

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 Second Year Bachelor of Arts**

**Program: S. Y. B. A.**

**Course: Geography (Paper-I)**

**Course Code: UAGEO31**

**Semester III**

**Course Title: Introduction to Climatology**

**Credit Based Semester and Grading System**

**w. e. f. Academic Year 2020-2021**

**Second Year of Bachelor of Arts**  
**Revised Syllabus under Autonomy**

Semester	Paper Code	Paper	Lectures /Practicals	Evaluation Weightage			Credits
				External	Internal	Total	
Semester III	UAGEO31	Geography Paper-I Introduction to Climatology	45	70	30	100	03
	UAGEO32	Geography Paper-II Physical Geography of India	45	70	30	100	03
Semester IV	UAGEO41	Geography Paper-I Introduction to Oceanography	45	70	30	100	03
	UAGEO42	Geography Paper-II Agricultural Geography of India	45	70	30	100	03

**Syllabus for Second Year of Bachelor of Arts Programme in the subject of Geography  
(With effect from the academic year 2020-2021)**

**SEMESTER-III**

**Geography Paper – I: Introduction to Climatology**

**COURSE CODE: UAGEO31**

**Credits - 03**

**Learning Objectives**

The main objectives of the course are as given below.

- The course aims to shed light on the changing nature and scope of the climatology along with conceptual clarification of the climatology.
- The course targets to develop critical thinking among the students with the view to students can differentiate between composition & structure of the atmosphere and insolation and temperature.
- The course purposes to explain the spatio-temporal pattern of air pressure and atmospheric circulation and the distributional pattern of humidity & rainfall.
- The course aims to develop the skills among the students with the view to make them competitive for the analysis of real-time climatic data.

**Course Content**

<b>Unit-I: Introduction to Climatology</b>		<b>11 lecture</b>
1.1	Definition, nature, scope and branches of climatology	
1.2	Concept and elements of weather and climate	
1.3	Composition and structure of atmosphere	
1.4	Insolation: Factors affecting on the distribution	
1.5	Temperature: Factors affecting on the distribution	
1.6	Temperature: Horizontal and Vertical distribution of Atmospheric Temperature	
<b>Unit-II: Air Pressure and Atmospheric Circulation</b>		<b>11 Lectures</b>
2.1	Air pressure: Concept and Factors affecting on air pressure distribution	
2.2	Horizontal distribution of air pressure	
2.3	Wind: Types of winds – global, regional and local	
2.4	Upper air circulation – jet stream ( concept, origin and effects)	
2.5	Cyclones: tropical and temperate	
2.6	Anti-cyclones	

<b>Unit-III: Humidity and Precipitation</b>		<b>11 Lectures</b>
3.1	Humidity: Types - absolute, relative and specific	
3.2	Condensation and its forms	
3.3	Precipitation and its types	
3.4	Global distribution of rainfall	
3.5	El Nino and Indian monsoon	
3.6	Global warming and climate change	
<b>Unit-IV: Practical Component</b>		<b>12 Lectures</b>
4.1	IMD Weather Maps: Conceptual and Historical Background	
4.2	Signs and Symbols in Weather Maps	
4.3	Reading and Interpretation of Weather Maps	
4.4	Construction of the Wind Rose	
4.5	Construction of the Climograph	
4.6	Construction of the Hyther Graph	
4.7	Collection of Local Weather Data	

**Practical Record:** A journal comprising one exercise each needs to be completed by the student.

### 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 will know of:

- Fundamentals of climatology and its changing nature and scope;
- Weather and climate, composition and structure of the atmosphere, insolation and temperature, air pressure and atmospheric circulation, humidity and precipitation, etc;
- Basic processes in the atmosphere, etc.

### Skills

#### Student can:

- Differentiate between weather and climate;
- Identify the forms of condensation;
- Construct climatic diagrams;
- Read and interpret weather maps;

- Critically think over the changing nature of weather and climate;
- Collect and analyze the data of local weather conditions.

### General competence

The student can collect and analyze the data of local weather conditions that will create interest for further studies in climatic studies.

### Required Previous Knowledge

For the study of the theoretical component of the course, any previous knowledge is not required but for the practical component, the basic knowledge graph preparation is necessary.

### Access to the Course

The course is available for all the students admitting for Bachelor of Arts and selected Geography as an optional subject and cleared the lower examination or eligible for the admission in the class as per the rules and regulations.

### Forms of Assessment

The assessment will be external as well as internal. **The pattern of external and internal assessment will be 70:30.** The question paper pattern will be as given below.

#### External evaluation (70 Marks)

#### Question Paper Pattern

Time: 2.5 hours

Question No.	Unit/s	Question Pattern	Marks
Q.1	All	a) Fill in the Blanks- 05 marks b) Match the following- 05 marks c) Write answers in a single sentence- 04 marks	14
Q.2	Unit-1	Attempt any two questions from the followings a) b) c)	14
Q.3	Unit-2	Attempt any two questions from the followings a) b) c)	14
Q.4	Unit-3	Attempt any two questions from the followings a) b) c)	14
Q. 5	Unit-4	Attempt any two from the following a) b) c) d)	14
<b>Total</b>			<b>70</b>

### Internal evaluation (30 Marks)

Sr. No.	Description	Marks
1	Test (Preferably Online Test with One Hour Duration- MCQ, Match the following, True or False, etc.) (30 marks will be converted into 10)	10
2	<b>Practical Record</b> File as mentioned in unit IV	10
3	Overall Conductance	10
	<b>Total</b>	<b>30</b>

### 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.

### Reference Books:-

- Ahrens, C.D. (2012): Essentials of Meteorology: An Invitation to the Atmosphere; Cengage Learning, Boston
- Ahrens, C.D., Jackson, P.L., Jackson, C.E.J., and Jackson, C.E.O. (2012): Meteorology Today: An Introduction to Weather, Climate and the Environment; Cengage Learning; Boston
- Barry, R.G. and Chorley, R.J. (2003): Atmosphere, Weather and Climate; Psychology Press, Hove; East Sussex.
- Chawan S.V. (ed) (2015): Physical Geography, Paper I, Published by Director (I/C), Institute of Distance and Open Learning, University of Mumbai.
- Critchfield, H.J., (1975): general Climatology, Prentice-Hall, New Jersey.
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- Lydolph, P.E.( 1985): The Climate of the Earth, Rowman Nad Allanheld, Totowa, New Jersey.
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- Matthews, W. H., Kellogg, W., Robinson, G.D. (1971): Man's Impact on Climate; M.I.T. Press Design Dept. U.S.A.
- Oliver, J.E. (1993): Climatology: An Atmospheric Science, Pearson Education India, New Delhi
- Rosenberg, N.J., Blad, B.L., Verma, S.B.(1983): Micro-climate Biological Environment; John Wiley & Sons, U.S.A.
- Rumney, G.R. (1968): Climatology and the World Climates, Macmillan, London.
- Shinde P.; Pednekar H. et.al. (2010): Introduction to Geography, Sheth Publishers Pvt.Ltd., Mumbai.
- Subrahmanyam, V.P. (ed) (1983): Contributions to Indian Geography a) Vol III- General Climatology, b) Volume IV- Applied Climatology. Heritage Publishers, New Delhi.
- Trewartha, G.T. (1980): An Introduction to Climate; McGraw Hill, New York, 5<sup>th</sup> edition, (International Student Edition)