

Structure /Pattern of syllabus- F.Y.B.Sc

1. Title of the course –

Gg- 110- Geomorphology (Paper I)

2. **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.

3. Introduction: Pattern –**Annual(20 marks internal & 80 marks University)**

4. Eligibility- **12th pass Science**

5. Examination-

A. Pattern of examination-

i (Internal exam of 10 marks per term and University exam),

ii. Pattern of question paper:

Term end paper of 20 marks converted to 10 marks for each term

Annual exam of 80 marks

Internal Exam per term 10 Marks = Total 20 marks for two terms

University Exam- 80 Marks

B. Standard of passing- Internal -08- University -32= annual marks 40

C. ATKT rules- No

D. Award of class- F.Y.B.Sc. Pass

E. External students- No

F. Setting of question papers/ pattern of question paper

Internal Exam- 20 Marks = (converted to 20 marks) (1st & 2nd term)

Question 1: Multiple choice for 5 marks (5)

Question 2: True or false (5) for 5 marks

Question 3: Definitions (5) 5 marks

Question 4: Answers in two lines (2) for 5 marks

University Exam- 80 Marks =

Question 1. Answers in 20 words- 16 marks (8 out of 10)

Question 2. Answers in 50 words -16marks (any4 out of 6)

Question 3. Answers in 150 words- 16 marks (any 4 out of 6)

Question 4. Answers in 300 words- 16 marks (any 2 out of 4)

Question 5. Answers in 500 words- 16 marks (any 1 out of 2)

G. Verification / Revaluation- Yes

6. Structure of the course
 - a. Compulsory paper- **F.Y.B.Sc. General**
 - b. Optional paper- **No**
 - c. Question paper and papers etc- **One**
 - d. Medium of instructions- **English**
7. Equivalence of previous syllabus along with propose syllabus- **yes**
8. University terms: **Annual pattern**
9. Subject wise detail syllabus – **As per attached sheets**
10. Recommended books- **Mentioned in syllabus**
11. Qualification of teacher- **M.A./M.Sc(Geography), as per UGC and University norms**

Equivalence of Syllabus in Geography (F.Y.B.Sc.) effective from June 2013

Old Syllabus June 2008		New Syllabus June 2013	
Gg-110	Physical Geography (Paper I)	Gg-110	Geomorphology (Paper I)
Gg-120	Geography of Atmosphere and Hydrosphere (Paper II)	Gg-120	Climatology and Oceanography(Paper II)
Gg-101	Techniques in Physical Geography (Paper III)	Gg-101	Techniques in Physical Geography (paper III)

Revised Syllabus (from June 2013)

F. Y. B. Sc. Geography

Course No. Gg. 110: Paper I

Title of the Course: Geomorphology

Objectives:

1. To introduce the students to the basic concepts in geomorphology.
2. To acquaint the students with the utility and applications of geomorphology in different areas and environment.
3. To make the students aware of the need of protection and conservation of different landforms.

Section I			
Unit No.	Unit	Sub Unit	No.of periods
1	Introduction to Geomorphology	a. Introduction to Physical Geography and its branches b. Geomorphology – Definition, Nature and Scope c. Geological Time Scale	10
2	The Earth	a. Interior of the Earth- Structure and Composition b. Origin of Continents and Ocean basins i. Theory of Isostasy ii. Wegener's Continental Drift Theory iii. Theory of Plate Tectonics	10
3	Crustal Movements	a. Internal movements – slow and rapid b. Folds – Types of folds c. Faults – Types and associated landforms	10
4	Diastrophic Movements	a. Earthquakes- causes and effects, major earthquake regions of the world, Seismic waves. b. Volcanism- processes and effects of volcanism, types of volcanoes and associated landforms	10
SECTION II			
5	Rocks and Minerals	a. Rocks – Classification of rocks on the basis of formation, Characteristics of igneous, sedimentary and metamorphic rock with Indian examples b. Difference between Minerals and Rocks c. Minerals- Metallic and Non-metallic	08
6	Weathering and Mass Movement	a. Weathering- meaning, mechanical, chemical and biological weathering b. Mass movement- meaning and types	08

7	Geomorphic Agents & Its threefold work- I	Erosional, transportational, and depositional work of the following agents:	06
		a. River - Mechanism of river erosion, erosional and depositional landforms. Davisian cycle of erosion.	06
8	Geomorphic Agents & Its threefold work- II	b. Sea waves - Mechanism of sea wave erosion, breaking of waves, swash, backwash, erosional and depositional landforms.	
		a. Wind : Mechanism of wind erosion, erosional and depositional landforms.	06
		b. Glaciers : Mechanism of glacial erosion, erosional and depositional landforms of valley and mountain glaciers.	06

Reference books:

- Ahirrao, W.R., Alizad, S.S. and Dhapte, C.S., 1998. Morphology and Landscape, Nirali Prakashan, Pune
- Bloom, A.L., 1998. Geomorphology. A Systematic Analysis of Late Cenozoic Landforms. Pearson Education (Singapore) Pte. Ltd.
- Christopher son, R.W. 2000, Geo-systems, Prentice Hall, INC. USA.
- Hamblin, W.K., 1989. The Earth's Dynamic Systems, Macmillan Publishing Company, New York.
- Husain, M., 2001. Fundamentals of Physical Geography, Rawat Publication, Jaipur.
- Kale, V.S. and Gupta, A., 2001. Introduction to Geomorphology, Orient Longman, Calcutta.
- Monkhouse, F.J., 1996. Principles of Physical Geography, Hodder and Stoughton, London.
- Robinson, H., 1969. Morphology and Landscape, University Tutorial Press Ltd, London.
- Siddhartha, K., 2001. The Earth's Dynamic Surface, Kosalaya Publications Pvt. Ltd, New Delhi. 5
- Singh, S., 1998. Geomorphology, Prayag Pustak Bhavan, Allahabad.
- Small, R.J., 1970. Study of Landforms, University Press, Cambridge.
- Sparks, Geomorphology.
- Strahler, A.A. and Strahler, A. N., 2002. Physical Geography: Science and Systems of the Human Environment, John Wiley & Sons, INC.
- Strahler, A.H. and Strahler, A. N., 1992. Modern Physical Geography, John Wiley & Sons, INC.
- Strahler, A.N., 1965. Introduction to Physical Geography, John Wiley & Sons, INC. Thornbury, Geomorphology.

Structure /Pattern of syllabus- F.Y.B.Sc

1. Title of the course –

Gg- 120- Climatology and Oceanography (Paper II)

2. **Preamble of the syllabus**

- i. To introduce the students to the basic principles and concepts in climatology and oceanography.
- ii To acquaint the students with the applications of climatology and oceanography in different areas and environment.
- iii. To make the students aware of the planet earth and thereby and enrich the student's life

3. Introduction: Pattern –**Annual(20 marks internal & 80 marks University)**

4. Eligibility- **12th pass Science**

5. Examination-

A. Pattern of examination-

i (Internal exam of 10 marks per term and University exam),

ii. Pattern of question paper:

Term end paper of 20 marks converted to 10 marks for each term

Annual exam of 80 marks

Internal Exam per term 10 Marks = Total 20 marks for two terms

University Exam- 80 Marks

B. Standard of passing- Internal -08- University -32= annual marks 40

C. ATKT rules- No

D. Award of class- F.Y.B.Sc. Pass

E. External students- No

F. Setting of question papers/ pattern of question paper

Internal Exam- 20 Marks = (converted to 20 marks) (1st & 2nd term)

Question 1: Multiple choice for 5 marks (5)

Question 2: True or false (5) for 5 marks

Question 3: Definitions (5) 5 marks

Question 4: Answers in two lines (2) for 5 marks

University Exam- 80 Marks =

Question 1. Answers in 20 words- 16 marks (8 out of 10)

Question 2. Answers in 50 words -16marks (any4 out of 6)

Question 3. Answers in 150 words- 16 marks (any 4 out of 6)

Question 4. Answers in 300 words- 16 marks (any 2 out of 4)

Question 5. Answers in 500 words- 16 marks (any 1 out of 2)

G. Verification / Revaluation- Yes

6. Structure of the course

a. Compulsory paper- **F.Y.B.Sc. General**

b. Optional paper- **No**

c. Question paper and papers etc -**One**

d. Medium of instructions- **English**

7. Equivalence of previous syllabus along with propose syllabus- **yes**

8. University terms: **Annual pattern**

9. Subject wise detail syllabus – **As per attached sheets**

10. Recommended books- **Mentioned in syllabus**

11. Qualification of teacher- **M.A./M.Sc(Geography), as per UGC and University norms**

Equivalence of Syllabus in Geography (F.Y.B.Sc.) effective from June 2013

Old Syllabus June 2008		New Syllabus June 2013	
Gg-110	Physical Geography (Paper I)	Gg-110	Geomorphology (Paper I)
Gg-120	Geography of Atmosphere and Hydrosphere (Paper II)	Gg-120	Climatology and Oceanography(Paper II)
Gg-101	Techniques in Physical Geography (Paper III)	Gg-101	Techniques in Physical Geography (paper III)

F. Y. B. Sc. (Geography)
Course No. Gg. 120: Paper II

Title of the Course: Climatology and Oceanography

Objectives:

1. To introduce the students to the basic principles and concepts in Climatology and Oceanography.
2. To acquaint the students with the applications of Climatology and Oceanography in different areas and environment.
3. To make the students aware of the Planet Earth and thereby to enrich the student's life.

Section I - Climatology			
Unit No.	Unit	Sub Unit	No. of periods
1	Introduction to Climatology	a. Definition, nature and scope b. Importance of Climatology in modern times. c.. Weather and climate, elements of weather and climate d.. Composition and structure of the atmosphere e. Hydrological cycle	08 08
2	Insolation	a. Heat budget of the Earth. b. Factors affecting horizontal distribution of temperature. c. Vertical distribution of temperature- Inversion of temperature, lapse rate and its types. d. Global warming.	08
3	Atmospheric Pressure and Wind System	a Vertical and horizontal distribution of pressure. b Formation of pressure system belts and their relation with winds. c Concept of pressure gradient. d Type of winds- planetary wind, periodic winds (monsoon winds), local winds (land and sea breezes, mountain and valley winds). e. Introduction to El Niño and La Niña	11
4	Atmospheric Moisture and Precipitation	a. Forms of precipitation- rain, snow, dew, hail and fog. b. Types of clouds.	05

Section II - Oceanography			
5	Oceanography and Submarine Relief	a. Definition, nature and scope.	08
		b. Importance of the study of oceanography in modern times.	08
		c. General idea of ocean relief.	
		d. Relief of Atlantic, Pacific and Indian oceans.	
6	Types of Coasts	a. Types- Half Nehrung, Fiord, Dalmatian, Ria coasts. b. Submerged and emerged coast.	04
7	Properties of Ocean Water	a. Properties of ocean water- temperature, density. b. Salinity- meaning and causes. c. Salinity of oceans, seas, and lakes with examples.	10
8	Movements of Ocean Water	a. Waves- Characteristics of sea waves, wave refraction, tsunamis. b. Ocean currents- meaning, causes, types. c. Ocean currents of Atlantic, Pacific and Indian Oceans d. Effects of ocean currents. e. Tides- meaning, causes, types. f. Equilibrium theory of tides.	10

Reference books:

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.

Ttrewartha, G., Introduction to Weather and Climate. King, C.A.M., Oceanography for Geographers.

Lake, P., Physical Geography.

Lutgens, F.K. and Tarbuck, E.J., 2007. The Atmosphere, Pearson Prentice Hall, New Jersey. Pirie, R.G., Oceanography (Contemporary).

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,

INC. Various websites of internet.

Structure /Pattern of Syllabus- F.Y.B.Sc.

1. Title of the course –

Gg- 101- Techniques in Physical Geography - (Paper III)

2. **Preamble of the syllabus**

i. To acquire the knowledge various techniques in physical geography

ii. To enable the students to use techniques of specific maps and their geographical interpretation.

iii. To acquaint the students with the weather instruments and their utility and applications in geographical phenomena

• Batches of 15 students, each and 4 periods per batch

3. Introduction: Pattern –**Annual (20 marks internal & 80 marks University)**

4. Eligibility- **12th pass Science**

5. Examination-

A. Pattern of examination-

i (Internal term end and University exam),

ii. Pattern of question paper:

Internal Exam: 20 marks

External Exam: 80 marks

Both the exams should be conducted at the end of second term.

Internal Exam: 20 Marks

University Exam: 80 Marks

B. Standard of passing- Internal -08- University -32= annual marks 40

C. ATKT rules- No

D. Award of class- F.Y.B.Sc. Pass

E. External students- No

F. Setting of question papers/ pattern of question paper

G. Pattern of question paper:

Term end paper of 20 marks converted to 10 marks for each term

Annual exam of 80 marks

Internal Exam per term 10 Marks = Total 20 marks for two terms

University Exam- 80 Marks

Internal Exam- 20 Marks = (converted to 20 marks)

University Exam- 80 Marks =

(According to the Skelton of the syllabus)

H. Verification / Revaluation- **No**

6. Structure of the course

a. Compulsory paper- **F.Y.B.Sc. Practical**

b. Optional paper- **No**

c. Question paper and papers etc: **YES**

d. Medium of instructions- **English**

7. Equivalence of previous syllabus along with propose syllabus- **yes**

8. University terms: **Annual pattern**

9. Subject wise detail syllabus – **As per attached sheets**

10. Recommended books- **Mentioned in syllabus**

11. Qualification of teacher- **M.A./M.Sc(Geography), as per UGC and University norms**

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Old Syllabus June 2008		New Syllabus June 2013	
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Gg-120	Geography of Atmosphere and Hydrosphere (Paper II)	Gg-120	Climatology and Oceanography(Paper II)
Gg-101	Techniques in Physical Geography (Paper III)	Gg-101	Techniques in Physical Geography (paper III)

UNIVERSITY OF PUNE
F. Y. B. Sc. (Geography)
Course No. Gg. 101: Paper III
Title of the Course: Techniques in Physical Geography

Objectives:

1. To acquire the knowledge of various techniques in Physical Geography.
8. To enable the student to use techniques of specific maps and their geographical interpretation.
9. To acquaint the students with the weather instruments and their utility and applications in geographical phenomena.

* **Batch of 15 students each & 4 periods per batch**

Section I -			
Unit No.	Unit	Sub Unit	No. of periods
1	Maps	a. Definition, elements of map, scale, direction, projection, Conventional signs and symbols.	08
2	Map Scales	a. Definition and types- Verbal Scale (VS), Representative Fraction (RF), Graphical Scale b. Conversion of scale- VS into RF and RF into VS (Minimum 4 examples each) c. Exercise on simple graphical scale (Minimum 4 exercises)	08
3	Relief	I. Methods of relief representation. a. Qualitative- Hachures, hill shading, layer tint b. Quantitative- contours, form lines, spot height, bench mark, triangulation station c. Representation of following features by contours- uniform slope, concave slope, convex slope, terraced slope, conical hill, plateau, ridge, saddle, V-shaped valley, U-shaped valley, waterfall, gorge, spur, cliff.	08
4	SOI Toposheets	a. Introduction to toposheets, Types of Toposheet/Indexing of toposheets i 1: 1000000 Series Sheet ii 1:250000 Series Sheet iii 1: 100000 Series Sheet iv 1:50000 Series Sheet v 1:25000 Series Sheet b. Marginal Information, Grid Reference, Conventional Sings and Symbols	08
5	Profile	a. Cross profile, longitudinal profile, intervisibility.	05

6	Toposheet Reading	a. At least one from the following regions- mountain plateau, plain. b. One day field excursion for orientation of Toposheet, observation of landforms, identification of landforms and preparation of brief report.	08
SECTION II			
7	Weather Maps	a. Introduction to weather maps. b. India Meteorological Department (IMD) weather symbols. c. Use of satellite images in weather forecasting.	08
8	Isobaric Patterns	a. Drawing of isobaric patterns and associated weather- cyclone, anticyclone, ridge, trough, wedge, secondary depression, col.	08
9	Weather Instruments	a. Measurement of temperature i. Simple thermometer ii. Maximum and minimum thermometer iii. Thermograph (Mechanism and functioning) b. Measurement of humidity i. Hygrometer ii. Hygrograph (Mechanism and functioning) c. Measurement of precipitation i. Rain gauge (Mechanism and functioning) d. Measurement of air pressure i. Aneroid barometer ii. Barograph	12
10	Weather Map Reading	a. Reading of weather map of three seasons i. Summer ii. Monsoon iii. winter (Satellite images indicating weather phenomena should be shown).	12
11	Compilation of Information	a. Information should be compiled regarding weather forecasting. b. Compilation of weather information and its presentation (Should be compiled from daily news papers, television, internet, etc. and preparation of brief report). c. One day visit to nearby weather station	05

* The student will maintain a journal for all the practicals and it will be certified by the concerned teacher and Head.

Reference books:

- Singh, G., 2005. Map work and practical geography. Vikas Publishing House Pvt. Ltd., New Delhi
- Singh, R.L., and Dutt, P.K., 1968. Elements of practical geography, Students' Friends, Allahabad
- Singh, L.R. and Singh, R., 1973. Map work and practical geography, Central Book Allahabad
- Siddhartha, K., 2006. Geography through maps, Kosalaya Publications Pvt. Ltd, Delhi
- Ramamurthy, K., 1982. Map Interpretation, Rex Printers, Madras.
- 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.
- Steers, J.A., 1970. An Introduction to Study of Map Projections. University of London Press Ltd., London.
- Various websites of internet.