introduction to Remote Sensing, Guilford, New York.
6. Curran, Paul, J. (1988): Principles of Remote Sensing, Longman, London.
7. Hard, R.M. (1989): Digital Image Processing of Remotely Sensed data, Academic

M.A.-II Semester IV

GEOGRAPHY OF HAZARDS & DISASTER MANAGEMENT

(Major Subject)

Course Outcome:

On successfully completion of this course, the students will able to -

CO1: Understand the basic of disaster management studies.

CO2: Identify the cause, Impact and measures in different types of disasters.

CO3: Students will be familiar with the Preparedness, Response, Recovery, Mitigation, Rehabilitation processes involved in disaster management.

CO4: Able to understand the role of various organizations at global and national level.

CO5: Perceive the knowledge from the past to mitigate with the disaster situation

Modules at a Glance

GEOGRAPHY OF HAZARDS & DISASTER MANAGEMENT

(GEO552)

Unit No.	Unit	Unit Wise Weightage of Marks (in %)
1	Meaning & Concept of Disaster & Hazard	15
2	Disaster management structure and approaches	15
3	Causes, Effects and Management of Natural Disasters	15
4	Case study and Application of GIS and RS	15

M.A.-II GEOGRAPHY

(Major Subject)

GEOGRAPHY OF HAZARDS & DISASTER MANAGEMENT

SEMESTER- IV; COURSE CODE: GEO552; COURSE CREDIT: 04

Teaching Hours 60 + Notional Hours 60= Total hours 120

Units	Name of the Sub Topics	No of Lectures
	Unit – I: Meaning & Concept of Disaster & Hazard	15
1.1	Meaning, Definition, Nature and scope of Disaster management studies	
1.2	Types of hazards & Disasters- Natural Disasters & Man-made Disasters	
1.3	Impacts of Disasters – Socio –economic and political	
1.4	Need of Disaster Management in India, Disaster Management Plan	
	Unit – II: Disaster management structure and approaches	15
2.1	Mechanism in Disaster Management: Pre-disaster, During Disaster and Post Disaster	
2.2	Disaster Management : Historical Perspective	
2.3	Role of International Organizations for Disaster Management – UN, World Bank, Red Cross	
2.4	Role of National Organizations, NGO's & Community for Disaster Management	
	Unit – III: Causes, Effects and Management of Natural Disasters	15
3.1	Climatic Disasters: Floods, Cyclones and Draughts	
3.2	Geological and Geomorphic disasters: Earthquake, Tsunami, Landslides	
3.3	Man-Made disasters- Chemical, Biological & Nuclear Disasters	
3.4	War and Terrorism	
	Unit – IV: Case study and Application of GIS and RS	15
4.1	Climatic disasters : Nisarga (2020)/ Floods in Konkan	
4.2	Earthquake in Japan/ Landslide in Malin	
4.3	Forest fires in Australia/Amazon	
4.4	Terrorism – Causes, effects and management with reference to26/11 Mumbai attack / Ukraine-Russia war	

REFERENCES:

1. A.K. Srivastava (2021): Text book of Disaster Management, Scientific Publishers (India), ISBN-10 9389412455
2. S vaidyanathan (2020): An Introduction to disaster Management natural disasters and man made hazards, CBS Publishers and distributors. ISBN-13 978-9389565980
3. Dasgupta R. (2007): Disaster Management and Rehabilitation, Mittal Publications. New Delhi
4. Singh, Savindra and Singh, Jeetendra (2016): Disaster Management, Pravalika Publications, Allahabad
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7. Savindra Singh, (2000): Environmental Geography. Prayag Pustak Bhavan, Allahabad
8. Saptarshi P. G., More J. C., Ugale V. R. (2009), "Geography and Natural Hazard" Diamond, Pune.

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WEBSITES:

1. https://www.mha.gov.in/division_of_mha/disaster-management-division
2. https://ndma.gov.in
3. https://nidm.gov.in
4. http://www.ndrf.gov.in

M.A.-II Semester IV

GEOGRAPHY OF WATER RESOURCE MANAGEMENT

(Major Subject)

Course Outcome:

The learner will be able to-

CO1: Explain the significance of water and to understand the changing perspective in uses of water.

CO2: Describe the role of government and NGOs in water management.

CO3: Evaluate the national water policy and integrated water resources development.

CO4: Predict the water politics in Maharashtra.

CO5: Apply GIS technique for water management and sustainability.

Modules at a Glance

GEOGRAPHY OF WATER RESOURCE MANAGEMENT

(GEO553)

Unit No.	Unit	Unit Wise Weightage of Marks (in %)
1	Introduction	15
2	Water Availability and Water Situation	15
3	Water Resource Management in India	15
4	Application of Advanced Geographical Techniques for Water Resources Management and Development	15

M.A.-II GEOGRAPHY

Major Subject

GEOGRAPHY OF WATER RESOURCE MANAGEMENT

SEMESTER- IV; COURSE CODE: GEO553; COURSE CREDIT: 04

Teaching Hours 60 + Notional Hours 60= Total hours 120

Units	Name of the Sub Topics	No of Lectures
	Unit – I Introduction	15
1.1	Water as a resource to human society- changing perspective in uses of water	
1.2	Source of water: hydrological cycle-catchment area of river basin methods of water storage	
1.3	Human interference and climatic disturbances	
1.4	Effects of droughts and floods-losses	
	Unit – II Water Availability and Water Situation	15
2.1	Water uses in rural areas and associated problems	
2.2	Water uses in urban areas and associated problems	
2.3	Contemporary water wars Global and Indian context- water politics in Maharashtra	
2.4	Right to water - role of Government and NGO s in mitigating water conditions	
	Unit – III Water Resource Management in India	15
3.1	Need and methods for conservation of water resources	
3.2	Water Future: Challenges and Strategies Development I India	
3.3	National water Policy- Integrated water resource development Action Plan	
3.4	Urban Hydrological cycle, urban surface runoff models: Management and Quality Models	
	Unit – IV Application of Advanced Geographical Techniques for Water Resources Management and Development	15
4.1	Spectral properties of water- Geoinformatics based site selection for river valley Projects, surface water harvesting structures: check dam, Nala bunds, subsurface dykes etc.	
4.2	Application of remote sensing in hydro geomorphological interpretation for Ground water exploration, Water Quality monitoring through remote sensing.	
4.3	Urban Hydrological cycle, urban surface runoff models: Management and Quality Models. GIS applications in water resources development and management.	
4.4	Flood and Drought hazard assessment and risk analysis using RS and GIS	

REFERENCES:

1. Iyer, R.R. (2003): Water: Perspectives, Issues and Concerns, Sage, New Delhi.
2. Mather, J. R. (1984): Water Resources Distribution, Use and Management, John Willey, Maryland.
3. Michael, A.M. (1978): Irrigation: Theory and Practice, Vikas Publishing Home Private Limited, New Delhi.
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5. Pereira, H.C. (1973): Landuse and Water Resources, Cambridge University Press, Cambridge.

6. Kates, R.W. and Burton, I (eds.)(1980): Geography, Resource and Environment, Ottawa.
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11. Mishra, A. (1993): AajBhiKhare Hai Talab, Gandhi Peace Foundation, New Delhi.
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20. Schultz, G. A. and Engman, E. T.(2000): Remote Sensing in Hydrology and Water Management, Springer-Verlag, Berlin,Germany.
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M.A.-II Semester IV

TOOLS AND TECHNIQUES OF SPATIAL ANALYSIS- IV

DISCIPLINE SPECIFIC ELECTIVE (DSC)

Course Outcome:

CO1: To acquaint the students with new concepts and approaches in Geography
CO2: To familiarize the students with the wide application fields in Geography
CO3: To introduce the importance and basic principles of GPS
CO4: To awareness about GIS among the students.

Modules at a Glance

TOOLS AND TECHNIQUES OF SPATIAL ANALYSIS- IV
(GEO554A)

Unit No.	Unit	Unit Wise Weightage of Marks (in %)
1	Aerial Photography and Digitization of Maps	25
2	Vector Data Analysis	15
3	Raster Data Analysis	20

M. A.-II GEOGRAPHY
DISCIPLINE SPECIFIC ELECTIVE (DSC)

TOOLS AND TECHNIQUES OF SPATIAL ANALYSIS- IV

SEMESTER: IV COURSE CODE: GEO554A, **COURSE CREDITS: 4**

Teaching Hours 60 + Notional Hours 60 = Total hours 120

Units	Name of the Sub Topics	No of Lectures
Unit – I Aerial Photography and Digitization of Maps		25
1.1	Aerial Photography: Preparation of stereo card, Photo Interpretation and preparation of photo map, preparation of stereogram using stereo pairs, Calculation and application of scale for distance, area and height measurements. Image Interpretation	
1.2	Georeferencing: Map to map, image to map and assigning projection and choosing datum	
1.3	Digitization: preparation of vector layers, vector editing, linking of spatial and attribute data	
1.4	Thematic Mapping Techniques: Symbolization, labeling, representation of quantitative data, vector layer classification	
Unit – II Vector Data Analysis		15
2.1	Vector overlay, buffer, extraction	
2.2	Point in polygon, line in polygon	
2.3	Data retrieval – Attribute and Spatial query	
2.4	Map Composition	
Unit – III Raster Data Analysis		20
3.1	Spatial Interpolation and raster reclassification	
3.2	Application of Raster calculator	
3.3	Drainage Network Analysis	
3.4	GPS practical	

REFERENCES:

1. Bhatta, Basudeb, (2008), Remote Sensing and GIS, Oxford University Press.
2. Jones, C. B., (1997), Geographical Information Systems and Computer Cartography, Addison, Wesley Longman Ltd., U.K.
3. Albrecht J. (2007), Key Concepts and Techniques in GIS, Sage.
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5. Huxhold, W.E., (1991), An Introduction to Urban Geographical Information systems, Oxford University Press, New York.
6. Pickles, J., (1995), Ground Truth: The social Implications of Geographical Information Systems, The Guilford Press, New York.

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8. Morraine S. (1998), GIS Solutions in Natural Resource Management: Balancing The Technical-Political Equations, Onward Press, London.
9. FazalSahab, (2008), GIS Basics, New Age International Publishers Ltd, New Delhi
10. Petersen, G.N., (2009), GIS Cartography- A Guide to Effective Map Design, Taylor and Francis Group.
11. Vallentine G. Clifford N. (2010), Key Methods in Geography, Sage.

SOCIAL AND CULTURAL GEOGRAPHY

DISCIPLINE SPECIFIC ELECTIVE (DSE)

Course Outcome:

1. To study and identify the philosophical base, problems associated with society & its culture.
2. To know about the culture, cultural regions, hearths and their diffusion, realms, and distribution of races.
3. To study and knowing of socio-cultural diversity of India, and processes of social changes.
4. To understand the social justice and well-being of society, to find out the level of well-being in India.

Modules at a Glance

SOCIAL AND CULTURAL GEOGRAPHY (GEO554B)

Unit No.	Unit	Unit Wise Weightage of Marks (in %)
1	Introduction to Social and Cultural Geography	15
2	Socio-Cultural diversity of India	15
3	Introduction to Culture and Race	15
4	Social Development and Well being	15

M.A.-II GEOGRAPHY

DISCIPLINE SPECIFIC ELECTIVE (DSE)

SOCIAL AND CULTURAL GEOGRAPHY

SEMESTER- III; COURSE CODE: GEO554B; COURSE CREDIT: 04

Teaching Hours 60 + Notional Hours 60= Total hours 120

Units	Name of the Sub Topics	No of Lectures
Unit – I Introduction to Social and Cultural Geography		
1.1	Definition, scope, and significance of Social and Cultural Geography	15
1.2	Society and culture as essential elements in geographical studies.	
Unit- II Socio-Cultural diversity of India		
2.1	Concept of Dialects and ethnicity	
2.2	Distribution of Religion, Caste, Tribe, Language in India.	
2.3	Concept of social areas, North-South	15
2.4	Socio-Cultural diversity of India and Kinship pattern	
2.5	Processes of Social changes: Modernization, Sanskritization and Globalization	
Unit – III Introduction to Culture and Race		
3.1	Concept of culture, culture areas and culture regions, Cultural hearths and cultural diffusion,	
3.2	World Culture Realms. Concept of race	15
3.3	Griffith Taylor and C. S. Coon's Theories of distribution of races of mankind in the world	
3.4	Basis of racial classification and their physical characteristics	
3.5	Races of India	
Unit – IV Social Development and Well being		
4.1	Concept of social Justice and fair society, Equality and welfare	
4.2	Social development and well-being.	
4.3	Indicators for measurement	15
4.4	Levels of well-being in India,	
4.5	Spatial patterns of status of women in India	

REFERENCES:

1. Peet, R. (1998), Modern Geographical Thought, Blackwell
2. Peet, R. and Thrift, N. (eds.) (2002), New Models in Geography, UnwinHymann.
3. Barnes Trevor and Gregory Derek, (eds.) (1997): Reading Human Geography- The Poetic and Politics of Inquiry, Arnold, London.
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9. Dear J. Michael and Flusty Steven, (eds.) (2002): The Spaces of Post Modernity, Blackwell, Massachusetts.
10. Benko Georges and Strohmayer Ulf, (eds.) (2004): Human Geography- A History for the 21st Century, Arnold, London.
11. Atkinson, D., Jackson, P., Sibley, D. and Washbourne, N. (eds.) (2005), Cultural Geography, A Critical Geography of Key Concepts, Tauris, I.B.
12. Cloke, P., Crang, P., Goodwin, M.,(2004), Envisioning Human Geographies, Arnold.
13. Cloke Paul, Crang Philip and Goodwin Mark, (eds.) (1999): Introducing Human Geographies, Arnold, London.
14. Banerjee-Guha, S. (2004), Space, Society and Geography, Rawat, New Delhi.

M.A.-II GEOGRAPHY
(CORE COURSE)
RESEARCH PROJECT
SEMESTER- IV; COURSE CODE: GEO555; COURSE CREDIT: 06
Teaching Hours 60 + Notional Hours 60= Total hours 120

Rayat Shikshan Sanstha's
KARMAVEER BHAURAO PATIL COLLEGE, VASHI
(Empowered Autonomous)
DEPARTMENT OF GEOGRAPHY
Guidelines for Research Project

II. Research Project Proposal

A dissertation proposal will usually comprise the following sections:

11. Title of the Topic
12. Introduction – (one page)
13. Rationale
14. Aims and objectives
15. Research Questions (if any)
16. Literature review (Minimum 10 reviews)
17. Study area – (including map)
18. Data and Research Methodology
19. Organization of the Chapters
20. References

Guidelines for writing the proposal

g. The proposal needs to be prepared using a standard text processing software and must be printed in black text in standard typeface (Times New Roman, size 12). The line spacing should be 1.5 lines

h. A4 (21 cm x 29.7 cm) is the recommended proposal paper size. Proposal should be printed **BOTH SIDE**.

i. The top, bottom and right side margins should be 2.54 cm, whereas, the left side margin should be 3.5 cm for both textual and non-textual (e.g., figures, tables) pages. For both the side printing mirror margins with inside margin should be taken.

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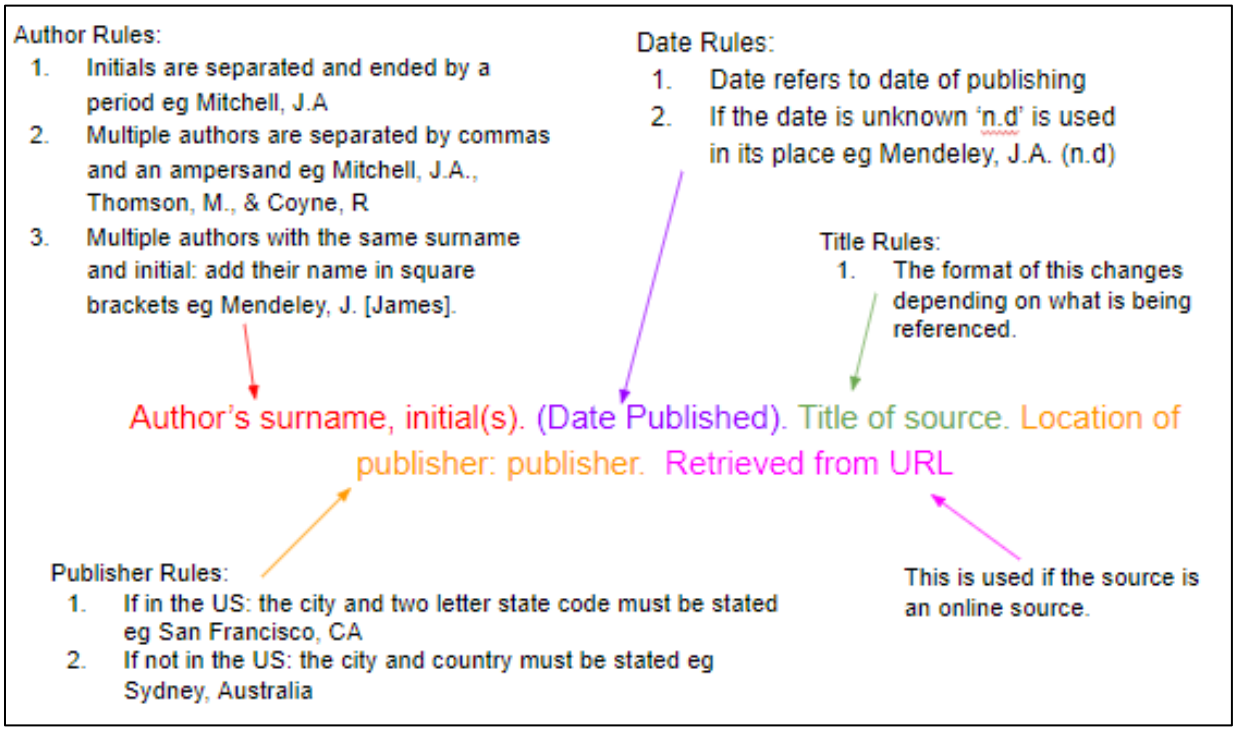
k. Page numbers prior to Chapter 1 should be in lower case Roman numerals (i, ii, iii, …). The title page is considered to be page (i) but the number is not printed. ***All these pages should be single page printed.***

l. **References should be given in APA style (7th edition) at the end of the proposal. Please refer the following format.**



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2) Book chapter

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4) From a website:

Sanger, M. (2000). Woman and the new race. Bartleby.com. http://www.bartleby.com/1013/ (Original work published 1920).

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The last page of the proposal must carry students as well as guide's signature.

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Department of Geography
For the degree of
Master of Arts (M.A.) in the Subject of Geography

BY
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DEPARTMENT OF GEOGRAPHY

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Signature of the Student	Signature of the Guide
Name of the Student	Name of the Guide

EVALUATION PATTERN OF THEROY PAPERS

M. A. GEOGRAPHY PART- II

SEMESTER-III and SEMESTER IV

(With effect from the academic year 2024-25)

INTERNAL ASSESSMENT- 40 MARKS

Practical Examination will be conducted separately

Evaluation type	Marks
Internal Evaluation	**40**
a) Online Examination	20
b) Class Room Presentation	10
c) Field Visit and report writing d) Project Report e) Attendance Seminar, Conference and workshop f) Paper Presentation in Seminar & Conference g) Making Models (As per the syllabus) h) Free Online Courses	10

EXTERNAL ASSESSMENT- 60 MARKS

- Duration – 2 Hours for each paper.
- There shall be eight questions each of 15 marks on each unit.
- All questions shall be compulsory with internal choice within the questions.

Questions	Sub. Question	Unit	Marks
1	a) OR b)	Based on Unit - I	15
2	a) OR b)	Based on Unit – II	15
3	a) OR b)	Based on Unit – III	15
4	a) OR b)	Based on Unit – IV	15

EVALUATION PATTERN OF PRACTICAL PAPER

M. A. GEOGRAPHY PART- II
SEMESTER- III AND SEMESTER- IV
(With effect from the academic year 2024-25)

INTERNAL ASSESSMENT- 40 MARKS

Practical Examination will be conducted separately

Evaluation type	Marks
Internal Evaluation	**40**
a) Class Test	20
b) Problem Solving / viva	10
c) Field Visit and report writing d) Project Report e) Attendance Seminar, Conference and workshop f) Paper Presentation in Seminar & Conference g) Making Models (As per the syllabus) h) Free Online Courses i) Assignments	10

EXTERNAL ASSESSMENT- 60 MARKS

- Duration – 3 Hours for each paper.
- Each unit carries 15 marks.
- All questions shall be compulsory with internal choice within the questions.
- **External Examiner/s will be appointed from other university.**

Questions	Unit	Marks
1	Based on Unit - I	15
2	Based on Unit – II	15
3	Based on Unit – III	15
4	Journal + Viva	15

EVALUATION PATTERN OF RESEARCH PROJECT

M. A. GEOGRAPHY PART- II
SEMESTER- III & IV
CREDIT: 06
(With effect from the academic year 2024-25)

Dissertation: 100 marks

1) Out of total 100 marks 20 marks for internal assessment and
2) For internal assessment students will prepare / submit
   a) Questionnaire
   b) Collection of data through online
   c) Online course
   d) Research methodology
3) 80 mark by external examiner i.e. 60 marks for assessment and 20 mark for viva voce examination on dissertation.
4) Presentation will be open
5) External referee will be appointed from other university