

AC: 29/02/2020

Item No. 5.10



**Rayat Shikshan Sanstha's
KARMAVEER BHURAO PATIL COLLEGE, VASHI,
AUTONOMOUS COLLEGE**

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

NAAC Grade "A+" with CGPA 3.53

Revised Syllabus

Program: M.A.PART- II

Course: Geography

Semester: III and IV

(As per Credit Based Semester and Grading System
with effect from the academic year 2020-21)

Rayat Shikshan Sanstha's
Karmaveer Bhaurao Patil College, Vashi
(Autonomous College)
Department of Geography
Program: M.A Part- II
Course: Geography

Details of Semester wise Course and Credits

Course Code	Course Title	Course Credit
SEMESTER - III		
PGGEO 301	Research Methodology in Geography	06
PGGEO 302 Physical Group	Tropical Geomorphology	06
PGGEO 303 Human Group	Geography of Tribes with Special Reference to India	06
PGGEO 304	Tools and Techniques of Spatial Analysis - V (Practical Component)	06
Total Credits		24
SEMESTER- IV		
PGGEO 401	Application of Remote Sensing Techniques in Geographical Studies	06
PGGEO 402	Geography of Water Resource Management	06
PGGEO 403	Tools and Techniques of Spatial Analysis-VI (Practical Component)	06
PGGEO 404	Dissertation	10
Total Credits		28
Total Credits (Semester V and VI)		52

<p>M.A. GEOGRAPHY PAPER- I</p> <p>RESEARCH METHODOLOGY IN GEOGRAPHY</p> <p>SEMESTER- III; COURSE CODE: PGGEO 301; COURSE CREDIT: 06</p> <p>Teaching Hours 60 + Notional Hours 60= Total hours 120</p>
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Units	Name of sub units	No of Lectures
Unit – I Introduction to Research Methodology		
1.1	Defining research- Methods of research types, significance of geographical research, research ethics	15
1.2	Scientific method in geographical studies, inductive and deductive, basic elements and attributes Scale of research: Macro, Meso, Micro Problem formulation and identification.	
1.3	Review of Literature: Significance and sources of literature review	
1.4	Research Design: meaning, stages, characteristics and significance of research design	
Unit-II Hypothesis and Sampling in Research		
2.1	Meaning of Hypothesis, relevance and types of hypothesis	15
2.2	Identification of problem and hypothesis: Problem identification, statement of hypothesis, testing of hypothesis, generalization	
2.3	Sampling: Meaning and importance, types of sampling	
2.4	Selection of sample and size of sample	
Unit- III Nature and Analysis of Geographical Data		
3.1	Nature and type of Geographical data	15
3.2	Levels of measurements: Nominal	
3.3	Methods and sources of geographical data collection: conventional and modern;limitations of secondary data and need for data generation, collection of primary data: questionnaires and schedules, field work, sample surveys and their significance	
3.4	Geographic Data analysis: Qualitative, Quantitative and Advancedtechniques ofgeographic data processing and analysis, geographical matrix and its significance in analysis of Geography data	
Unit-IV Scientific Report Writing		
4.1	Introduction- aim and objectives, data and methodology	15
4.2	Data analysis, , result, conclusion	
4.3	Referencing system, weblography and bibliography	
4.4	Plagiarism: design, concept of impact factor, citation	

Note: Blue Highlighted Topic / Course has focus on employability/ entrepreneurship/skill development

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M.A. GEOGRAPHY PAPER- II
TROPICAL GEOMORPHOLOGY
 SEMESTER- III; COURSE CODE: PGGEO 302; COURSE CREDIT: 06
 Teaching Hours 60 + Notional Hours 60= Total hours 120

Units	Name of the sub Topics	No of Lectures
Unit- I Tropical Environment		
1.1	Tropical Region: Definition and characteristics of tropical region, nature, scope and development of tropical geomorphology, Concept of morphogenetic region.	15
1.2	Major Controls on tropical landscape: Tectonic processes, climate, anthropogenic activities.	
1.3	Geomorphic processes in tropics: Weathering, mass wasting	
1.4	Exogenetic processes	
Unit- II Landform Assemblages In Tropics		
2.1	Structural Landforms in Tropical areas: Precambrian shield, mountain chains, volcanoes,	15
2.2	Formation and distribution of Doms, Bornhardts and Tors in tropical areas.	
2.3	Planation surfaces: etchplain, peneplain, pediplain and inselbergs	
2.4	Structural landforms in tropical part of India with special reference to Deccan Plateaus; Planation surfaces in India.	
Unit- III Weathering and Slopes		
3.1	Weathering process and factors of deep weathering profiles; products of weathering.	15
3.2	Duricrusts and types: laterite, calcrete, silcrete processes of formation, profiles and landforms.	
3.3	Slope processes and development in humid tropics: hill slopes, pediments and gullies	
3.4	Mass wasting: processes and types	
Unit- IV Exogenic Processes and Typical Forms in Humid and Arid Tropics		
4.1	Fluvial Processes: Nature of fluvial processes tropics, fluvial landscapes in tropics river terraces, flood plains, alluvial fans	15
4.2	Coastal Processes: Nature of coastal processes in tropics and typical coastal landforms in tropics Mangroves and Mudflats, Corals, Deltas.	
4.3	Glacial processes in tropical highlands:	
4.4	Aeolian Processes in tropical areas: Badland Morphogenesis,	
Note: Blue Highlighted Topic / Course has focus on employability/ entrepreneurship/skill development		

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M.A. GEOGRAPHY PAPER- III
GEOGRAPHY OF TRIBES WITH SPECIAL
REFERENCE TO INDIA

SEMESTER- III; COURSE CODE: PGGEO 303; COURSE CREDIT: 06

Teaching Hours 60 + Notional Hours 60= Total hours 120

Units	Name of the sub Topic	No of Lectures
Unit – I Introduction		
1.1	Tribes and tribal communities - a historical perspective	15
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		
2.1	Origin and Historical perspective of Tribes in India	15
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		
3.1	Tribal' s of Himalayan region / North and North Eastern Region	15
3.2	Tribal's of Central India Central Region	
3.3	Tribal's of Western India Western Region	
3.4	Tribal's of Southern India Southern Region	
Unit - IV Tribal Development Programmes in India		
4.1	Need for Tribal Development Programmes in India	15
4.2	Tribal Development Programmes in India	
4.3	Impact of Tribal Development Programmes in India	
4.4	Integrated Tribal Development Programmes in Maharashtra	
<p>Note: 1. Blue Highlighted Topic / Course has focus on employability/ entrepreneurship/skill development</p> <p>2. Yellow Highlighted Topic / Course is related to professional ethics, gender, human values, Environment & sustainability</p>		

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M.A. GEOGRAPHY PRACTICAL PAPER- IV
TOOLS AND TECHNIQUES OF SPATIAL ANALYSIS - V
SEMESTER- III; COURSE CODE: PGGEO 304; COURSE CREDIT: 06
 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		
1.1	Inferential statistics: Introduction; Hypothesis Testing - Chi square test, T-test applications; Analysis of variance (ANOVA).	20
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		
2.1	Correlation: Types of correlation; Methods of correlation- Spearman s rank correlation and Karl Pearson s coefficient of correlation; Partial Correlation.	20
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		
3.1	Noise Pollution: Introduction; Use of sound measuring device; temporal and spatial variation mapping based on primary data.	15
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
Note: Blue Highlighted Topic / Course has focus on employability/ entrepreneurship/skilldevelopment		

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M.A. GEOGRAPHY PAPER- I
APPLICATIONS OF REMOTE SENSING TECHNIQUES
IN GEOGRAPHICAL STUDIES
SEMESTER- IV; COURSE CODE: PGGEO 401; COURSE CREDIT: 06
 Teaching Hours 60 + Notional Hours 60= Total hours 120

Units	Name of the sub Topics	No of Lectures
Unit – I Aerial Photography		
1.1	Introduction to aerial camera, factors affecting image quality	15
1.2	Types of aerial photographs, Photographic resolution and radiometric Characteristics.	
1.3	Fundamentals of photogrammetry: Introduction and definition Simple geometry	
1.4	Vertical aerial photograph Relief and tilt displacement Stereoscopy, parallax Equation; flight planning Scale and height determination	
Unit – II Principles and Fundamentals of Aerial Photo Interpretation		
2.1	Image analysis Elements, Fundamentals of satellite images analysis: Types of Imagery, Visual image analysis, digital image analysis	15
2.2	Basic principles of thermal and microwave remote sensing	
Unit- III Hyperspectral Remote Sensing		
3.1	Hyper spectral Imaging: Hyper spectral Concepts, data collection systems, normalization, Calibration techniques,	15
3.2	Data processing techniques; N-dimensional scatter plots, special angle mapping, Spectral Mixture analysis, Spectral Matching, Mixture tuned matched filtering	
3.3	Classification techniques, airborne and space borne Hyper spectral sensors	
3.4	Hyper-spectral satellite systems: Sensors, orbit characteristics, description of satellite Systems, data processing aspects, applications	
Unit- IV Application of Remote Sensing		
4.1	Land Use/Land Cover and Wetland Mapping	15
4.2	Agriculture and Soil Mapping Applications	
4.3	Water Resources Applications	
4.4	Urban Planning Applications	
Note: Blue Highlighted Topic / Course has focus on employability/ entrepreneurship/skill development		

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M.A. GEOGRAPHY PAPER- II
GEOGRAPHY OF WATER RESOURCES
MANAGEMENT
SEMESTER- IV; COURSE CODE: PGGEO 402; COURSE CREDIT: 06
 Teaching Hours 60 + Notional Hours 60= Total hours 120

Units	Name of the Sub Topics	No of Lectures
Unit – I Introduction		
1.1	Water as a resource to human society- changing perspective in uses of water.	15
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		
2.1	Water uses in rural areas and associated problems	15
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		
3.1	Need and methods for conservation of water resources	15
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		
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.	15
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	

Note: 1. Blue Highlighted Topic / Course has focus on employability/ entrepreneurship/skill development

2. Yellow Highlighted Topic / Course is related to professional ethics, gender, human values,

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M.A. GEOGRAPHY PAPER- III

TOOLS AND TECHNIQUES OF SPATIAL ANALYSIS- VI

SEMESTER- IV; COURSE CODE: PGGEO 403; COURSE CREDIT: 05

Teaching Hours 60 + Notional Hours 60= Total hours 120

Units	Name of the Sub Topics	No of Lectures
Unit – I S.O.I. Topographical Maps		
1.1	Introduction Index to sheet- Scales- Conventional signs and symbols	25
1.2	Study and interpretation of topographical maps with reference to:	
	i) Glacial; Fluvial, Aeolian and Coastal landforms	
	ii) Drainage pattern	
	iii) Land-use	
	iv) Settlement	
1.3	Study and interpretation of O.S sheets and USGS maps and Land-use.	
Unit – II Thematic Maps		
2.1	Thematic maps: Physical - Interpretation of NATMO thematic maps	15
2.2	Thematic maps: Socio-Cultural - Interpretation of NATMO thematic maps	
2.3	Thematic maps: Economic- Interpretation of NATMO thematic maps	
Unit- III Spatial Analysis in Development Studies		
3.1	Measuring Development- Choice and relevance of indicators	20
3.2	Methods of measurement- Rank, Quartile and Z score methods.	
3.3	Identification of levels of Development - Mapping and interpretation of Levels of development	
Note: 1. Blue Highlighted Topic / Course has focus on employability/ entrepreneurship/skill development		

REFERENCES:

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7. Wong, Cecilia, (2006): Indicators for Urban and Regional Planning, Rourtledge
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13. Anson, R.W. and Ormeling, F.J.(ed)(1993): Basic Cartography for Students and Technicians, Vol.I, International Cartographic Association and Elsevier Applied Science Publishers, London
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M.A. GEOGRAPHY PAPER- IV

PRACTICAL BASED DISSERTATION

SEMESTER- IV; COURSE CODE: PGGEO 404; COURSE CREDIT: 10

Data -based study on any branch of Geography

EVALUATION PATTERN OF THEORY PAPERS

M. A. GEOGRAPHY PART- II

SEMESTER-III PAPER- I TO III and SEMESTER IV PAPER- I TO II

(With effect from the academic year 2020-21)

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, PAPER- IV AND SEMESTER- IV PAPER- III
(With effect from the academic year 2020-21)**

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 DISSERTATION

M. A. GEOGRAPHY PART- II
SEMESTER- IV PAPER- IV COURSE CODE PGGEO 404
COURSE CREDIT: 08

(With effect from the academic year 2020-21)

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