



# **Savitribai Phule Pune University**

*(Formerly University of Pune)*

**Three Year B.Sc. Degree Program in Geography**

**(Faculty of Science & Technology)**

**F.Y.B.Sc. (Geography)**

**Choice Based Credit System Syllabus**

**To be implemented from Academic Year 2019-2020**

## **Title of the Course: B.Sc. Geography**

### **Preamble of the syllabus**

- i. To introduce the students to the basic concepts in Geomorphology.
- ii To acquaint the students with the utility and applications of Geomorphology in different areas and environment.
- iii. To make the students aware of the need of protection and conservation of different landforms.

Introduction: Pattern – CBCS: Semester (15marks internal and 35marks University)

## Structure of the course

## Course code for choice based credit system

Year	Semester	Course Type	Course code	Course Name	Credit
1	1	Compulsory Course	GG 111	Introduction to Physical Geography-I (Geomorphology)	2
			GG 112	Introduction to Physical Geography -II (Geography of Atmosphere and Hydrosphere)	2
			GG 113	Practicals in Physical Geography	1.5
	2	Compulsory Course	GG 121	Introduction to Human Geography	2
			GG 122	Population and Settlement Geography	2
			GG 123	Practicals in Human Geography	1.5
2	3	Compulsory Course	GG 231	Environmental Geography -I	2
			GG 232	Geography of Maharashtra (Physical)- I	2
			GG 233	Surveying- I	2
	4	Compulsory Course	GG 241	Environmental Geography -II	2
			GG 242	Geography of Maharashtra (Human) -II	2
			GG 243	Surveying - II	2
3	5	Discipline Specific Elective	GG 351	Regional Geography of India (Physical)- I	2
			GG 352	Geography of Economic Activities-I	2
			GG 353	Fundamentals of Tourism - I	2
			GG 354	Pedology	2
			GG 355	Management of Natural Disasters	2
			GG 356	Geoinformatics-I	2
			GG 357	Techniques in Quantitative Analysis	2
			GG 358	Field Techniques in Mapping	2
			GG 359	Techniques in Geomorphology	2
			Skill Enhancement Course	GG 3510	Skill Enhancement Course in Geography - I
	GG 3511	Skill Enhancement Course in Geography -II		2	
	6	Discipline Specific Elective	GG 361	Regional Geography of India (Human) -II	2
			GG 362	Geography of Economic Activities-II	2
			GG 363	Tourism Activities and Management -II	2
			GG 364	Weathering	2
			GG 365	Management of Manmade Disasters	2
			GG 366	Geoinformatics-II	2
			GG 367	GIS Based Project Report	2
GG 368			Maps and Mapping Techniques	2	
GG 368			Soil and Sediment Analysis	2	
Skill Enhancement Course			GG 3610	Skill Enhancement Course in Geography - III	2
	GG 3611	Skill Enhancement Course in Geography - IV	2		

<b>Class- F.Y.B.Sc. GEOGRAPHY</b>		
Paper- CC	Semester - I	Semester - II
I	GG 111 -Introduction to Physical Geography - I (Geomorphology)	GG 121-Introduction to Human Geography
II	GG 112 - Introduction to Physical Geography - II (Ggeography of Atmosphere and Hydrosphere)	GG 122- Population and Settlement Geography
III- Practical	GG 113- Practicals in Physical Geography	GG 123- Practical in Human Geography
<b>Class- S.Y.B.Sc.- CC</b>		
IV	GG 231- Environmental Geography -I	GG 241- Environmental Geography -II
V	GG 232- Geography of Maharashtra (Physical) - I	GG 242- Geography of Maharashtra (Human) – II
VI- Practical	GG 233- Surveying - I	GG- 243- Surveying –II
<b>Class- T.Y.B.Sc.- DSEC</b>		
VII	GG 351- Regional Geography of India (Physical) I	GG 361- Regional Geography of India (Human) – II
VIII	GG 352- Geography of Economic activities - I	GG 362- Geography of Economic Activities–II
IX	GG 353- Fundamentals of Tourism - I	GG 363- Tourism Activities and Management– II
X	GG 354-Pedology	GG 364- Weathering
XI	GG 355- Management of Natural Disasters	GG 365- Management of Manmade Disasters
XII	GG 356-Geoinformatics-I	GG 366-Geoinformatics–II
XIII- Practical	GG 357- Techniques in Quantitative Analysis	GG 367- GIS Based Project Report
XIV- Practical	GG 358- Field Techniques in Mapping	GG 368- Maps and Mapping Techniques
XV- Practical	GG 359-Techniques in Geomorphology	GG 369- Soil and Sediment Analysis
	<b>SEC</b>	
X	GG 3610- Skill Enhancement Course in Geography - I	GG 3610- Skill Enhancement Course in Geography - III
XI	GG 3611- Skill Enhancement Course in Geography -II	GG 3611- Skill Enhancement Course in Geography - IV

Equivalence of Syllabus in Geography (F.Y.B.Sc.) effective from June 2019

Old Syllabus June 2013		New Syllabus June 2019	
Gg 110	Physical Geography (Paper I)	Gg 110	Introduction to Physical Geography–I (Geomorphology)
Gg 120	Geography of Atmosphere and Hydrosphere (Paper II)	Gg120	Introduction to Physical Geography - II (Geography of Atmosphere and Hydrosphere)
Gg 101	Techniques in Physical Geography (Paper III)	Gg 101	Practicals in Physical Geography

## Semester I

### Paper I

#### Introduction to Physical Geography–I (Geomorphology)

Course No : Gg 111

Total no. of Credits: 02 No. of hours: 30

Sr. No	Unit	Sub-Units	No. of Hours
1	Introduction of Geomorphology	a. Introduction to Physical Geography and its branches b. Geomorphology – Definition, Nature and Scope c. Components of Earth systems. d. Geological time scale. e. Applied Geomorphology	08
2	The Earth system	a. Interior of the Earth – based on seismic evidences. b. Theory of Isostasy. c. Wegener’s Continental Drift Theory. d. Crustal movements: Folding and faulting and their types.	07
3.	Plate Tectonics	a. Theory of Plate tectonics. b. Plates and boundaries and associated landforms. c. Earthquakes and volcanoes, their types, causes and effects.	07
4.	Geomorphic Processes	a. Rocks and Minerals: Meanings, differences and classification of rocks. b. Weathering: Definition and types c. Mass movement: Meaning and types d. Fluvial cycle of erosion : Theory by Davis	08

**Reference books:**

1. **Conserva H. T.** 2004: Illustrated Dictionary of Physical Geography, Author House, USA.
2. **Christopherson, R.W.** 2000, Geo-systems, Prentice Hall, INC. USA. Hamblin, W.K., 1989. The Earth's Dynamic Systems, Macmillan Publishing Company, New York.
3. **Gabler, R. E., Peterson, J. F.** and Trapasso, L. M., 2007: Essentials of Physical Geography(8<sup>th</sup> Edition), Thomson, Brooks/Cole, USA.
4. **Garrette, N.**, 2000: Advance Geography, Oxford University Press.
5. **Goudie, A.**, 1984: The Nature of Environment: An Advanced Physical Geography, Basil Blackwell Publishers, Oxford
6. **Husain, M.**, 2001. Fundamentals of Physical Geography, Rawat Publication, Jaipur.
7. Kale, V.S. and Gupta, A., 2001. Introduction to Geomorphology, Orient Longman, Calcutta.
8. **Monkhouse, F.J.**, 1996. Principles of Physical Geography, Hodder and Stoughton, London.
9. **Robinson, H.**, 1969. Morphology and Landscape, University Tutorial Press Ltd, London.
10. **Siddhartha, K.**, 2001. The Earth's Dynamic Surface, Kisalaya Publications Pvt. Ltd, New Delhi.
11. **Strahler, A.A. and Strahler, A. N.**, 2002. Physical Geography: Science and Systems of the Human Environment, John Wiley & Sons, New York.

**Semester I****Paper II****Introduction to Physical Geography II (Geography of Atmosphere and Hydrosphere)**

**Course No : Gg 112    No. of Credits: 2    No. of hours: 30**

Unit No.	Unit	Sub Unit	No. of Hours
1.	Introduction to the Atmosphere	a) Definition and evolution b) Composition of the atmosphere c) Structure of the atmosphere d) Weather and climate, elements of weather and climate	07
2.	Insolation	a) Definition and mechanisms of heat transfer: conduction, convection and radiation b) Heat budget of the Earth c) Factors affecting on horizontal distribution of temperature d) Vertical distribution of temperature- lapse rate and inversion of temperature	08
3.	Atmospheric Pressure and Wind System	a) Meaning and measurement of the atmospheric pressure b) Vertical and horizontal distribution of pressure- pressure belts	08

		c) Concept of pressure gradient and its relation with winds d) Type of winds- planetary winds, periodic winds (monsoon winds), local winds (land and sea breezes, mountain and valley winds).	
4.	Introduction to the Hydrosphere	a) Definition, hydrological cycle b) General structure of ocean floor c) Movements of ocean water i. Waves- characteristics of sea waves ii. Ocean currents- meaning, causes and types iii. Tides- meaning, causes and types	07

### Reference books:

- Conserva H.T.**, 2004. Illustrated dictionary of Physical Geography, Author House, USA.
- Critchfield, H.J.**, 1997. General Climatology, Prentice Hall of India Pvt. Ltd, New Delhi. Dasgupta, A. and Kapoor, A.N., Principles of Physical Geography. Grald, S., General Oceanography.
- Gabler R.E.**, Petersen J.F. and Trapasso L.M., 2007. Essentials of Physical Geography (8<sup>th</sup> edition), Thompson, Brooks/Cole, USA.
- Garrett N.** 2000. Advanced Geography, Oxford University Press.
- Goudie A.**, 1984. The nature of the environment: an advanced physical geography, Basil Blackwell Publishers, Oxford.
- Hamblin W.K.**, 1995. Earth's Dynamic System, Prentice Hall, N J.
- Hussain M.**, 2002. Fundamentals of Physical Geography, Ravat Publication, Jaipur.
- Lutgens, F.K.** and Tarbuck, E.J., 2007. The Atmosphere, Pearson Prentice Hall, New Jersey. Pirie, R.G., Oceanography (Contemporary).
- Monkhouse F.J.** 2009. Principals of Physical Geogeaphy, Platinum Publishers, Kolkatta.
- Ross, D.A.**, 1988. Introduction to Oceanography. Prentice Hall, New Jersey. Sharma, R.C. and Vatel. M., Oceanography for Geographers.
- Strahler, A.A. and Strahler, A. N.**, 2002. Physical Geography: Science and Systems of the Human Environment, John Wiley and Sons, INC. Strahler, A.H. and Strahler, A. N., 1992. Modern Physical Geography, John Wiley and Sons, INC. Strahler, A.N., 1965. Introduction to Physical Geography, John Wiley and Sons,
- Strahler A.N., Strahler A.H.** 2008. Mpdern Physical Geography. John Wiley and Sons, New York.
- Ttrewartha, G.**, Introduction to Weather and Climate. King, C.A.M., Oceanography for Geographers. Lake, P., Physical Geography.

**Semester I**  
**Paper III**  
**Practicals in Physical Geography**

**Course No. Gg. 113** **No. of Credits: 1.5**

**No. of Practicals: 15**

Batch of 15 students each

Unit No.	Unit	Sub Unit	No. of Practicals (3 hours/Practical)
1.	Maps	a) Definition, Elements of maps (scale, direction, map projection, conventional signs and symbols, legend), Types of maps, Uses of maps	02
2.	Map Scales	a) Definition, Types- Verbal Scale (VS), Representative Fraction (RF), Graphical Scale b) Conversion of scale- VS into RF and RF into VS (Minimum 2 example each), Exercise on simple graphical scale (Minimum 2 exercises) c) Reading distances on a map	03
3.	Map Projections	a) Definition of map projection b) Classification of map projection c) Construction and study of the following projections I. Zenithal projections- Zenithal polar gnomonic projection II. Conical projections - Simple conical projection with two standard parallel III. Cylindrical projections- Cylindrical equal area projection (Note:-construction of above map projections with properties and uses, for relevant group one example from each hemisphere) d) Choice of map projections	05
4.	Representation of data	Thematic Maps a) Symbol method b) Dot method c) Choropleth method d) Isopleth method e) Flow diagram (Representation and Interpretation of thematic maps)	03
5.	Field Visit	a) Reading of maps in the field b) Collection of data and its representation	02



**Reference books:**

- Dent B.D., 1999. Cartography: Thematic Map Design, (Vol. 1), McGraw Hill.
- Gupta K.K and Tyagi V.C., 1992. Working with Maps, Survey of India, DST, New Delhi.
- Mishra R.P. and Ramesh A., 1989. Fundamentals of Cartography, Concept Publishing.
- Monkhouse, F.J. and Wilkinson, H.R., 1971. Maps and Diagrams. Methuen and Co. Ltd., London. K.
- Singh, R.L., 2005. Elements of Practical Geography. Kalyani Publishers, New Delhi. India.
- Ramamurthy, K., 1982. Map Interpretation, Rex Printers, Madras.
- Robinson A. ,1953. Elements of Cartography, John Wiley.
- Sharma J. P., 2010. Prayogic Bhugol, Rastogi Publishers.
- Singh R.L. and Singh R.P.B., 1999. Elements of Practical Geography, Kalyani Publishers.
- Singh R.L., 1998. Prayogic Bhugol Rooprekha, Kalyani Publication.
- Singh, G., 2005. Map work and practical geography. Vikas Publishing House Pvt. Ltd., New Delhi
- Singh, L.R. and Singh, R., 1973. Map work and practical geography, Central Book Allahabad
- Siddhartha, K., 2006. Geography through maps, Kisalaya Publications Pvt. Ltd, Delhi
- Singh, R.L., and Dutt, P.K., 1968. Elements of practical geography, Students' Friends, Allahabad
- Steers, J.A., 1970. An Introduction to Study of Map Projections. University of London Press Ltd., London.

**Semester I**  
**Paper IV**

**Introduction to Human Geography**

**Course no : Gg 121**

**No. of Credits: 2 No. of Periods:30**

Sr. No	Unit	Sub-Units	No. of Periods
1	Introduction of Human Geography	a) Definition and meaning of Human Geography b) Branches of Human Geography c) Nature and scope of Human Geography d) Contemporary relevance of Human Geography	06
2	Human Evolution and Races	a) Stages of human evolution. b) Meaning and definition of human race c) Bases of human race d) Griffith Taylor's theory of human race e) Pure and Mixed Races	09
3.	Study of Indian Tribes	Regional distribution of tribes in India a) Bill b) Gond c) Naga d) Tribes in Maharashtra	07
4.	Human Culture	a) World languages and their distribution b) World's major religions and their distribution c) Distribution of languages and religions in India	08

**References:**

**Bergwan, Edward E:** Human Geography; Culture, Connections and Landscape, Prentice-Hall, New Jersey.1995.

**Carr, M.:** Patterns, Process and change in Human Geography. MacMillan Education,London,1987.

**Fellman, J.L.:** Human Geography—Landscapes of Human Activities. Brown andBenchman Pub., U.S.A., 1997.

**DeBlij H.J.:** Human Geography, Culture, Society and Space John Wiley, New York,1996.

**Johnston, R.J. (editor):** Dictionary of Human Geography Blackwell, Oxford, 1994:

**Mc Bride, P.J.:** Human Geography Systems, Patterns and Change, Nelson, U.K. andCanada,1996.

**Michael, Can:** New Patterns: Process and Change in Human Geography Nelson,1997

**Rubenstein, J.H. and Bacon R.S.:** The Cultural Landscape — an Introduction toHuman Geography. Prence Hall, India, New Delhi,1990.

**Singh, K.N. :**People of India, An introduction Seagull Books, 1992

**Spate O.H.K. and Learmonth A.T.A. :** India and Pakistan Methuen, London.1968.

**U. V. Jagdale& P. G. Saptarshi:** Human Geography (2007), Diamond Publication (Marathi)

Johnson R. Gregory D, Pratt G. et al. (2008) The dictionary of Human

**Structure /Pattern of syllabus- F.Y.B.Sc (Semester II)**

**Semester I**  
**Paper V**  
**Population and Settlement Geography**

Course no : Gg 122 No. of Credits: 2 No. of Periods:30

Sr. No	Unit	Sub-Units	No. of Periods
1	Introduction	a) Definitions, nature and scope of Population Geography b) Sources of Population Data: Census, National Sample Survey and other Sources	07
2	Population Dynamic	a) Determinates of Distribution and Density of Population b) Distribution of Population - World c) Population Growth- Global & Indian Trend d) Demographic Transition Theory (DTM) e) Demographic Composition: Age, Gender and Literacy	09
3.	Settlements	a) Definition, Nature and Scope of Settlement Geography b) Types and Pattern of Rural Settlement	06
4.	Classification of Urban Settlements	a) Classification of Urban settlements b) Concept of Urbanization c) Trends and Patterns of World urbanization	08

**References:**

**Beaujeu-Garnier, J.** : Geography of Population (Translated by Beaver, S.H.) Longmans, London, 1966.

**Census of India 2011 Series-I** India Provisional Population Totals. Published by Registrar General & Census Commissioner, India, 2011.

**Census of India, 2011 India** : A State Profile Published by office of the Registrar General of India, Census Operations, New Delhi.

**Chandna, R.C.** : Geography of Population: Concepts, Determinants and Patterns, Kalyani Publishers, New Delhi, 2000.

**Chandna, R.C.** Population Geography Kalyani Publishers, New Delhi, 2010

**Clark J.I.**: Population Geography, Permagon Press, New York, 1965.

**Sundram K.V. & Nangia Sudesh**, (editors): Population Geography, Heritage Publishers, Delhi, 1986.

**Peters: G.L.** and Larkim R.P: Population Geography: Problems, Concepts and Prospects Kendele-Hunt Iowa, 1979.

**Srinivasan K. and M. Vlassoff** Population Development nexus in India: challenges for the new millennium. Tata McGraw Hill Publishing Co. Ltd., New Delhi 2001.

- Trewartha, G.T.** : A Geography of Population : World Patterns, John Wiley & Sons, Inc.,New York, 1969.
- Trewartha, G.T.** : The More Developed Realm: A Geography of its Population, PergamonPress, Oxford, 1978.
- Trewartha, G.T.**: The Less Developed Realm - A Population Geography, McGraw-Hill,New York, 1972.
- UNDP**: Human Development Report, Oxford University Press 2001.
- Zelinsky, W.** : A Prologue to Population Geography, Prentice-Hall, Englewood Cliffs,1966.
- Carter H.**: The Study of Urban Geography, Edward Arnold, London, 1972.
- Chisholm, M.**: Rural Settlement and Land Use, Hutchinson, London,1970.
- Clout, R.D.** :Rural Geography, Pergamon Press, London,1970.
- Deshpande, C.D.**: Shehre, Continental Prakashan, Pune, 1983 (Marathi).
- Dickinson, R.E.** **City, Region and Regionalism**, Kegan Paul, Trench, Trubner&Co.,London, 1947.
- Misra, H.N.**(ed.) : Rural Geography, Heritage Publishers, New Delhi,1987.
- Money, D.C.** : Patterns of Settlements, Evan Brothers, London, 1972.
- Mukerji, R.K.** : Man and His Habitation, Popular Books, Bombay, 1968.
- Nangia S.**: Delhi Metropolitan Region, Rajesh Publications, 1976.
- Perpillou, A.**: Human Geography, Longmans, London, 1966.
- Singh, R.L.**: Readings in Rural Settlement Geography, Banaras Hindu University,Department of Geography, Varanasi, 1972.

**Semester II****Paper VI****Practicals in Human Geography****Course No. Gg:123****Total no. of Credits: 1.5****No. of Practicals: 15**

Unit no.	Unit	Subunit	Learning points	Practicals (3 hours)
1	Population Geography	Population Indices	1. Age-sex pyramid 2. Child-woman ratio 3. Dependency ratio 4. Infant mortality ratio 5. Age-specific mortality 6. Population growth rate	04
	Computer application		Data analysis and presentation using computer	03
2	Settlement Geography	Methods for calculation Urban data	1. Rank Size Rule 2. Gravity Model.	03
3	Agriculture Geography	a. Crop Combination b. Agricultural Efficiency	1. Weaver's method 2. Bhatia's method	03
4	Village survey/ Urban survey/Tour report/		Visit to different places and report writing	02

**Reference Books:****Carter Harold** (1977): The study of Urban Geography**Hans Raj** (1978): Fundamentals of Demography**Hudson F.S.** (1976): Geography of Settlements**Michael E. and E. Hurse:** Transportation Geography**Pollard A. H. and FarhatYusu:** Demographic Techniques**Singh, R. L.** Reading in Rural Settlement Geography**Yeats, M. H.** (1974). An introduction to Quantitative Analysis in Human Geography**Singh, J. and Dhillon** (1984): Agricultural Geography.**Liendsor, J. M.** (1997): Techniques in Human Geography, Routledge.**Lloyd, P. and B. Dicken** (1972): Location in Space - A theoretical approach to economic geography. Harper and Row, New York