

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: PAGEO25**

**Semester II**

**Geography Paper - V: Practical Paper-I (Tools and Techniques of  
Spatial Analysis -III)**

**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-II**

Paper Code	Paper	Lectures /Practical	Evaluation Weightage			Credits
			External	Internal	Total	
PAGEO21	Geography Paper-I Oceanography and Hydrology	60 Contact + 60 Notional	70	30	100	04
PAGEO22	Geography Paper-II Geoinformatics	60 Contact + 60 Notional	70	30	100	04
PAGEO23	Geography Paper-III Socio-cultural and Political Geography	60 Contact + 60 Notional	70	30	100	04
PAGEO24	Geography Paper-IV Urban Geography	60 Contact + 60 Notional	70	30	100	04
<b>PAGEO25</b>	<b>Practical components based on 21 and 22: Practical Paper-I Tools and Techniques of Spatial Analysis - III</b>	<b>60 Contact + 60 Notional</b>	<b>100</b>			<b>04</b>
PAGEO26	Practical components based on 23 and 24: Practical Paper-II Tools and Techniques of Spatial Analysis - IV	60 Contact + 60 Notional	100			04

**Syllabus for First Year M.A./ M. Sc. Programme in the subject of Geography  
(With effect from the academic year 2019-2020)  
Semester-II, Geography Paper – V: Tools and Techniques of Spatial Analysis III (Based on  
Theory Papers: 21 -22)**

**COURSE CODE: PAGEO25**

**Credits - 04**

**(No. of Credits 4 Hours of Practical experience 60+ Notional Hours 60 Total 120 hours)**

**1. Unit – I**

(Hours 25)

- 1.1 Aerial Photography: Construction of stereo vision, Photo Interpretation, and preparation of photo map, Determination and application of scale for distance, area and Determination height. Image Interpretation, Conjunctive use of Map, Aerial Photographs and Satellite Imagery
- 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.

**2. Unit – II**

(Hours 15)

- 2.1 Vector overlay, buffer, extraction
- 2.2 The point in a polygon, line in a polygon,
- 2.3 Data retrieval – Attribute and Spatial query
- 2.4 Map Layout and Design

**3. Unit – III**

(Hours 20)

- 3.1 Spatial Interpolation and raster reclassification
- 3.2 Application of Raster calculator
- 3.3 Drainage Network Analysis
- 3.4 GPS Survey

## **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 learn to analyze aerial photographs and satellite images, and they can handle GIS software and GPS.

### **Skills**

The student can identify the objects in the aerial photographs and satellite imageries using the components of image interpretation. Also, he/she can operate GIS software effectively and can analyze the satellite and other digital data with the help of GIS software.

### **General competence**

The student can apply these techniques to tackle day to day problems.

### **Required Previous Knowledge**

Knowledge of the basics of geoinformatics and computer technology is necessary to learn this 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:**

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12. Birkin, Mark et al (1996). Intelligent GIS Geo-Information International, Cambridge.
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