

Academic Council  
Item No: \_\_\_\_\_

**Devrukh Shikshan Prasarak Mandal's**

**NYA. TATYASAHEB ATHALYE ARTS, VED. S.R. SAPRE COMMERCE &**

**VID. DADASAHEB PITRE SCIENCE COLLEGE, DEVRUKH**

**[AN AUTONOMOUS COLLEGE AFFILIATED TO UNIVERSITY OF MUMBAI]**



**Syllabus for First Year of M.A./ M. Sc.**

**Program: M.A./ M. Sc.**

**Course: Geography**

**Course Code: PAGEO16**

**Semester I**

**Geography Paper - VI: Practical Paper-II (Tools and Techniques of  
Spatial Analysis -II)**

**Credit Based Semester and Grading System with the Effect from**

**Academic Year 2019-20**

**M.A./ M. Sc. General (Semester Pattern)  
First Year M.A./ M. Sc.  
Semester-I**

**GEOGRAPHY – CURRICULUM**

Paper Code	Paper	Lectures /Practical	Evaluation Weightage			Credits
			External	Internal	Total	
PAGEO11	Geography Paper-I Principles of Geomorphology	60 Contact + 60 Notional	70	30	100	04
PAGEO12	Geography Paper-II Principles of Climatology	60 Contact + 60 Notional	70	30	100	04
PAGEO13	Geography Paper-III Perspectives in Human Geography	60 Contact + 60 Notional	70	30	100	04
PAGEO14	Geography Paper-IV Spatial Organisation of Economic activities	60 Contact + 60 Notional	70	30	100	04
PAGEO15	Practical Paper-I Tools and Techniques of Spatial Analysis - I	60 Contact + 60 Notional	100			04
<b>PAGEO16</b>	<b>Practical Paper-II Tools and Techniques of Spatial Analysis - II</b>	<b>60 Contact + 60 Notional</b>	<b>100</b>			<b>04</b>

**Syllabus for First Year M.A./ M. Sc. Programme in the subject of Geography  
(With effect from the academic year 2019-2020)  
Semester-I, Geography Paper – V: Tools and Techniques of Spatial Analysis II (Based on  
Theory Papers: 13 and 14)**

**COURSE CODE: PAGEO16** **Credits - 04**  
**(No. of Credits 4 Hours of Practical experience 60+ Notional Hours 60 = Total 120 hours)**

**1. Statistical Techniques (24 hours)**

**1.1 Measures of Central Tendency**

- a. Measures of central tendency: mean center, weighted mean center, median center
- b. Z score – different applications and interpretations.

**1.2. Network Analysis:**

- a. Topological graphs -Connectivity- Calculations of Alpha, beta and gamma indices.
- b. Mapping of relative accessibility and connectivity – Matrices- point of minimum aggregate travel distance

**2. Nature and application of spatial data: (20 hours)**

1. Data types – qualitative and quantitative
2. Spatial and non-spatial data
3. Scales of measurement of data: nominal, ordinal, interval and ratio – symbolization and representation – interpretation and relationships.
4. Sources of data – Primary and secondary
5. Designing a questionnaire and E- questionnaire

**3. Computer processing of geographical data (16 hours)**

1. Symbolisation, Preparation of matrix
2. Diagrammatic Representation.
3. Compilation of data
4. Computation of data: qualitative and quantitative data based on descriptive statistical measures application of computer programs- use of SPSS.

## **Learning Outcomes**

On completion of the course the student should have the following learning outcomes defined in terms of knowledge, skills and general competence:

### **Knowledge**

The student can understand the mean center, weighted mean center, median center, weighted median center, Z score, techniques of network analysis, spatial and non-spatial data, methods of data collection, sources of data, computer applications in Geographical data analysis.

### **Skills**

The student can plan to analyze the data related to human phenomena and economic activities. He/She can arrange field investigation in the locality and apply the techniques. It will create scientific temperament among the students.

### **General competence**

The student can apply these techniques for the analysis of the data related to human phenomena and economic activities with context to the Konkan region.

### **Required Previous Knowledge**

Knowledge of fundamentals of Human Geography, Economic Geography, Basic Statistics, Basics of Computer and its application is necessary before to start to learn the course

### **Access to the Course**

The course is compulsory and it is available for all the students admitting for the Master of Arts in Geography.

### **Forms of Assessment**

**The pattern assessment will be for 100 marks.** 70 marks will be for the examination and 30 marks will be for the timely completion of the practical's and quality of the journal. The question paper pattern will be as given below.

**External evaluation (100 Marks)**

**Question Paper Pattern**

**Time: 5 hours**

Note: Solve **any four questions** from question number **1 to 6**.

Q. I	Solve the following practical Problems. ( <b>Attempt any four out of six</b> )	60
	1. Solve the following practical problem.	
	2. Solve the following practical problem.	
	3. Solve the following practical problem.	
	4. Solve the following practical problem.	
	5. Solve the following practical problem.	
	6. Solve the following practical problem.	
Q. II	Viva Voce and evaluation of the quality of the journal by the external examiner (10 + 10).	20
Q. III	Evaluation of Journal by the internal examiner based on timely completion and submission	20

**Grading Scale**

The grading scale used is O to F. Grade O is the highest passing grade in the grading scale, grade F is a fail. The Board of Examinations of the college reserves the right to change the grading scale.

**References:**

1. Robinson, A. H., and Others (1995): Elements of Cartography, VI Edition, John Wiley & Sons, New York.
2. 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.
3. Dickinson, G. C. (1977) Statistical Mapping and the Presentation of Statistics, Edward Arnold Ltd., London.
4. Monkhouse, F. J., and H. R. Wilkinson, (1971): Maps and Diagrams, Methuen & Co. Ltd., London.
5. Hodgkiss, A. G. (1970): Maps for Books and Theses, David and Charles Publishers Ltd., London.

6. Misra R. P. and A. Ramesh, (1969): Fundamentals of Cartography, Prasaranga, University of Mysore
7. Young, P. V., and Schmid, C. F. (1979): Scientific Social Surveys and Research, Prentice-Hall, New Delhi.
8. Mahmood Aslam(1977), Statistical Methods in Geographical Studies, Rajesh Publication, New Delhi.
9. Hammond, R. and McCullagh, P.S. (1974), Quantitative Techniques in Geography: An Introduction, Oxford University Press, London.
10. Yeates, M (1974), An Introduction to Quantitative Analysis in Human Geography, McGraw Hill Book Co., New York.
11. Cole, J. P., and King, C. A. M., (1968), Quantitative Geography, John Wiley and Sons, London.
12. Fotheringham, A.S., Brunson, C., Charlton, M,(2000) Quantitative Geography: Perspectives on Spatial Data Analysis, Sage Publication Ltd, London,
13. Baily, T.C., and Gatrell, A. C, (1995), Interactive Spatial Data Analysis, Prentice-Hall, London
14. Griffith, D. A., Layne, L.J.,(2002) A Casebook for Spatial Statistical Data Analysis: A Compilation of Analyses of Different Thematic Data Sets, Amazon.com
15. Wilcox, P.R. (2003), Applying Contemporary Statistical Techniques, Academic Press, Amsterdam
16. Crang M. and Cook, I. 2007, Doing Ethnographies, Sage.