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॥ अंतरी पेटवू ज्ञानज्योत ॥

NORTH MAHARASHTRA UNIVERSITY, JALGAON.

Syllabus for F.Y.B.Sc.

GEOGRAPHY.

(W.e.f. Acd.Yr. 2002 - 2003)

NORTH MAHARASHTRA UNIVERSITY, JALGAON.

REVISED SYLLABUS FOR B.Sc. STREAM.

(With Effect from Acd.Yr.2002-2003)

STRUCTURE.

F.Y B.Sc

Paper-I	Physical Geography (Lithosphere)
Paper-II	Physical Geography (Atmosphere and Hydrosphere)
Paper-III	Practical Geography

S.Y .B.Sc

Paper-I	Population Geography
Paper-II	Environmental Science
Paper-III	Practical Geography

T.Y.B.Sc.

Paper-I	Geomorphology and Oceanography
Paper-II	Climatology and Meteorology
Paper-III	Soil Geography
Paper-IV	Remote Sensing
Paper-V	Computer application in Geography and G.I.S.
Paper-VI	Geography of Maharashtra

Practical -I :	Practical in Geomorphology & Soil analysis
Practical -II :	Remote Sensing, Interpretation of land sat imageries and Areal Photography
Practical -III :	Quantitative techniques and Computer application in Geography.

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NORTH MAHARASHTRA UNIVERSITY JALGAON

SYLLABUS FOR F.Y.B.Sc GEOGRAPHY

PAPER-I PHYSICAL GEOGRAPHY (LITHOSPHERE)

(With Effect From Acd.Yr. 2002-2003)

Periods

1 CONTINENTS AND OCEANS **(08)**

i) Origin and Distribution of Continents and Oceans

ii) Theories a) Wegener's Continental Drift Theory

b) Plate Tectonic Theory.

2 INTERIOR OF THE EARTH **(06)**

i) The Crust - a) Sial b) Sima

ii) Mohorovicic Discontinuity.

iii) The Mantle

iv) Gutenberg Discontinuity

v) The Core.

3 ROCKS **(10)**

i) Definition of Rocks.

ii) Classification of Rocks according to their mode of origin and their characteristics with examples.

a) Igneous rocks

b) Sedimentary rocks

c) Metamorphic rocks

4 FORCES AFFECTING THE EARTH'S CRUST **(12)**

Endogenetic and Exogenetic Forces.

Endogenetic Forces :

i) Diastopic Forces - Epeirogenetic and Orogenetic forces

a) Folding - Definition and Types.

Types - Symmetrical, Asymmetrical, Overfold, Recumbent fold, Over-thrust fold, Anticlinorium and Synclinorium.

b) Faulting - Definition, Types (Normal and Reverse) and associated landforms (Block mountain and Rift Valley)

ii) Sudden Forces / Movements

a) Earthquakes - Definition, Causes and Effects of Earthquakes. Types of Earthquake Waves World Distribution of Earthquakes.

b) Volcanoes : Definition and causes of Volcanoes. classification of Volcanoes based on Periodicity (Active, Dormant and Extinct Volcanoes) World Distribution of Volcanoes.

Cont..3

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5) **MOUNTAINS, PLATEAUS AND PLAINS** (10)

Mountains -

i) Definition

ii) Types a) Folded Mountains
b) Volcanic Mountains
c) Block Mountains
d) Domed Mountains

Plateaus - i) Definition

ii) Types a) Intermontane Plateaus
b) Dome shaped plateaus
c) Volcanic Plateaus
d) Continental Plateaus.

Plains - i) Definition

ii) Types a) Diastrophic Plains
b) Erosional Plains
c) Depositional Plains.

6) **WEATHERING** (05)

i) Definition

ii) Types a) Mechanical weathering
b) Chemical Weathering
c) Biological Weathering

7) **WORK OF RIVER** (12)

i) River system, Stream order and Drainage density

ii) Drainage Patterns
a) Dendritic Pattern
b) Trellis Pattern
c) Rectangular Pattern
d) Radial Pattern
e) Centripetal Pattern
f) Parallel Pattern

iii) Mechanism of River Erosion and Deposition

iv) Features associated with River
a) Erosional Features - "V" shaped Valley, Gorge, Rapids, Waterfalls, Pot holes.
b) Depositional Features - Meanders and Ox-bow lake, Flood plains and Levees, Deltas.

Cont..4

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8) **WORK OF WIND** (09)

i) Mechanism of Wind Erosion and Deposition.

ii) Features associated with Wind

a) Erosional features - Blowout, Mushroom rock, Yardangs , Zeugen , inselberge.

b) Deposional features - Sand dunes , Barkhans, Seif (Longitudinal) dunes, Ripple marks, loess

9) **WORK OF GLACIER** (09)

i) Definition

ii) Types a) Ice-sheet or Ice Caps

b) Continental Glaciers

c) Mountain or Valley Glaciers

d) Piedmont Glaciers

iii) Features associated with Glaciers.

a) Erosional Features - Roches moutonnees, Cirques, Horns, 'U' shaped valley, Hanging Valley, Crag and Tail.

b) Depositional Features - Moraines, Drumlins, Eskers, Kames, Out wash plains, Erratic and Perched Blocks.

10) **WORK OF SEA WAVES** (09)

i) Mechanism of sea waves Erosion and Deposition

ii) Types of coasts - Fiord, Ria and Dalmatian

iii) Features associated with sea-waves.

a) Erosional Features - Cliffs, Wave cut Platform, Sea caves, Sea Arch, Sea Stack

b) Depositional Features - Beaches, off - shore bars, Spits, Lagoons, Mud flats and salt marshes.

Recommended Books -

i) Physical Geography - Savindra Singh

ii) Physical Geography - A.N. Strahler

iii) Physical Geography - R.D. Scott

iv) Fundamental of Physical Geography - Majid Hasain

v) Geomorphology - B.W. Sparks.

vi) Morphology and Landscape - H. Robinson

vii) Principles of Physical Geography - F.J.Monkhouse

viii) Elements of Physical Geography - P.N. Padey

Cont..5

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Weightage

Chapter No.	Marks
1	10
2	6
3	12
4	14
5	10
6	6
7	12
8	10
9	10
10	10

Cont..5

F.Y.B.Sc Paper-II, Physical Geography

Atmosphere and Hydrosphere

Atmosphere :-

Chapter-I: Structure and Composition of atmosphere. (10)

A) Introduction to atmosphere

B) Structure of atmosphere

i) Homosphere

ii) Heterosphere

C) Composition of atmospaere

i) The gases

ii) Water vapour

iii) Dust Particles.

Chapter-II: Insolation and Heat Balance (09)

A) Meaning and Definition

i) Insolation

ii) Solar Constant

iii) Albedo of earth

B) Distribution of insolation

C) Factors affecting the distribution of insolation

D) Heat Balance of Earth and atmosphere.

Chapter-III: Temperature (09)

A) Heating and cooling of atmosphere

B) Mean temperature

C) Distribution of temperature

D) Factors affecting the distribution of temperature

E) Inversion of temperature

Chapter-IV: Atmospheric Pressure and Winds (10)

A) Horizontal and Vertical distribution of air pressure and pressure belts.

B) Shifting of pressure belts and their effects

C) Classification of winds:

i) Planetary winds - Trade, antitrade, Polar

ii) Seasonal winds - Monsoon wind

D) Cyclone and Anticyclone - Definition and Characteristics

Cont..6

D/8

Chapter-V: Air Masses **(06)**

A) Meaning and Characteristics of Air masses

B) Source regions.

C) Geographical classification of air masses

Chapter-VI: Humidity and Precipitation **(10)**

A) Humidity: Definition and types (Absolute and relative humidity)

B) Precipitation: Definition and types of precipitation (i.e. Dew, Rain, Hail, Snow, Rime, Sleet)

C) Clouds: Definition and types of clouds

i) Low clouds

ii) Medium clouds

iii) High clouds

D) Rainfall:

i) Origin of rainfall

ii) Types of rainfall: Convectional, orographic and cyclonic.

Hydrosphere:

Chapter-VII: Configuration and Submarine relief **(08)**

A) Configuration of Ocean

i) Continental shelf ii) Continental slope

iii) Abyssal Plain iv) Oceanic island.

B) Structure and submarine relief features of oceans

i) Atlantic

ii) Indian

Chapter-VIII: Distribution of salinity and Temperature of ocean water **(10)**

A) i) Definition, meaning and composition of salinity of ocean water.

ii) Factors affecting the salinity of ocean water

iii) Distribution of Salinity a) Open ocean b) Enclosed sea c) Inland lake or sea

B) Temperature of Ocean water - Horizontal and Vertical distribution of temperature of ocean water.

Chapter-IX: Ocean Currents : **(08)**

A) Definition and meaning of ocean current

B) Causes of ocean current circulation

C) Currents of Atlantic and Indian Ocean

Cont..7

D/5

Chapter-X: Ocean deposits **(10)**

A) Sources of ocean deposits

i) Terrigenous materials

ii) Volcanic materials

iii) Organic materials

B) Distribution of Ocean deposits

i) Terrigenous deposits (Earth born)

ii) Pelagiae deposits (Ocean born)

Note : Weightages of marks

A.	Atmosphere	-	60
B.	Hydrosphere	-	40
	Total	:	100

Reference Books :

i) Physical Geography - Savindra Singh
(Prayag Pustak Bhawan, Allahabad)

ii) Fundamentals of Physical Geography - Dr. Majid Husain
(Rawat Publication, Jaipur)

iii) Physical Geography - R N Tikkha
(Kedar Nath Ram Nath and Company, Meerut 250001)

iv) Introduction to Physical Geography - Strahler

v) Physical Geography - Philip Lake

vi) Principles of Physical Geography - A Das Gupta and A N Kapoor

vii) Principles of Physical Geography - F J Monkhouse

viii) Oceanography for Geographers - R. C. Sharma

ix) Physical Geography - Dr B. S. Negi
(H. J. Publication, Chipi Tank, Meerut - 250001)

x) Climatology - D. S. Lal
(Chaitnya publishing house ,Allahabad)

xi) Climatology - A Austain Miller
(B. I. Publication Pvt Ltd. 54 Janpat, New Delhi - 01

xii) Climatology and Oceanography - Dr B. S. Negi
(Kedar Nath Ram Nath and Company, Meerut - 250001)

xiii) Climatology and Oceanography Ahirrao, Dhapte and Alizad
(Nirali Prakashan, Pune)

Cont.8

D/10

Geography - Paper - III: PRACTICAL GEOGRAPHY.

Periods

I) SCALES: **(16)**

1.1 Definition

1.2 Types of Scales

1.3 Conversion of scales (R. F. To V. S. to R. F.)
(British and Metric System)

1.4 Construction of Scales (Only Metric System)

a) Simple Graphical Scale

b) Time and Distance Scale

II) REPRESENTATION OF RELIEF. **(18)**

2.1 Definition of Relief

2.2 Methods of representation of relief

a) Quantitative Methods.
Spot height, Trigonometric, Station, Bench Mark, Contours form lines.

b) Qualitative Methods
Hachures, hill shading

2.3 Relief features by contours

a) Types of slopes - Gentle, Steep, Concave, convex terraced

b) Landform of elevation - conical hill, ridge, pass, plateau, Cliff, spur.

c) Land form of depression - Gorge, V Shaped Valley, U Shaped valley, Water fall.

2.4 Profiles

a) Cross Profile - intervisibility

b) Longitudinal profile

III) TOPOGRAPHIC MAPS **(24)**

3.1 Introduction to S.O.I. Toposheets.

3.2 Indexing of Toposheets and Marginal information

3.3 Grid reference, four and six figure co-ordinates

3.4 Signs and Symbols of S.O.I. Toposheets

3.5 Topographic map reading on following points

a) Physical elements -
Physiography, drainage pattern, vegetation

b) Cultural elements
Settlements, Transport and Communication, Occupation of i) Hilly and Mountainous areas
ii) Plains and plateau areas

Con..9

D/11

IV) WEATHER MAPS : (38)

4.1 Function, Mechanism and Use of following Weather instruments :

a) Temperature -

i) Simple Thermometer

ii) Maximum and Minimum thermometer

b) Pressure -

i) Aneroid barometer

c) Humidity -

i) Dry and Wet bulb Thermometer

ii) Hygrometer

d) Wind and Rainfall -

i) Wind vane

ii) Cup Anemometer

iii) Rain gauge

4.2 Isobar Patterns :

a) Cyclone (North Hemisphere)

b) Anticyclone (North Hemisphere)

c) Wedge and Trough

d) Secondary depression and Col.

4.3 Introduction to I.M.D. Weather Map.

4.4 I.M.D. Weather Symbols

4.5 Map reading of Indian Daily Weather reports - One each for summer, winter and Rainy Season.

4.6 Representation of climatic data :

a) Line graph, bar graph, combined line and bar graph

b) Hythergraph

c) Isolines - Isobars, Isotherms and Isohyetes.

Cont..10

D/12_

Workload - 15 students per batch and 4 periods per week.

Unit	Periods	Marks
01	16	10
02	18	12
03	24	23
04	38	35
	96	**80**
05 - Journal	--	10
Oral	--	10
	Total	**100 - Marks**

List of Books :

1) Fundamentals of Cartography - R.P Mishra and A. Ramesh
2) Map Work and Practical Geography - R Sing and Kanaujia
3) Elements of Practical geography - R. L Sing and Dutta
4) Maps and Diagrams - F. J. Monkhouse and H. R. Wilkinson
5) Practical Geography - Balbirsing Negi
6) Geographical Interpretation of Indian Topographical Maps - Tamaskar Deshmukh.
7) Maps Interpretation - K R Rammurthi
8) A Text Book of Practical Geography - M. Ishtiaq.
9) Fractical Geography (Marathi) - Dr. A.P. Kumbhar

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D/13