Savitribai Phule Pune University

(Formerly University of Pune)

M.A./M.Sc.-II (Geography)

Choice Based Credit System Syllabus

To be implemented from Academic Year 2020-2021

Savitribai Phule Pune University

Faculty of Science and Technology
Geography MA/MSc – II
Semester – III

Course Code	Core Compulsory Theory Paper (CCTP)	Choice Based Optional Paper (CBOP)	Theory / Practical	Credit	Core Compulsory Practical Paper (CCPP)	Credit
GGUT-235	Geoinformatics-II	-	-	04	-	04
GGUT-236	Geographical Thoughts	-	-	04	-	04
One of the following according to specialization from CCTP						
GGUT-237	Tropical Geomorphology	-	-	04	-	04
GGUT-238	Applied Climatology	-	-	04	-	
GGUT-239	Geography of Rural Development	-	-	04	-	
GGUT-240	Urban Geography	-	-	04	-	
Choice Based Optional Paper (CBOP) (1 Theory + 1 Practical)						
		GGDP-241	Practical in Geoinformatics	02	-	04
		GGUT-242	Hydrology	02		
		GGUT-243	Watershed Management	02	-	
		GGDP-244	Practical in Multivariate Statistics	02	-	
One of the following according to specialization from CCPP						
				GGUP-245	Practical in Geomorphology	04
				GGUP-246	Practical in Climatology	
				GGUP-247	Practical in Economic Geography	
				GGUP-248	Practical in Population and Settlement Geography	
Total Credits of Semester - III						**20**

Savitribai Phule Pune University
Faculty of Science and Technology
Geography MA/MSc – II
Semester - IV

	Core Compulsory Theory Paper (CCTP)	**Choice Based Optional Paper (CBOP)**	**Theory / Practical**	**Credit**	**Core Compulsory Practical Paper (CCPP)**	**Credit**
GGUT-249	Geography of India	-	-	-	-	04
GGUT-250	Oceanography	-	-	-	-	04
GGUT-251	Research Methodology	-	-	-	-	04
Choice Based Optional Paper (CBOP) (1Theory + 1Practical)						
		GGUT-252	Geography of Soils	02		04
		GGDP-253	Practical in Geostatistics	02		
		GGUT-254	Political Geography	02		
		GGUT-255	Regional Planning	02		
		GGDP-256	Practical in Watershed Analysis	02		
		GGDP-257	Interpretation of Topographical Maps and GPS Survey	02		
Core Compulsory Practical Paper (CCPP)						
				GGUT-258	Geography of World	04
				GGUP-259	Dissertation/ Research Project	04
					Total Credits of Semester - IV	**20**

Savitribai Phule Pune University, Pune

MA/MSc - II Syllabus in Geography (Credit System)
Revised Syllabus (from June, 2020)

Course: GGUT-235 Geoinformatics II

No. of Credits: 04 **No. of Periods: 60**

Topic No.	Topic	Subtopics	No. of Periods
1	Introduction to Remote Sensing	i. Remote Sensing: definition, concept and principles ii. History and development of Remote Sensing in India	05
2	EMR and EMS	i. EM Radiation and EM Spectrum ii. Interaction of EMR with atmosphere iii. Interaction of EMR with Earth's surface iv. Black body radiation, Laws of radiation	10
3	Platforms and Satellites	i. Platform: Types and characteristics ii. Satellites: Geo-stationary and Sun synchronous iii. Earth Resources Satellites: LANDSAT, SPOT, IRS, IKONOS satellite series iv. Meteorological satellites: INSAT, NOAA, GOES	15
4	Sensors	i. Sensors: Across track (whiskbroom) and Along track (pushbroom) scanning ii. Optical mechanical scanners: MSS, TM, LISS, WiFS, PAN	08
5	Resolution	i. Spatial Resolution ii. Spectral Resolution iii. Temporal Resolution iv. Radiometric Resolution	05
6	Image Interpretation Techniques	i. Basic principles, types, steps and elements of image interpretation ii. Techniques of visual interpretation and interpretation keys	05
7	Aerial Photography	i. Aerial camera: Components ii. Aerial Photography: Definition and characteristics iii. Types of aerial photographsTypes of Aerial Photographs Based on the Position of the Cameral Axis iv. Types of Aerial Photographs Based on Scale v. Geometry of an aerial photograph	12

Reference Books:

1. Anji Reddy, M. (2004): Geoinformatics for environmental management.B.S. Publications
2. Campbell, J.B. (2002): Introduction to Remote sensing. Taylor Publications.
3. Chang.T.K. (2002): Geographic Information Systems. Tata McGrawHill
4. Drury, S.A. (1987): Image Interpretation in Geology. Allen and Unwin.
5. Francis Tar Bernhardsen. Geographical Information Systems. John Wiley.
6. Gupta, R.P. (1990): Remote Sensing Geology. Springer Verlag.
7. Heywood.I, Cornelius S, CrverSteve. (2003): An Introduction to Geographical Information Systems. Pearson Education
8. Jensen, J.R. (2000): Remote Sensing of the Environment: An Earth resource Perspective Prentice Hall.
9. Joseph George (2003): Fundamentals of remote sensing. Universities Press.
10. Lillesand, T.M., and Kieffer, R.M. (1987): Remote Sensing and Image Interpretation, John Wiley.
11. Ram Mohan Rao. (2002): Geographical Information Systems. Rawat Publication.
12. Sabbins, F.F. (1985): Remote sensing Principles and interpretation. W.H.Freeman and company
13. Skidmore A., (2002): Environmental modeling with GIS and Remote Sensing. Taylor and
14. Wise S., (2002): GIS Basics. Taylor Publications

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MA/MSc - II Syllabus in Geography (Credit System)
Revised Syllabus (from June, 2020)

Course: GGUT-236 Geographical Thoughts

No. of Credits: 04 **No. of Periods: 60**

Topic No.	Topic	Subtopics	No. of Periods
1	Historical Development of Geographical Thought	i. A brief account of Greek, Roman, and Indian Schools of thoughts ii. Contributions of Herodotus, Eratosthenes, Strabo, Ptolemy iii. brief account of Arab School iv. Contributions of Marco Polo, Columbus, Vasco-Da-Gama and Captain Cook v. A brief account of different schools of thought – German, French, British and American vi. Contributions of Kant, Humboldt, Ritter, W. M. Davis.	20
2	Dualism in Geography	i. Determinism and Possibilism ii. Systematic versus Regional Geography iii. Physical versus Human Geography	10
	Paradigms,	i. Hypothesis, Theories and Laws ii. Paradigms in Geography	10

3	System approaches and Models in Geography	iii. System approaches in Geography iv. Types of Models used in Geographical Studies	
4	Recent Trends in Geography	i. Field survey process studies and experimental studies ii. Quantification and application of statistical techniques in Geography iii. Computer based Cartography, Remote Sensing, GIS and Geo-informatics	10
5	Applied Geography	i. Definition, Need and Significance ii. Application in land-use planning, regional planning and urban planning, resource management, environmental management, natural hazards, scenic evaluation	10

Reference Books:

1. Cooke, R. U. and Doornkamp, J. C. (1974): Geomorphology in Environmental Management, Clarendon Press, Oxford.
2. Coffey, W. J. (1981): Geography : Towards a general spatial systems approach, Mathuen, London
3. Dikshit, R. D. (1997): Geographical Thought: A Contextual History of Ideas, Pub. By A. K. Ghosh, Prentice – Hall of India Pvt. M 97, New Delhi.
4. Frazire, J. W. (1982): Applied Geography, Prentice Hall, Englewood Cliffs.
5. Hertshone, R. (1959): Perspectives of Nature of Geography, Rand Mac Nally and Co.
6. Hussain, M. (1995) : Evolution of Geographical Thought, Rawat Pub., Jaipur
7. Singh I. (2006): Diverse aspect of Geographical Thought, ALFA Publications, New Delhi

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MA/MSc - II Syllabus in Geography (Credit System)
Revised Syllabus (from June, 2020)

Course: GGUT-237 Tropical Geomorphology

No. of Credits: 04 **No. of Periods: 60**

Topic No.	Topic	Subtopics	No. of Periods
1	Introduction to Tropics	i. Tropical Environment – Definition ii. Peculiarities of tropical climate iii. Classification of Tropics iv. Morphogenetic regions - Temperature, rainfall, humidity, vegetation	06
2	Tropical Weathering	i. Factors influencing the weathering - climatic, geomorphic, biotic, geologic, chronological and site factors ii. Solubility and Mobility of minerals in Tropics iii. Weathering profile: Deep weathering profiles -	12

5	Urban Demography	Characteristics of urban population: i. Growth of Urban population ii. Density of population in cities iii. Age, sex and occupational structure	08
6	City and its Region	i. Concepts of city region and various synonymous terms used ii. Criteria used to demarcate the city region	04
7	Central Place	i. Christaller's Central Place Theory ii. Rank-size relationship and rank- size rule iii. Hierarchy of urban settlements	08
8	Contemporary Urban issues	i. Price of land and vertical and horizontal growth of cities ii. Scarcity of housing and growth of slums iii. Problems of civic amenities iv. Urban transport problem v. Urban Environmental pollution vi. Urban floods, health and hygiene	08
9	Urban policy and planning	i. Urban development policy in India ii. Need &Element of city plan iii. Use of GIS in Urban Planning	07

Reference Books:

1. Bhattacharya: Urban Development in India, Shree publication
2. Brian, R.K. (1996): Landscape of Settlement Prehistory to present, Routledge, London
3. Careter (1972): Fourth edition: The study of Urban Geography, Arnold, London
4. Gadakh B.L. and Jaybhaye R. G. (2017): Urban Sprawal Analysis of Nashik City. Scholar press
5. Hall P. (1992): Urban and Regional Planning, Routedge, London
6. K. Siddharth and S. Mukherji : Cities, Urbanization and Urban Systems
7. Kundu, A. (1992): Urban Development and Urban Research in India, Khanna Publication
8. Mayer and Kohan: Readings in Geography
9. Northam: Urban Geography
10. Roy Turner: Indian's Urban Future
11. R.B Mandal-V.G A Textbook (Concept publishing Company
12. Shah Manzooor Alam: Urbanization in Developing Countries
13. Singh.K.and Steinberg.F. (eds)(1998): Urban India in Crisis. New Age Interns
14. Urban Geography: Tim Hall
15. Verma: Urban Geography, Rawat, Jaipur

Savitribai Phule Pune University, Pune

MA/MSc - II Syllabus in Geography (Credit System)
Revised Syllabus (from June, 2020)

Course: GGDP-241 Practical in Geoinformatics

No. of Credits: 02 **No. of Periods: 30**

Topic No.	Topic	Subtopics	Practical (3 Hours)
1	Aerial Photography	Measurements and Interpretation i. Scale and height (using parallax bar) ii. Visual Interpretation of single aerial photograph iii. Interpretation of stereo pair using Stereoscope	02
2	Satellite Images	i. Visual interpretation of LISS, PAN, WiFS ii. Cartosat Data, IKONOS and Quick Bird	02
3	Spatial Database	Layer Generation i. Raster: Full Grid, Chain Codes and Run Length Codes ii. Vector: Manual Digitization, Digitization Errors and Topology Building	04
4	GIS operations	i. Raster and vector overlay, map algebra (AND, OR) from a toposheet quadrant ii. Spatial interpolation from a toposheet quadrant iii. GIS operations using open source GIS softwares	02

Reference Books:

1. Burrough, P.A. and R.A. McDonnell (2000): Principles of Geographical Information System, Oxford University Press.
2. Chang Kang-tsung. (2002): Introduction to GIS, Tata McGraw Hill, New Delhi.
3. C. P. Lo and Albert, K. W. Yeung (2002): Concepts and Techniques of Geographic Information System, 2002Prentice –Hall, India.
4. George Joseph (2003): Fundamentals of Remote Sensing, Universities Press, Hyderabad
5. Kang – Tsung – Chang, (2002): Introduction to Geographical Information System, McGraw Hill.
6. J. R. Jensen, (2003) : Remote Sensing of Environment, An Earth Resource Perspective, Pearson Education Pvt. Ltd., New Delhi
7. P. A. Burrough and R. A. McDonnell, (2000): Principles of Geographical Information System, Oxford University Press.

13. Kale, V.S. and Gupta, A., (2001): Introduction to Geomorphology, Orient Longman, Calcutta.
14. Kazmann, R.G., (1972): Modern Hydrology, Harper and Row Publishers, New York.
15. Linsley, R.K. (Jr), Kohler, M. A. P. and Joseph L. H., (1975): Applied Hydrology, Tata McGraw-Hill Publishing Company Ltd., New Delhi.
16. Mutreja, K.N., (1995): Applied Hydrology. Tata McGraw-Hill Publishing Company Ltd. New Delhi.
17. Raghunath, H.M., (1985): Hydrology: Principles, Analysis and Design. Wiley Eastern Ltd, New Delhi.
18. Rodda, J.C., Downing, R. A. and Law, F.M., (1976): Systematic Hydrology, Newnes-Butterworths, London.
19. Shaw, E.M., (1988): Hydrology in Practice. Van Nostrand Reibhold Int. Co. Ltd, London.
20. Strahler, A.A. and Strahler, A. N., (2002): Physical Geography: Science and Systems of the Human Environment, John Wiley & Sons, INC.
21. Strahler, A.H. and Strahler, A. N., (1992): Modern Physical Geography, John Wiley & Sons, INC.
22. Strahler, A.N., (1965): Introduction to Physical Geography, John Wiley & Sons, INC.
23. Viessman, W. and Lewis, G., (2003): Introduction to Hydrology, Pearson Education, Singapore.
24. Ward, R., (1978): Floods. A Geographical Perspective. The Mac Millan Press Ltd, London.
25. Wilfried, B., (2005): Hydrology: An Introduction. Cambridge University Press, Cambridge.
26. Wisler, C.O. and Brater, E. F., (1959): Hydrology, John Wiley and Sons, Tokyo.

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MA/MSc - II Syllabus in Geography (Credit System)
Revised Syllabus (from June, 2020)

Course: GGUT-243 Watershed Management
No. of Credits: 02 **No. of Periods: 30**

Topic No.	Topic	Sub topics	Periods
1	Concept of watershed management	i. Definition, concepts of watershed; watershed management, Principle of watershed management ii. Necessity of watershed management iii. Problems in watershed management	06
2	Characteristics of watershed	i. Delineation of Watershed ii. Characteristics: Size , Shape , Physiography , Climate, Drainage, Land use, Vegetation, Geology and Soils, Hydrology, Socioeconomics	06

4	Cartographic Techniques in Economic Geography	i. Use of Thematic Maps in Economic Geography ii. Use of Choropleth Maps in Economic Geography iii. Use of GIS in Economic Geography	03
5	Industrial Visit	i. Visit to one Agro-based Unit (Industry) and report writing	03

Reference Books:

1. C. P. Lo and Albert, K. W. Yeung (2002): Concepts and Techniques of Geographic Information System, 2002Prentice –Hall, India.
2. Kansky, N. T. (1965): Structure of Transport Network
3. Liendsor, J. M. (1997): Techniques in Human Geography, Routledge
4. Lloyd, P. and B. Dicken (1972): Location in Space - A theoretical approach to economic geography. Harper and Row, New York.
5. Majid Hussein, " Agricultural Geography", Rawat Publication.
6. Monkhouse, F. J. and Wilkison, H. R. (1976): Map and Diagrams, Methuen and Co.
7. P. A. Burrough and R. A. McDonnell, (2000): Principles of Geographical Information System, Oxford University Press.
8. Paul A. Lonfley, Michel F. Goodchild, D J. Maguire and D.W. Rhind (2002): Introduction to Geographic Information Systems and Science, John Wiley and Sons Ltd.
9. Singh & Kanujia : Map work and Practical Geography
10. Singh. J. and Dhillon S.S. (1994): Agricultural Geography. Tata McGraw Hill, Publishing Co. Ltd.
11. Yeats, M. H. (1974): An introduction to Quantitative Analysis in Human Geography

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MA/MSc - II Syllabus in Geography (Credit System)
Revised Syllabus (from June, 2020)

Course: GGUP-248 Practical in Population and Settlement Geography
No. of Credits: 04 **No. of Periods: 60**

Topic No.	Topic	Subtopics	Practical (3 Hours)
1	Population Geography	Demographic indices: i. Mean age at marriage and fertility ii. Measures of mortality ,IMR & A.S.D.R Dependency ratio Determinants of Demographic transition: i. Demographic transition: Determinants of demographic transition compared with underdeveloped/developing/developed countries/state ii. Pull-push factors affecting volume of migration- simple correlation matrix iii. Rural urban composition of population	06

		iv. Age-sex and literacy	
2	Settlement Geography	i. Gravity model by W.J.Reilly and Zipf, its application (potential population surfaces) Indices of C.B.D ii. Stages according to urbanization curve iii. Rank size rule iv. Gini's Coefficient concentration index	06
3	Village Survey/ Urban Survey	i. Preparation of questionnaire ii. Collection of Population and settlement data iii. Data analysis and preparation of report	08

Reference Books:

1. Economic and Political weekly-Special issue of population survey
2. Liendzore J.M Techniques in Human Geography
3. Martin Cad: Analytical Urban Geography
4. Siddharth,K and Mukherjee,S (1999): Cities urbanization and urban systems
5. Chandana, R,.C.Population,Geography
6. Yeats,M.H.(1978): An introduction to quantitative analysis in human Geography.
7. Carter Harold: Urban Geography
8. John R.Weeks: Population – an introduction to concepts and issues.

SAVITRIBAI PHULE PUNE UNIVERSITY

Geography MA/MSc-II (Credit System)

Revised Syllabus (From June-2020)

Semi -IV

Course: GGUT-249 Geography of India

No. of Credits: 04 **Total Periods: 60**

Topic No.	Topic	Sub-Topic	Periods
1	Introduction	i. Geographical and relative location of India ii. Frontiers of India iii. Strategic Significance iv. Geological Structure	06
2	Physiography	Main physiographic divisions & their importance i. The northern mountains ii. The north Indian Plain iii. The peninsular plateau iv. The coastal lowlands v. The islands	06

3	Drainage Systems	A) Himalayan drainage systems: i. Ganga ii. Brahmaputra iii. Indus B) Peninsular drainage system 1. East Flowing Rivers: i. Godavari ii. Krishna iii. Mahanadi 2. West Flowing Rivers: i. Narmada ii. Tapi iii. Mahi	06
4	Climate	A) Main Seasons & Associated weather conditions: i. The winter ii. The summer iii. The rainy/monsoon iv. The retreat monsoon B) Origin and mechanism of monsoon: i. Traditional concept: Halley's view ii. Recent Concept: a. Role of Tibet plateau b. ITCZ c. Jet Stream d. El-Nino	06
5	Soils	A) Major soil types and their distribution in India: i. Alluvial soil ii. Black soil iii. Red soil iv. Laterite and Lateritic soils v. Forest and Mountain soils vi. Arid and Desert soils vii. Saline and Alkaline soils viii. Peaty and Marshy soils B) Soil degradation and soil conservation	06
6	Forest	A) Main forest types and their distribution in India: i. Moist Tropical forests ii. Dry Tropical forests iii. Montane Sub-tropical forests iv. Montane Temperate forests v. Alpine forests B) Deforestation and conservation of forest	06
7	Minerals and Energy Resources	A) Distribution and Utilization of Minerals: i. Iron Ore ii. Manganese iii. Bauxite B) Distribution and Utilization of Energy Resources: i. Coal ii. Petroleum iii. Natural gas	06

		C) Major power projects in India: i. Hydro electric ii. Thermal Power iii. Atomic power	
8	Agriculture	A) Distribution and Production of Major Crops: i. Rice ii. Wheat iii. Cotton iv. Sugarcane B) Agriculture revolution in India: i. Components of the Green Revolution ii. Merits and demerits of Green Revolution in India C) Factors affecting Indian Agriculture: i. Environmental Factors ii. Technological Factors iii. Institutional Factors	06
9	Industries	A) Major Industries in India: i. Cotton Textile ii. Sugar iii. Iron and Steel B) Major Industrial Regions in India C) Problems of Industrial development	06
10	Population	A) Growth and distribution of population in India B) Composition and structure of Population: i. Rural-Urban ii. Age-sex iii. Religious iv. Marital status v. Occupational structure	06

N.B.: According need of topics, maps are expected.

Reference Books:

1. Agrawal A. N. (2019): "Indian economy, Developmental Problems and policies" New Age International Pvt. Ltd.
2. Bhende, Asha A and Kanitkar Tara (2015): "Principles of Population Studies", Himalaya Pub. House, New Delhi.
3. Chandana R. C. (2016): "Geography of population", Kalyani Publishers, New Delhi.
4. Chopra S. N. - India, an Area Study.
5. Deshpande C. D. (1992): "India: A Regional Interpretation", Indian Council of Social Science Research and National Book Centre, New Delhi
6. Dubey and Negi - Economic Geography of India.
7. Gopal Singh (1976): Geography of India" Atma Ram Pub., Delhi
8. Khullar D. R. (2018) : "India: a Comprehensive Geography" Kalyani Publishers
9. Majid Husain (2008): "Geography of India", Tata McGraw Hill, New Delhi
10. Mathur, S. M. (1994): Physical Geology of India, National Book Trust, New Delhi, India.
11. Memoria, I. B. - Geography of India.
12. Singh R. L. (1971): "India-A Regional Geography". NGSI, Varanasi.

13. Randhawa, M. S. (1947): The Birth of the Himalayas.
14. Saigal, Umesh (1994): Lakshadweep, National Book Trust, New Delhi, India.
15. Sharma and Continuo - Economic and Commercial Geography of India.
16. Singh, R. L. et. al. (1971): India: A Regional Geography, National Geographical Society of India, Varanasi.
17. Tamta, B. R. (1994): Andaman and Nicobar Islands, National Book Trust, New Delhi, India.
18. Wadia D. N. (1993): Geology of India, Tata McGraw Hill, New Delhi
19. Census of India Report – website- http://censusindia.gov.in/
20. Earth Science India- www.earthscienceindia.info

SAVITRIBAI PHULE PUNE UNIVERSITY

Geography MA/MSc-II (Credit System)

Revised Syllabus (From June-2020)

Course: GGUT–250 Oceanography

No. of Credits: 04 **Total Periods: 60**

S.N.	Topic	Sub-Topic	Periods
1	Introduction to Oceanography	i. Definition and Meaning of Oceanography ii. Foundation of Modern Oceanography iii. Contribution of Oceanographers in the subject iv. Post-war Oceanography v. Modern Trends	08
2	Origin of the Ocean Basins	i. Continental Drift ii. Seafloor Spreading iii. Plate Tectonics iv. World Oceans, their origin and distribution	08
3	The Ocean Floor	Relief of the Ocean Bottom i. Continental Margin: Continental shelves and slopes ii. Oceanic Ridges and Rises iii. Abyssal Plains iv. Oceanic Trenches v. Volcanoes on ocean floor vi. Coral Reefs and Atolls vii. Offshore Islands	08
4	Properties of Sea Water	i. Factors affect temperature on water and distribution ii. Factors affecting density iii. Origin and composition of sea salt and residence time iv. Carbon dioxide and carbonate cycles v. Viscosity vi. Surface tension	12
5	Marine Sediments	i. Lithogenous particles (Derived from Rocks) ii. Biogenous particles (derived from organisms) iii. Hydrogenous particles (derived from Water iv. Distribution of sediment deposits v. Oceanic ooze vi. Correlation and age determination	08

6	Ocean resources	i. Natural resources- gaseous, liquefied and solid chemical parameters ii. Available resources iii. Exploited resources iv. Unexploited resources v. Account of known but unexploited oceanic reserves	08
7	Oceanic Pollution	Causes and measures i. Etiology of marine & oceanic pollution ii. Possible natural disturbances causing pollution in oceans iii. Anthropogenic activities resulting in oceanic pollution iv. Oceanic pollutants and their characteristics for human benefits v. Known remedial measures for pollution at sea & oceanic level	08

Reference Books:

1. Basu S.K. (2003) (ed): Handbook of Oceanography, Global Vision, Delhi.
2. Davis Richard A. (1972): Oceanography, Addition Wesley Publishing Co.
3. Garrison Tom (1999): Oceanography, Brooks/ Cole Wadsworth, New York.
4. Garrison Tom (2004): Essentials of Oceanography. Thompson, Australia.
5. Grant Gross M. (1982): Oceanography, Prentice hall, Ince, New Jersey.
6. King Cuchlain A. M (1962): Oceanography for Geographers (ED) Edward Arnold.
7. Sharma & Vatal (1962): Oceanography for Geographers. Chaitanya Publishing House, Allahabad
8. Thurman Harold V. (1985): Introductory Oceanography. Bell & Howell Co. London.
9. Weisberg J. and Howard P. (1974): Introductory Oceanography. McGraw Hill, Kogakusha, Tokyo

SAVITRIBAI PHULE PUNE UNIVERSITY

Geography MA/MSc-II (Credit System)

Revised Syllabus (From June-2020)

Course: GGUT – 251 Research Methodology

No. of Credits: 04 **Total Periods: 60**

Topic No.	Topic	Sub-Topic	Periods
1	Introduction to Research Methodology	i. Meaning and objectives of research ii. Characteristics of Research iii. Types of Research iv. Various steps in Research Process v. Research Methods versus Methodology	10
2	Research Design	i. Research Design - definition ii. Purpose of a Research Design iii. Characteristics of Good Research Design	06
3	Research Problem	i. Definitions of the Research Problem ii. Identification of a Research Problem iii. Technique involved in defining a problem	06

4	Sampling Design	i. Sampling Design – Definition of Population, Sample and Sampling Design ii. Advantages and disadvantages of Sampling iii. Characteristics of a good sample iv. Types or method of sampling	08
5	Methods of Data Collection	A) Primary Data Questionnaire Method i. Questionnaire – definition ii. Characteristics of a good questionnaire iii. Merits and demerits Questionnaire Method Interview Method i. Interview – definition ii. Characteristics of an interview iii. Merits and demerits of Interview iv. Difference between Interview and Questionnaire Observation Method/Field Work Method B) Secondary Data	06
6	Data Analysis	i. Variables and their types ii. Hypothesis- definition and types iii. Measure for Central Tendency and Dispersion iv. Correlation and Regression Analysis v. Time series analysis vi. T test, Z test, Chi-square test	12
7	Technical writing and reporting of research	Types of research report i. Dissertation and thesis, research paper, review article, short communication, conference presentation, meeting report, etc. ii. Structure and organization of research reports- Title, abstract, key words, introduction, methodology, results, discussion, conclusion, acknowledgements, references, footnotes, tables and illustration iii. Literature Review	06
8	Research ethics, plagiarism and funding agencies	i. Research ethics ii. Plagiarism iii. Use of plagiarism detection softwares iv. Research opportunities and funding agencies	06

Reference Books:

1. Gaum, Carl G., Graves, Harod F., and Hoffman, Lyne, S.S., (1950): Report Writing, 3rd ed., New York: Prentice-Hall.
2. Kothari, C.R. (2004): Research Methodology: Methods and Techniques, New Age International (P) Ltd.,New Delhi – 110002.
3. Kothari, C.R., (1984): Quantitative Techniques, 2nd ed., New Delhi: Vikas Publishing House Pvt. Ltd.
4. Mishra Shanti Bhushan and Shashi A. (2011): Handbook of Research Methodology,Educreation Publishing, New Delhi – 110075.
5. Pandey, P. and Pandey, M.M. (2015): Research Methodology: Tools and Techniques,Bridge Center, Romania, European Union.

6. Tandon, B.C., (1979): Research Methodology in Social Sciences. Allahabad, Chaitanya Publishing House.
7. Ullman, Neil R. (1978): Elementary Statistics, New York: John Wiley & Sons, Inc.
8. Yamane, T., Statistics (1973): An Introductory Analysis, 3rd ed., New York: Harper and Row.

SAVITRIBAI PHULE PUNE UNIVERSITY
Geography MA/MSc-II (Credit System)
Revised Syllabus (From June-2020)

Course: GGUT- 252: Geography of Soil

Credit: 02 **Periods: 30**

Topic No.	Topic	Subtopics	Periods
1	Introduction to Geography of Soil	i. Definition ii. Nature and Scopeof Soil Geography iii. Development of Geography of Soil iv. Soil as a Natural Resource	4
2	Soil Formation and Soil Profile	i. Factors of Soil formation: Parent Material, Climate, Biota, Time, Topography. ii. Soil Profile : Definition and Structure	6
3	Components and Characteristics of Soil	i. Soil component: Minerals, Organic Matter, Air and Water. ii. Physical, Chemical and Biological characteristics of soil. iii. Nutrients in Soils: Primary, Secondary and Micronutrients	6
4	Classification and types of Soil	i. Land Capability Classification ii. Land Suitability Classification iii. Types of Soil with reference to India	6
5	Problems related to soil and Soil Conservation	i. Soil Problems: Soil Pollution, Acidification, salinization and Soil health ii. Soil Conservation: Definition and various methods of Soil Conservation, iii. Soil Conservation in India iv. Role of RS and GIS in Soil Conservation	8

References Books:

1. A.S. Gustafson, (2007): “Soils and Management” Published by Agrobios (India).
2. Brady, N. C., and Weil, R. R. (2008): The Nature and Properties of Soils, Prentice Hall, New Jersey
3. Bridges, E. M. and Davidson, D. A. (1982): Principles and Applications of Soil Geography, Longman Group, London.
4. Birkeland, P. W (1999): Soils and Geomorphology, Oxford University Press, New York.
5. C. E. Miller, L.M. Turk, (2001): “Fundamental of soil Science” Biotech Books Delhi.

5. Wilson, J., Gallant, J., (2000): Terrain Analysis: Principles and Applications. New York: JohnWiley and Sons.
6. Rajvir Singh, (2008): Watershed Planning and Management, 2nd Edition, Yash PublishingHouse, Bikaner, India.
7. B. K. Kakde, (2004) Watershed Manual – A Guide for Watershed Development Practitionersand Trainers, BAIF Development Research Foundation, Pune.
8. R. Suresh (2006) Soil and Watershed Conversation Engineering, 2nd Edition, – StandardPublication Distributors, Delhi.

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MA/MSc - II Syllabus in Geography (Credit System)
Revised Syllabus (from June, 2020)

Course: GGDP-257 Interpretation of Topographical Maps and GPS Survey
No. of Credits: 02 **No. of Periods: 30**

Topic No.	Topic	Sub topics	Practical (3 hours)
1	Study of Topographical Maps	i. Indexing systems and conventional signs and symbols of S.O.I. toposheets ii. Grid references: 4-figure grid, 6-figure grid and International grid reference iii. Introduction to US and OS sheets	02
2	Interpretation of S.O.I toposheets.	i. Relief: Distribution of Spot heights, bench marks, Trigonometrical Points etc., Types of Slopes (convex, concave, uniform etc.) and Major landforms from contour patterns ii. Drainage network: Types-trellis, dendritic, radial, etc., Streams with water, without water and Influence of relief on drainage iii. Natural Vegetation: Types of vegetation, Association of relief and drainage, Reserved Forest and Protected Forest iv. Land Use: Agriculture, mining etc, areal distribution and impact of Physical landscape. v. Settlements: Types settlements, amenities, etc, Distribution, relative size, relative distance (dispersed, nucleated etc) vi. Transport and Communication: Types of roads, railway lines, facilities of communication **(3 sheets of S.O.I. toposheets)**	04

3	GPS Survey of Village	i. Introduction of GPS : Space segment, Control segment and user segment ii. GPS Survey (GPS Reading and Area Measurement): One day field visit and excursion report	04

Reference Books

1. Archer J. E and Dalton T. H. (1968), Field work in Geography B.T. Batsford Limited London
2. Dury G.H. (1960): Map Interpretation. Sir Isaac Pitman and Sons Limited, Pitman House, Bath.
3. Gupta, K. K. and Tyagi, V. C. (1992): Working with maps, Survey of India Publication, Dehradun.
4. Jones P. A. (1968): Field work in Geography. Longmans, Green and Company Limited.
5. Meux A. H. (1960): Reading Topographical Maps. University of London Press Limited.
6. Petrie N. (1992): Analysis and Interpretation of Topographical Maps. Orient Longman Limited Calcutta.
7. Ramamurthy, K. (1982): Map interpretation, Madras.
8. Tamaskar B.G. and Deshmukh V.M. (1974): Geographical Interpretation of Indian Topographical Maps. Orient Longman Limited, Bombay.
9. Vaidyanadhan. R. (1968): Index to a set of 60 topographical maps, CSIR, New Delhi.
10. Wheeler K.S. Ed (1970): Geography in the field. Blond Educational, London.

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MA/MSc - II Syllabus in Geography (Credit System)
Revised Syllabus (from June, 2020)

Course: GGUT-258 Geography of World
No. of Credits: 04 **No. of Periods: 60**

Topic No.	Topic	Subtopics	Practical (3 hours)
1	The Earth	i. Introduction (Earth and solar system) ii. Origin and Evolution of the Earth- Big-bang theory iii. Geological Time scale iv. Continents and Oceans, Major natural regions	08
2	Regional geography of : 1. Europe 2. North America 3. South America 4. Africa 5. Australia	i. Location ii. Physical features – (Physical Division and main rivers) iii. Climate iv. Agriculture v. Natural vegetation and wild life vi. Mineral resources vii. Population	30

	6. Asia 7. Antarctica	viii. Important countries	
3	World contemporary issues	i. Major political issues (Border and Water) ii. Health issues – (COVID-19) iii. Environmental issues – (Global warming) iv. Population issues – (Growth, Religious conflict, Poverty, Migration) v. Role of WTO and IMF	12
4	21st century challenges and opportunities in the world	Challenges i. Food security ii. Climate change iii. Global Public Health (Pandemics) iv. Terrorism Opportunities i. Globalization ii. Tourism	10

Reference Books:

1. Ashworth, L. M. (2013). Mapping a new world: Geography and the interwar study of international relations. International Studies Quarterly, 57(1), 138-149.
2. Baerwald, T. J., Fraser, C., & Bednarz, S. (2003). World geography: Building a global perspective. Prentice-Hall.
3. Berglee, R. (2012). *World regional geography: People, places and globalization*.
4. Bradshaw, M. J. (2000). World Regional geography: The new global order. McGraw Hill.
5. Cole, J. P. (1996). Geography of the world's major regions. Psychology Press.
6. George, B. P., & Nedelea, A. (2007). International Tourism: World Geography and Developmental Perspectives. Abhijeet Publications.
7. Haggett, P. (Ed.). (2002). Encyclopedia of World Geography (Vol. 24). Marshall Cavendish.
8. Jackson, R. H., & Hudman, L. E. (1990). *World regional geography: issues for today*. Wiley.
9. Krätke, S., & Taylor, P. J. (2004). A world geography of global media cities. *European Planning Studies*, *12*(4), 459-477.
10. Majid Husain (2013) World Geography, Rawat Publications.
11. McColl, R. W. (2014). *Encyclopedia of world geography* (Vol. 1). Infobase Publishing.
12. Sager, R. J., Helgren, D. M., & Israel, S. (1989). World geography today. Holt, Rinehart and Winston.
13. Schmidt, B. (2015). Inventing exoticism: geography, globalism, and Europe's early modern world. University of Pennsylvania Press.