DR.BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY

DEPARTMENT OF GEOGRAPHY

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OLD

Syllabus

M. A. FIRST AND SECOND YEAR (GEOGRAPHY)

SCHEME FOR CHOICE BASED CREDIT SYSTEM (CBCS) AND AWARDING GRADES TO THE POST GRADUATE STUDENTS IN UNIVERSITY DEPARTMENTS

(Effective from 2010-2011 and Onwards)

DR.BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY, AURANGABAD

DEPARTMENT OF GEOGRAPHY

Rules for semester Examination

1 The scheme for choice based credit system and awarding grades is started for M.A part I (GEOGRAPHY) during the academic year 2011-2012 and shall be continued for M.A II (GEOGRAPHY) during the next academic year 2012-2013.

2 M.A First year semester I shall consist of 4 papers and semester II 4 papers including practical.

3 M. A. Second year semester III shall consist of 5 of papers including practical and service course where as semester IV shall consist of 4 papers including practical.

4 One period shall be of 60 Minutes duration.

5 The candidate shall appear for Theory paper .It's total marks of each paper shall be 80 theory marks and 20 marks as internal marks.

6 The candidate must obtain minimum 40% of marks to pass semester examination .It means he must get 8 marks for internal assessment and 32 marks each in theory papers.

7 There shall be practical examination for each semester. The practical paper shall consist of 100 marks .there shall be no internal assessment in practical paper.

8 External examiners shall be invited for the examination from the examiner's panel of our university.

9 The candidate has to obtain minimum 40 marks in practical paper to pass the examination.

10 There shall be one batch of maximum 15 students for practical.

11 The choice based credit system is applicable in semester examination. 1 (one) credit is for 15 periods. There shall be 4 credits for each paper in the semester system. Internal and external evaluation will be included in the credit system. M.A. First year in Geography shall consist of 32 credits and M.A. II year shall consist of 32 credits. Therefore there shall be 64 credits for M.A. Post graduate degree in Geography.

Grade Awards:

Ten Point grades and grade description

Sr. No.	Equivalent Percentage	Grade Points	Grade	Grade Description
1.	90.00-100	9.00-10	O	Outstanding
2.	80.00-89.99	8.00-8.99	A+ +	Excellent
3.	70.00-79.99	7.00-7.99	A+	Exceptional
4.	60.00-69.99	6.00-6.99	A	Very good
5.	55.00-59.99	5.50-5.99	B+	Good
6.	50.00-54.99	5.00-5.49	B	Fair
7.	45.00-49.99	4.50-4.99	C+	Average
8.	40.01-44.99	4.01-4.49	C	Below Average
9.	40	4.00	D	Pass
10.	< 40	0.00	F	Fail

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DEPARTMENT OF GEOGRAPHY

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Curriculum Structure and Scheme of Evaluation for
M.A.1st year

SEMESTER – FIRST

Sr. No	Course	Name of the Subject	Scheme of Teaching (periods per week)			Scheme of Evaluation marks				
			T	P	Total periods	Theory exam	Internal	Practical	Total marks	Total credits
1	GEO 401	Geomorphology (Comp)	04	-	04	80	20	-	100	4
2	GEO 402	Climatology (Comp)	04	-	04	80	20	-	100	4
3	GEO 421	Geography of Tourism (Opt)	04	-	04	80	20	-	100	4
4	GEO 422	Geography of Transportation (Opt)	04	-	04	80	20	-	100	4
4	GEO 451	Practical – I (Comp)		04	04	-	-	100	100	4
Total			12	04	16	240	60	100	400	16

SEMESTER – SECOND

Sr. No	Course	Name of the Subject	Scheme of Teaching (period per week)			Scheme of Evaluation Marks				
			T	P	Total periods	Theory Exam	Internal	Practical	Total marks	Total credits
1	GEO 403	Oceanography (Comp)	04	-	04	80	20	-	100	4
2	GEO 404	Geography of water Resources (comp)	04	-	04	80	20	-	100	4
3	GEO 423	Regional planning and Development (Opt)	04	-	04	80	20	-	100	4
4	GEO 424	Geography of Population (Opt)	04	-	04	80	20	-	100	4
5	GEO 452	Practical – II(Comp)		04	04	-	-	100	100	4
Total			12	04	16	240	60	100	400	16

DR.BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY, AURANGABAD
DEPARTMENT OF GEOGRAPHY
SCHEME FOR CHOICE BASED CREDIT SYSTEM (CBCS) AND AWARDING GRADES TO THE POST GRADUATE STUDENTS IN UNIVERSITY DEPARTMENTS

Curriculum Structure and Scheme of Evaluation for
M.A.2nd year

SEMESTER – THIRD

Sr. No	Course	Name of the Subject	Scheme of Teaching (periods per week)			Scheme of Evaluation marks				
			T	P	Total periods	Theory exam	Internal	practica	Total marks	Total credits
1	GEO 405	Evolution of Geographical Thought (Comp)	04	-	04	80	20	-	100	4
2	GEO 406	Agricultural Geography (Comp)	04	-	04	80	20	-	100	4
3	GEO 425	Regional Geography of India (Opt)	04	-	04	80	20	-	100	4
4	GEO 426	Geography of Health (Opt)	04	-	04	80	20	-	100	4
5	GEO 441	Geographical Study of Natural Disasters (Service Course)	04	-	04	80	20	-	100	4
6	GEO 453	Practical – III (Comp)		04	04	-	-	100	100	4
Total			12	04	16	320	60	100	500	20

SEMESTER – FOURTH

Sr. No	Course	Name of the Subject	Scheme of Teaching (period per week)			Scheme of Evaluation Marks				
			T	P	Total periods	Theory Exam	Internal	Practical	Total marks	Total credits
1	GEO 407	Settlement Geography (Comp)	04	-	04	80	20	-	100	4
2	GEO 408	Political Geography (comp)	04	-	04	80	20	-	100	4
3	GEO 427	Biogeography (Opt)	04	-	04	80	20	-	100	4
4	GEO 428	Remote Sensing Techniques (Opt)	04	-	04	80	20	-	100	4
5	GEO 454	Practical – IV (Comp)		04	04	-	-	100	100	4
Total			12	04	16	240	60	100	400	16

M.A I st year (Geography)

SEMESTER – FIRST

GEOMORPHOLOGY (Compulsory)

Subject Ref. No. GEO 401

No. of Credits : 04
No. of periods per weeks : 04
Assignments/Sessionals : 20
Semester Exam : 80

Unit I Definition, Nature scope of Geomorphology. Fundamental concept in Geomorphology.

Uniformitaranism-Co-relationship of the subject with human settlement and transportation.

Requirement of periods – 12 and Marks - 15.

Unit II Earth movement – Eperogenic and orogenic movement, continental drift theory, plate tectonics, Theory of isostacy.

Requirement of periods –12 and Marks –15.

Unit III Earthquake and volcanoes – causes and effects Land features formed by earthquakes and volcanoes with geographical distribution.

Requirement of periods -08 and Marks –15.

Unit IV Weathering – its types and effects.

Requirement of periods – 8 and Marks – 15.

Unit V Geomorphologic processes.

Fluvial, Glacial, Karst and aeolin process and resulting land forms.

Requirement of periods –20 and Marks-20.

Suggested Reading –

1. **Chorlely, R.J:** Spatial Analysis in Geomorphology, Methuen, **London 1972.**
2. **Cooke, R.U.and Eoornkamp, J.C:** Geomorphology in environmental Management an introduction, Clare don press, **oxford 1974.**
3. **Dully, G.H:** the Face of the earth, penguin Harmon worth, **1959.**
4. **Fairbridge, R.W:** Encyclopedia of geomorphology, **Reinhold's, New York 1968.**
5. **Goudie ,A:** The Nature of the environment ,oxford & Blackwell, **London .1993**
6. **Gamer ,H.F :** The origin of landscape – a synthesis of geomorphology, Oxford university press, London **1974**
7. **Mitchell ,C.W :** Terrain evaluation ,**Longman Landon 1979**
8. **Oilier ,C.D :** withering ,**Longman London 1979**
9. **Pity A.F :** Introduction to geomorphology, Methuen **London 1971**
10. **Stoddard ,D.R (ed) :** process and form geomorphology ,Rout ledge , **New York, 1995**
11. **Skinner ,B.J & PORTER ,S.C :** The dynamic earth John Wiley , **New York, 1995**
12. **Sparks B.W:** Geomorphology ,Longman **Landon, 1960**
13. **Sharma H.S (ed):** perspectives in geomorphology concept ,**New Delhi,1980**
14. **Singh .S :** Geomorphology,Prayag publication ,**Allahabad ,1998**
15. **Thorn bury, W.D:** principles of geomorphology, John Wiley, **New York, 1960.**

CLIMATOLOGY (Compulsory)

Subject Ref. No. GEO 402

No. of Credits : 04
No. of periods per weeks : 04
Assignments/Sessionals : 20
Semester Exam : 80

Unit I Nature, scope and significance of climatology

Requirement of periods –8 and Marks –15

Unit II Composition and division of atmosphere. Impact of ozone layer

Requirement of periods –8 and Marks –15

Unit III Air pressure belts. Planetary, seasonal winds, cyclones, Anticyclones. Jet streams, Blizzards, Brick fielders, Norwesters, Loo winds, Ocean atmospheric interaction El Nino.

Requirement of periods –12 and Marks –15

Unit IV Air mass and Frontogenessis

Atmospheric moisture – Humidity, evaporation condensation, Types of precipitation and clouds.

Acid rainfall.

Requirement of periods- 12 and Marks-15.

Unit V Climatic regions of the world.

Climatic classifications of koppen and thornwaite.

Climatic change- Evidences, global warming environmental impact.

Requirement of periods –20 and Marks –20

Suggested Readings-

1. **Barry ,R.G and Chorley P.J :** Atmosphere ,weather and climate, **Rout edge , London, and New York ,1998**
2. **Critchfield ,J.H :** General climatology **,Prentice hall India , New Delhi 1993**
3. **Das, p.k:** Monsoons National Book Trust, **New Delhi 1987.**
4. **Fein ,J.S and Stephens ,P.N :** Monsoon willey science **1978**
5. **India Met Dept :** Climatologically Tables of India **Govt of India 1968**
6. **Lal ,D.S :** Climatology , Chaitanya publication **,Allahabad ,1986**
7. **Lydolph ,P.E:** The climate of the earth **Row man 1985**
8. **Meson ,P.A :**Our weather **N.B.T.New Delhi 1989**
9. **Peterson .S :** Introduction to meteorology ,McGraw Hill Book, **London 1969**
10. **Robinson ,P.J.and Henderson S:** contemporary climatology , **Hen low 1999**
11. **Thomson, R.D and Perry, a (Ed):** Applied climatology principles and practice, **Routiedge, London, 1997.**

GEOGRAPHY OF TOURISM (OPTIONAL)

Subject Ref. No. GEO 421

No. of Credits : 04
No. of periods per weeks : 04
Assignments/Sessionals : 20
Semester Exam : 80

Unit I Definition, nature and scope of tourism geography. Factors influencing tourism Historical, natural socio cultural and economical.

Requirement of periods - 10 periods and Marks-15

Unit II Motivational factors for tourism and pilgrimages. Type of Tourism natural, cultural, adventure tourism, national and international tourism

Requirement of periods -10 and Marks - 15

Unit III Development of tourist centers in India; especially hill stations religious places, National parks, sanctuaries, sea shores, sea beaches important historical monuments

Requirement of periods -10 and Marks -15

Unit IV significant tourist places in Maharashtra especially Ellora, Ajanta caves, Forts, national parks, sea –shore areas and religious places .obstacles in the way of tourism development in Maharashtra

Requirement of periods-10 and Marks -15

Unit V Infrastructure and support system for tourism .i.e. Accomodation, Hotels, water supply transportation, market, medical facilities .

Impact of Tourism – Environmental, social economic and cultural .positive and Negative

Role of Foreign capital in tourism.

Requirement of periods -20 and Marks-20

Suggested Reading –

1. **Bhatia A.K:** Tourism development ,principles and practical Sterling publishes **New Delhi 1996**
2. **Chandra R.H :** Hill tourism planning and development kanishka publisher **New Delhi 1998**
3. **Inseker :** Tourism planning – an integrated and sustainable development approach Vannostruand and Rein hold **New York 1991**
4. **Multon D:** Geography of world tourism –prentia Hall **New York 1993**
5. **Robinson H.A :** Geography of tourism Macdonald and Evans publication **1996**
6. **Sharma J.K(ed):** Tourism planning and development A new perspective Kanishka publisher's **New Delhi 2008**
7. **Show G and Williams A.M :** critical issues in tourism –a geographical perspective .oxford Blackwell **1994**
8. **Sinha P.C (ed) :** Tourism Impact assessment Anmol publication **New Delhi 1998**
9. **Theo bal W (ed):** Global tourism - the net decade oxford Batkeworth Hein men oxford Blackwell
10. **Vasse R:** Tourism the Human perspective Holder and Stoughton, **London 1995**
11. **Williams A.M and Shaw G(Ed):** Tourism economic development –western European, Experiences**, Belhaven, London.**

GEOGRAPHY OF TRANSPORTATION (Optional)

Subject Ref. No. GEO 422

No. of Credits : 04
No. of periods per weeks : 04
Assignments/Sessionals : 20
Semester Exam : 80

Unit I Nature, Scope and Signification of Transport Geography. Physical and Cultural factors for the development of transport System.

Requirement of periods -10 and Marks-15.

Unit II Characteristics and relative significance of different modes of transport such as Railways, Roads and Airways.

Requirement of periods -10 and Marks -15.

Unit III Structure – Accessibility and Flow models, Network Structure, Graph theoretic measure, Measurement of accessibility; Model of Network change. Linear Programming and Gravity models.

Requirement of periods -10 and Marks -15.

Unit IV Patterns of movement – the type, patterns of movement and transport modes, simple model of interaction, transportation network the function, pattern of movement.

Movement Geometry, transport development

Requirement of Periods- 10 and Marks -15.

Unit V Transport policy and planning, transport development in developing countries. Growth and problems of urban transportation, environmental degradation, vehicular pollution. National Highway development and planning in India.

Requirement of periods -20 and Marks-20.

Suggested Reading –

1. **Chorley R.J.and Hogget P:** Models in Geography Methuen & Co. **London (1667)**
2. **Hurst M.E(Ed):** Transportation Geography McGraw Hill **(1974)**
3. **Han A:** Transport Economy Macmillan **London (1973)**
4. **Hoyle B.S.(Ed)**:Transport and development Macmillan **London (1973)**
5. **Raza M and Agrawal Y.P:** Transport Geography of India Concept, **New Delhi (1985)**
6. **Robinson H**: Geography of Transport MacDonald and Evans, **London (1978)**
7. **White H.P. and Senior M.L:** Transport Geography Longman **London (1983)**

Practical Geography (Compulsory)

Subject Ref. No. GEO 451

No. of Credits : 04
No. of periods per weeks : 04
Semester Exam : 100

Unit I: **Geomorphology**

1. profile –serial ,superimposed, projected and composite
2. slope – methods – degree,
   Gradient, percentage mills,

Requirement of period -10 and Marks -20

Unit II: 1. Method of slope analysis
C.K .Wentworth, G.H.Smiths and Robinsoon's dot method
Requirement of period -10 and Marks -20

Unit III: **Climatology**

Drawing of ISO Lines, super impose columnal diagram, compound columnar diagram, ergograph, chimatograph, wind rose and star diagram

Requirement of periods- 20 and Marks-20.

Unit IV: **Introduction of Geographic Information System.**

Raster model, vector model. Application of GIS in geography

Requirement of periods-20 and Marks-20

Unit V: **Journal and viva- voce**

20 Marks are allotted for journal and viva -voce

Suggested Reading -

1. **Mishra R.P and Ramesh A :** Fundamentals of cartography
   McMillan co **New Delhi**
2. **Singh R.L and Data P.K:** Elements of practical Geography
   Kalyani publication, **New Delhi**
3. **Frazer Taylor:** Geographic Information systems.
   Peraman press **oxford 1991**

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DEPARTMENT OF GEOGRAPHY

Syllabus

M.A.FIRST YEAR (GEOGRAPHY)

SEMESTER: SECOND

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SEMESTER - SECOND

OCEANOGRAPHY (Compulsory)

Subject Ref. No. GEO 403

No. of Credits : 04
No. of periods/weeks : 04
Assignments/Sessionals : 20
Semester Exam : 80

Unit I : Definition and scope of oceanography influence of oceans on climate, food resources, ecosystem and politics.

Requirement of Periods -10 and Marks - 15

Unit II: The depth of Oceans- continental shelf, slope, deep sea plains and oceanic Deeps

Requirement of periods -8 and Marks-15.

Unit III: Temperature, Salinity of oceanic water, classification of marine deposits.

Requirements of Periods-12 and Marks-15.

Unit IV: Coral reefs. Major theories of origin of coral reefs.

Requirement of periods-10 and Marks-15.

Unit V: Movement of Oceanic water. Sea waves, Tides and ocean currents. Reasons for the formation of ocean currents. Surface currents of pacific, Atlantic and Indian Ocean, Effect of ocean currents.

Requirement periods-20 and Marks-20.

Suggested Reading-

1 **Duxbury C.A and Duxbury B:** An introduction to the Marine Environment :Wm.C.Brown Lava **(1986)**

2 **Garrison T:** Oceanography: An introduction to marine science. Cole, pacific Grove **USA (2001).**

3 **Gross M.Grant**: Oceanography: a view of the earth: practice Hall Inc. **New Jersey (1987).**

4 **King C.A.M:** Oceanography for Geographers **(1962).**

5 **Introduction – K.Sidharth** Oceanography and brief Introduction **(2004)**

6 **Peter K.W:** An introduction to the Marine Environment

7 **R.C.Sharma:** The oceans Rajesh New **Delhi (1985)**

8 **Dr.R.C.Sharma and M.Vital:** Oceanography for Geographers Chaitanya Publishing House University Road, **Allahabad (2005).**

9 **Ummerkutty A.N.P:** Science of the Oceans and Human Life OR B.T. **New Delhi (1985).**

12 **Weisberg :** Introductory Oceanography

GEOGRAPHY OF WATER RESOURCES (Compulsory)

Subject Ref. No. GEO 404

No. of Credits : 04
No. of periods/weeks : 04
Assignments/Sessionals : 20
Semester Exam : 80

Unit I: Water as a natural resources and focus of geographical interest Inventory and distribution of world's water resources (surface and subsurface)

Requirement of Periods-10 and Marks -15.

Unit II: Water demands and use – Methods of estimation – agricultural and industrial uses of water. Irrigation method of distribution of the water to farms. Water harvesting techniques and water conservations.

Requirement of periods- 10and Marks-15.

Unit III: water resources management. General trends of water supply to the urban and rural areas in India.
Internal navigation hydel power and recreation.

Requirement of periods-10 and Marks -15.

Unit IV: water problems – pollution, logging, alkanity of soil. Food –structural and non structural adjustment of flood Hazards.

Requirement of periods -10 and Marks- 15

Unit V: Conservation and planning for the development of water resources. Social and institutional considerations use of surface and ground water resources. Watershed management. International and Interstate river water dispute.

Requirement of periods -20 and Marks-20.

Suggested Reading:

1. **Agarwal, Anil and Sunita Narain:** Dying wisdom: Rise, fall and postential of India's Traditional water Harvesting System centre for science and environment, **New Delhi, 1997.**

2. **Economic and social Commission for Asia and the pacific, United:** Guidelines for the preparation of National master water plans **1989.**

3. Govt.of India, Ministry of Agriculture Report of the irrigation commission, vol. I to IV, **New Delhi, 1972.**

4. **Gulhati, N.D:** Development of inter- state Rivers: Law and practice in India. Allied pub, **Bombay, 1972.**

5. International water Resource Association and Central Board of irrigation & power: water for Human Needs, Vols. I to V Proceeding of the second world congress on water resources, 12-16 December, **New Delhi, 1975.**

6. **Jones, J.A.:** Global Hydrology: Processes, Resources and Environmental management, **Longman, 1997.**

7. **Matter, J.R.,** Water Resources Distribution, use and Management, john willey, Marylane, 1984.

8. **Newson, M.**Land, water and Development River Basin Systems and their Sustainable management, Routledge, **London, 1992.**

9. **Pereria, H.C:** Landuse and Water Resources, Cambridge University press, **Cambriddge, 1973.**

10. **Rao, K.L.:** India's water wealth, orient Longman, **New Delhi, 1979.**

11. **Singh, R.A.and Singh, S.R.:** water management: principles and practices, Tara publication, **Varanasi, 1979.**

12. **Tideman, E.M.watershed management:** Guidelines for India conditions, omerga, New **Delhi, 1996.**

13. **Todd, D.K.:** Ground water Hydrology, John Willey, **New York, 1959.**

14. **U.S.D.A. :** The year Book of Agriculture: water, oxford and I.B.H.Publishing Co, **New Delhi, 1955.**

15. **Verghese, B.G.:** water of Hope: Integrated water resource Development and Regional Co- operation within the Himalayan – Ganga –Brahmaputra –Barak Basin, oxford IBH, **New Delhi, 1990.**

GEOGRAPHY OF POPULATION (Optional)

Subject Ref. No. GEO 424

No. of Credits : 04
No. of periods/weeks : 04
Assignments/Sessionals : 20
Semester Exam : 80

Unit I: Changing nature of population geography factors affecting distribution of population and density – physical factors, socio –cultural and demographic factors.

Requirement of Periods-10 and Marks-15.

Unit II: Theories of population growth- Malthus, Ricardo, Marx, Demographic transition theory and stages.

Requirement of periods -10 and Marks-15.

Unit III: Population composition: Age and Sex; family and households, Literacy and education, religion, castes, tribes, rural, Urban. Population composition in India.

Requirement of periods -10and Marks-15.

Unit IV: Population Migration: type and dominants of migration, law of migration. Migration in India. Population explosion.

Requirement of periods-10 and Marks-15.

Unit V: Population and development: socio – economic development. Population policies in developing countries with special reference to India. Human Development index and its components population and environment, implications for the future.

Requirement of periods-20 and 10 Marks -20.

Suggested Readings:

1. **Bilasborrow, Richards E and Daniel Hogan,** Population and Deforestations in the Humid Tropics, International Union for the Scientific Study of Population, **Belgium 1999.**

2. **Bogue, D.J.**Priciples in Demography, **John Willey, New York 1969.**

3. **Bose, shish et.at. :** Population in India's Development (1947-2000); Vikas Publishing House, **New Delhi 1974.**

4. **Chandna , R.C.**Geography of Population; Concept, Determinates and Patterns, Kalyani Publishers, **New York 2000.**

5. **Clarke, John I.,** Population Geography, Pergamon Press, **Oxford 1973.**

6. **Cook, Nigel** Principles of Population and Development. Pergmon Press , **New York 1997.**

7. **Daugherty, Helen Gin, Kenneth C.W.Kammeyir,** an Introduction to Population (Second Edition), the Guilford Press, **New York, London 1998.**

8. **Garnier, B.J.**Geography of Population **Longman, London 1970.**

9. **Mamoria, C.B.**India's Population Problem, Kitab Mahal **New Delhi 1981.**

10. **Premi, M.K.,** India's Population: Heading Towards a Billion, B.R.Publishing Corporation, **1991.**

11. **Sundaram K.V.and Sudesh Nangia, (ed.)** Population Geography, Heritage, Publications, Delhi **1986.**

12. **Woods, R.**Population Analysis in Geography. **Longman, London 1979.**

13. **Zelinsky Wilbur,** a Prologue to Population Geography, **Prentice Hall, 1966.**

REGIONAL PLANNING AND DEVELOPMENT (Optional)

Subject Ref. No. GEO 423

No. of Credits : 04
No. of periods/weeks : 04
Assignments/Sessionals : 20
Semester Exam : 80

Unit I: Regional Concept in Geography, Concept of Space, Area and Locational Attributes.

Requirement of Periods -10 and Marks-15.

Unit II: Types of region: Formal and Functional uniform and nodal. Physical and Resources region.

Requirement of Periods -10 and Marks-15

Unit III: Regional division according to variation in levels of socio – economic developments.

Requirement of Periods -10 and Marks-15.

Unit IV: Planning Process: Secteral, Temporal and Spatial, Short terms and long terms planning for a regions development and multiregional planning in the National contect. Indicators of development and their data Sources. Case Study of India.

Requirement of periods- 10 and Marks -15.

Unit V: Multi-level planning process, decentralized planning peoples participation in planning, Panchayat Raj system. Administrative structure and functions of village panchayat, panchayat samiti and Zilla Parishad.

Requirement of Periods -20 and Marks -20.

Suggested Reading:

1. **Abler, R., et.at:** Spatial Organization: the Geographer's view of world, Prentice Hall, Englewood Cliffs, N.J., **1971.**

2. **Bhat, L.S.:** Regional Planning in India, Statistical Publishing Society **Calcutta, 1973.**

3. **Chorly, R.J. and Hogget. :** Models in Geography, Methuen, **London.1967.**

4. **Friedman, J.and Alonso.:** Regional Development and planning: A Reader, M.I.T.Press, **Cambridge, Mass, 1967.**

5. **Gosal, G.S.and Krishan, G.:** Regional Disparities in level of socio-Economic Development in Punjab, Vishal Publications, **Kurushetra.1984.**

6. **Government of India:** planning commission: Third Five year plan, Chapter on Regional Imbalance in development, **New Delhi, 1961.**

7. **Indian council of social science Research:** Survey of Research in Geography, Popular Prakashan, **Bombay, 1972.**

8. **Kundu, A.and Raza, Moonis:** Indian Economy: the Regional Demension, Spectrum Publishers, **New Delhi, 1982.**

9. **Misra, R.P.and others (editors):** Regional Development Planning in India –A Strategy, Institute of Development Studies, **Mysore, 1974.**

10. **Mishra, R.P:** Regional planning: concepts, Techniques and Policies, University of Mysore, **Mysore, 1969.**

11. **Sundaram,K.V.(ed.) :** Geography and planning, Essays in Honour of V.L.S. Prakasa Rao, Concept Publishing Co., **New Delhi,1985.**

12. **Raza Moonis (editer)** Regional Development Heritage Publishers **Delhi, 1988.**

13. **Mishra, R.P.et.al.**Multi-Level Planning Heritage Publishers, **Delhi, 1980**.

PRACTICAL GEOGRAPHY (Compulsory)

Subject Ref. No. GEO 452

No. of Credits : 04
No. of periods/weeks : 04
Semester Exam : 100

Unit I: Definition, Scope and brief history of cartography. Physical and Cultural maps and their Significance

Requirement of periods-10 and Marks-20.

Unit II: Interpretation of Indian Metrological Departments daily weather maps during winter summer and rainy season construction of weather station models.

Requirement of periods-20 and Marks -20.

Unit III: Interpretation of Topographical maps of plain, Plateaus mountainous regions and sea coastal areas under the following heads.

(i) physical features
(ii) Drainage
(iii) Natural Vegetation
(iv) Means of transport and
(v) **Human Settlement**

Requirement of periods -20 and Marks-20.

Unit IV: Village Survey from socio-ecconomic, land use, Demography transportation and human settlements point of view.

Requirement of periods-10 and Marks 20.

Unit V: Journal and viva –voce

20 Marks are allotted for this unit.

Suggested Reading:

1. **Mishra R.P.and Ramesh:** A. Fundamentals of Cartography, McMillan Co., **New Delhi, 1986.**

2. **Robinson, A.H.et al.:** Elements of Cartography, john Willey & Sons, **U.S.A.1995.**

3. **Sarkar A.K.Practical Geography:** A Systematic Approach, Oriental Longman, **Calcutta, 1997.**

4. **Singh, R.L.and Dutt, P.K.:** Elements of practical Geography, Kalyani, Publishers, **New Delhi, 1979.**

5. **Mitra, R.P.and Ramesh A:** Fundamental of Cartography Revised Edition, Concept Publication, **New Delhi.**

6. **Negi, Balbir Singh**: Practical Geography third revised **Ed.Kedar Nath and Ram Nath Meerut & Delhi, 1994-95.**

7. **Singh & Karanjta**: Map work and Practical Geography Central Book Dept.**Allahabad 1972.**

8. **Singh, R.L.and Dutt, P.K:** Element of practical Geography, Students Friends **Allahabad. 1968.**

DR.BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY

DEPARTMENT OF GEOGRAPHY

Syllabus

M.A. SECOND YEAR (GEOGRAPHY)

SEMESTER: FOUR

(Effective from 2010-2011 and Onwards)

M.A. 2ND Year (Geography)
SEMESTER- THIRD

Evolution of Geographical Thought (Compulsory)

Subject Ref No : GEO 405

No. of Credits : 04
No. of Periods per Week : 04
Assignment/Sessionals : 20
Semester Exam : 80

Unit I: The significance of Geography as a social and natural science. Selected concepts in the philosophy of Geography, distribution interaction areal differential and special organization.

Requirement of periods 10 and marks 15.

Unit II: Dualism in Geography- Systematic and regional geography, physical and human geography. The myth and reality about dualism.

Allotment of periods shall be 10 and mars 15 for this unit.

Unit III: The contribution of ancient Indian and Chinese scholars in the development of geography.

There shall be 10 periods and 15 marks for this unit.

Unit IV: Quantitative revolution, responses to positivism, behaviorism and post modernism.

Requirement of period 10 and marks 15.

Unit V: Major contribution of selected scholars, discoverers in the development of geography.

1. **Alexander von Humboldt**
2. **Friedrich Ratzel**
3. **Vidal de La blache**
4. **Ferdinand Magellan**
5. **Ferdinand Von Richthofen**
6. **Ellen Churchill semple**
7. **Alfred Hettner**
8. **William Morris Davis**
9. **V. A. Anuchin**
10. **Sir Dudly Stamp**

Recent geographical thought with reference to man environment relationship.

Allotment of periods shall be 20 and marks 20.

Suggested Reading:

1. Abler, Ronald, Adams, Johb S. Gould, Peter: Spatial Organization: The Geographer's view of the world, prentice Hall, N.J., 1971.

2. Ali. S.M.: The Geography of puranas, peoples publishing House, Delhi,1966.

3. Amedeo, Douglas: An Introduction to scientific Reasoning in Geography, John Wiley, U.S.A., 1971.

4. Dikshit, R.D.(ed.): The Art & Science of Geography integrated Readings, prentice Hall of India, New Delhi, 1944.

5. Hartshorne, R.: Perspectives on Nature of Geography, Rand McNally & Co., 1959.

6. Husain, M.: Evolution of Geographic Thought, Rawat pub., Jaipur, 1984.

7. Johnson, R.J.: The Philosophy and Human Geography, Edward Arnold, London, 1983.

8. Johnson, R.J.: The Future of Geography, Methuen, London, 1988.

9. Minshull, R.: The changing Nature of Geography, Hutchinson University Library London, 1970.

Agricultural Geography

Subject Ref No : GEO 406

No. of Credits : 04
No. of Periods per Week: 04
Assignment/Sessionals : 20
Semester Exam: 80

Unit I: Nature, scope, significance and development of agricultural Geography origin of agriculture, sources of agricultural data.

There shall be 10 periods and 15 marks for this unit.

Unit II: Determinant of agricultural land use. Selected agricultural concepts and their measurements. Cropping pattern, crop concentration, and intensity of cropping. Degree of commercialization, diversification and specification.

Requirement of periods 10 and allotment of marks 15.

Unit III: Von Thunen's theory of agricultural location and its recent modifications whittlesey's classification of agricultural regions. Land use and land capability.

Allotment of periods shall be 10 and marks 15.

Unit IV: Types of farming- plantation.
Agriculture, Extensive, and intensive farming. Shifting farming monoculture, Seri-culture, agriculture productivity and regional imbalance.

Requirement of periods 10 and marks 15.

Unit V: Agriculture in India- Role irrigation, Fertilizers, insecticides, technology. Green Revolution, while revolution. Food deficit and food surplus regions. Nutritional index. Specific problems and the remedies in Indian agriculture. Agricultural policy in India.

Allotment of periods 20 and 20 marks for this unit.

Suggested Reading:

1. **Bayliss Smith, T.P.:** The Ecology of agricultural system. Cambridge university press, **London, 1987.**

2. **Berry, B.J.L. et. All.:** The Geography of Economic System. Prentice Hall, **New York, 1976.**

3. **Brown, L.R.:** The changing world food prospects- The nineties and beyond. world watch Institute, **Washington D.C., 1990.**

4. **Dyson, T.: Population and Food- Global Trend and Furure Prospects**. Routledge, **London, 1996.**

5. **Gregor, H.P.:** Geography of Agriculture. Prentice Hall. **New York, 1970.**

6. **Grigg, D.B.:** The Agricultural System of world. Cambridge university press, **New York 1974.**

7. **Hartson, T.N. and Alexander, J. W.:** Economic Geography, prentice Hall, **New Delhi, 1988.**

8. **Mannion, A.M.:** Agriculture and Environment change, John wiley, **London 1995.**

9. **Morgan, W.B. and Norton, R.J.C.:** Agricultural Geography. Mathuen, **London, 1971.**

10. **Morgan, W. B.:** Agriculture in the Third world- A Spatial Analysis. Westview press, **Boulder, 1978.**

11. **Saur, C.O.:** Agricultural origins and Dispersals, M.I.T. Press, mass **U.S.A., 1969**.

12. **Singh, J. and Dhillon, S.S.:** Agricultural Geography, Tata McGrow Hill Pub., **New Delhi, 1988.**

13. **Tarrant, J.R.:** Agricultural Geography. Wiley, **New York, 1974**.

Regional Geography of India (Optional)

Subject Ref No : GEO 425

No. of Credits : 04
No. of Periods per Week : 04
Assignment/Sessionals : 20
Semester Exam : 80

Unit I: Basis of Regionalization of India, Physiographic, Climatic Geo-Political, Agro. , historical, demographic, socio-economic dimensions.

Requirement of periods 10 and Marks 15.

Unit II: Distribution of soil and Natural Vegetation. Policy and Programmes.

10 Periods and 15 Marks.

Unit III: Agriculture and Irrigation facilities, distribution and production of major crops. Agriculture policy and programmes in recent years.

10 periods shall be required and 15 marks are allotted for this unit.

Unit IV: population as the human resource. Its distribution, population explosion, problems arised due to over population. Policies and programmes.

Allotment of periods 10 and 15 marks are distributed.

Unit V: The case study of Mumbai Metropolitan Region, the sahyadris and chhatisgarh in detail.

Requirement of periods shall be 20 and marks 20 for this unit.

Suggested Reading:

1. Centre for science & Environment (1988) state of India's Environment, **New Delhi.**

2. **Deshpande C.D. India:** A Regional Interpretation ICSSR & Northern Book centre**. 1992.**

3. **Dreze, Jean & Amartya Sen(ed.):** India Economic Development and Social Opportunity: Oxford University press, New Delhi, 1996.

4. Kundu A. Raza Moonis: India Economy: the Regional Dimension. Spectrum publishers, **New Delhi, 1982.**

5. **Robinson, Francis :** the Cambridge Encyclopedia of India, Pakistan, Bangladesh, Sri Lanka, Nepal, Bhutan & Maldives. Cambridge university press, **London, 1989.**

6. **Singh R.L.(ed.):** India – A Regional Geography. National Geographical Society, India, **Varanasi, 1971.**

Geography of Health (Optional)

Subject Ref No : GEO 426

No. of Credits : 04
No. of Periods per Week : 04
Assignment/Sessionals : 20
Semester Exam : 80

Unit I: Nature, scope and significance of Geography of Health. Development of this area of specialization. Its distinction from medical science.

10 periods and 15 marks.

Unit II: physical, social , Economic and Environmental factors affecting human health and diseases.

Allotment of periods 10 and marks 15.

Unit III: **WHO** Classification of disease. World distribution of major disease.

10 periods and 15 marks are allotted for this unit.

Unit IV: Ecology, aetiology and transmission of Cholera, Malaria, Tuberculosis, Hepatitis, Leprosy cancer. AIDS and STDS. Diffusion of disease and the causes for the same.

Requirement of 10 periods and 15 marks.

Unit V: Health care international organization WHO, UNICEF and Red cross. Health care Planning and policies in India. Primary health care, Inequalities in health care services. Programmes and policies of health care in India.

20 Periods and 20 marks are allotted for this unit.

Suggested Reading :

1. **Banerjee, B. and Hazra J.**: Geo- Ecology of cholera in west Bengal, University of Calcutta, **Calcutta 1980.**

2. **Cliff, A and Haggent, P.:** Atlas of Disease Distribution. Basil Blackwell, **Oxford, 1989.**

3. **Digby , A. and Stewart, L.(eds.):** Gender, Health and Welfare. Rout Ledge, **New York, 1996.**

4. Hazra, J.(ed.): Heath care planning in Developing countries. University of Calcutta, **Calcutta, 1997.**

5. **Learmonth A.T.A.:** Patterns of Disease and Hunger, A Study in Medical Geography. David & Charles, **Victoria, 1978.**

6. **May, J.M.:** Studies in Disease Ecology, Hafner Pub., **New York, 1961**.

7. **May, J.M.:** Ecology of Human Disease. M.D. Pub., **New York, 1959**.

8. **May, J.M.:** The world Atlas of Disease, Nate Book Trust, **New Delhi, 1970.**

9. **Mc. Glashan, N.D.:** Medical Geography, Methuen, **London, 1972.**

10. **Narayan, K.V.:** Health and Development – Inter- Sectoral Linkages in India. Rawat Pub., **Jaipur, 1997**.

Geographical Study of Natural Disasters (Service Course)

Subject Ref No: GEO 441

No. of Credits : 04
No. of Periods per Week : 04
Assignment/Sessionals : 20
Semester Exam : 80

Unit I : Meaning of disaster, calamity, Hazards, Major characteristics of disasters. Physical and cultural disasters. Major regions of the world of such disasters and loss of life and property.

12 periods are required and 15 Marks for this unit.

Unit II : Epeirogenic, Orogenic and cymatogenic earth movements. Volcanic earthquake and Tsunami hazards due to rapid earth movement. Main types, regions and ill effects of these calamities.

12 periods are required and 15 Marks are allotted for this unit.

Unit III : Cyclonic hazards-cyclone, Hurricanes Tornado, Typhoons, causes for the formation of cyclones. Regions of the cyclones. Precautions before the arrival of cyclones. Effect of cyclonic hazards. Thunder storm, lightening, hail storms and cloud burst calamities.

Required of periods are o8 and 15 Marks.

Unit IV : Flood disaster. Reasons and types of flood disasters. Wet draught areas. Consequences of floods. Major rivers of heavy floods, measures of flood controls.

08 periods are necessary and 15 marks for this unit.

Unit V : **Disaster Management :**
Disaster warning system. Rehabilitations, Prevention, Social Response measures for disasters.

20 periods shall be required and 20 marks are allotted for this unit.

Suggested Reading :

1. Dhara S : Natural disaster, Minimizing Risks the Hindu survey of Environment (2001)

2. Daoglas I and Spencer T : Environmental change and Tropical Geomorphology (Edited) George Allen and Unwin London (1985)

3. Embleton C: Natural Hazards and Global change, ITC Journal 1989 ¾ pp 169-175, Erickson S. L and King B. J. Fundamental of Environmental Management wiley New York (1999)

4. Gupta H. K. Dons and Earthquakes Elsevier Amsterdam (1976)

5. Press F. Need for Action Reduction copying with Natural Hazards, UNESCO (1993)

6. Sinha D. K. towards Basic of Natural disasters, University of Calcutta (1990)

7. Verstappen H. T. Geomorphology, Natural disaster and Global disaster. Proceeding of the symposium sept- 14-16 1989, Enschede Netherlands PP 159-164.

Practical Geography

Subject Ref No: GEO 453

No. of Credits: 04
No. of Periods per Week: 04
Semester Exam: 100

Unit I: Importance of field instrument survey scope and purpose, principle and application of selected survey Instruments.

10 periods and 20 marks are allotted for this unit.

Unit II: plane table survey –plane preparation study of radial, Intersection, open, close survey methods.

Requirement of periods shall be 20 and 20 marks are allotted for this unit.

Unit III: prismatic compass survey: radial intersection, open, close, survey methods.

Requirement of periods 15 and marks 20 are allotted for this unit.

Unit IV: correction of bearing, conversion of bearing, correction of bearing by Bowditch method and drawing sketch.

Requirement of periods 15 and marks 20 are allotted for this unit.

Unit V: Journal and Viva-voce.

20 marks are required for this unit.

Suggested Readings:

1. **Hotine, major M:** The re-triangular of Great Britain. Empire survey review **1935.**
2. **Monkhouse:** Maps and Diagrams Methuen **1971.**
3. **Sandover, J.A.** Plane surveying. Arnold **18961.**
4. **Singh, R.L. and Dutt, P.K.:** Element of practical Geography, students frriends, **Allahabad. 1968.**

SEMESTER FOURTH

Settlement Geography (Compulsory)

Subject Ref No : GEO 407

No. of Credits : 04
No. of Periods per Week : 04
Assignment/Sessionals : 20
Semester Exam : 80

Unit I: Evolution, size and growth of human settlements. Spatial and temporal trends in size and growth of settlements.

Requirement of periods 10 and marks 15.

Unit II: Distribution pattern: spatial distribution pattern of settlements: theoretical models and empirical findings.

There shall be 10 periods and 15 marks for this unit.

Unit III: Functional classification of villages and towns. Functional typology of Village, Functional structure of towns in India.

Allotment of periods 10 and marks 15.

Unit IV: Ecological Process of urban growth, urban fringe, city region, settlement system, primate city, Rank size rule.

There shall be 10 periods and 15 marks for this unit.

Unit V: settlement hierarchy factors contribution to hierarchy. Christaller's central place theory and August Lasch's theory of market Centre.

Allotment of periods shall be 20 and marks 20.

Suggested Reading:

1. **Ambrose, peter**, concepts in Geography Vol- I Settlement pattern, **Longman 1970.**

2. **Baskin, C.,** (Translator), Central Places in southern Germany, prentice Hall inc. Englewood cliffs New Jersey, 1966. Originally written by C.W. Christaller in German with title Die Zentralen orte suddeutsch land in **1933.**

3. **Census of India,** House types and Settlement patterns of villages in India, GOI, **New Delhi 1961.**

4. **Haggett, peter, Andrew D. Cliff and Allen Frey** (editer), Location Models Arnold Heinemann **1979.**

5. **King, Leslie, J.,** Central Place Theory, saga publications, **New Delhi 1986.**

6. **Mitra, Ashok, Mukherjee S and Bose R.** Indian Cities Abhinav Publications, **New Delhi 1980.**

7. **Nangia, Sudesh**, Delhi Metropolitan Region, K.B. Publications, **New Delhi 1976.**

Political Geography (Compulsory)

Subject Ref No : GEO 408

No. of Credits : 04
No. of Periods per Week : 04
Assignment/Sessionals : 20
Semester Exam : 80

Unit I: Nature, scope and recent development in political Geography. Geopolitics and political Geography.

Requirement of periods 10 and marks 15.

Unit II: Geographic elements and the state- physical Human and Economic elements

10 periods and 15 marks are distributed to this unit.

Unit III: concept of nation. Difference between frontiers and boundaries. The classification of international boundaries.

The requirement of periods 10 and the allotment of marks 15.

Unit IV: Geopolitical significance of Indian ocean, Geopolitics of SAARC Region. Politics of world resources.

10 periods and 15 marks shall be required for this unit.

Unit V: Global strategic views- Heart land theory, Rim land theory, sea-power theory.

Requirement of periods 20 and marks 20.

Suggested Readings:

1. **Alexander, L.M.** World Political Patterns Ran McNally, **Chicago, 1963**.

2. **De Blij, H.J. and Glassner, Martin**, Systematic Political Geography, John Wiley, **New York, 1968.**

3. **Dikshit, R. D. Political Geography**: A contemporary Perspective. Tata McGrow Hill, **New Delhi. 1996.**

4. **Dikshit, R. D. Political Geography:** A Century of progress, Sage, **New Delhi, 1999.**

5. **Sukhwal, B.L.** Modern Political Geography of India, sterling publishers, **New Delhi. 1968.**

6. **Taylor, peter**; political Geography Longman, **London, 1968.**

7. **Fisher Charles A.:** Essays in political Geography, Methuen, **London, 1968**.

8. **Pounds N.J.G.:** Political Geography. McGraw Hill, **New York, 1972.**

9. **John R. Short:** An introduction to political Geography Rout ledge, **London, 1982.**

10. **Moddie, A. E:** Geography behind Politics Hutchinson, **London**, Latest edition.

Remote Sensing Techniques (Optional)

Subject Ref No : GEO 428

No. of Credits : 04
No. of Periods per Week : 04
Assignment/Sessionals: 20
Semester Exam : 80

Unit I: Remote sensing and computer application in mapping; Digital mapping; Geographic Information System (GIS).

10 Periods and 15 marks for this unit.

Unit II: Air photos and photogrammetry; Elements of photographic system; types, scales and Ground coverage, resolution, radiometric characteristics.

There is 10 periods and 15 marks are allotted for this unit.

Unit III: Satellite Remote Sensing: Platforms, LANDSAT, SPOT, NOAAAHRR, RADARSAT IRS, INSAT, Principle and Geometry of scanners and CCD arrays. Orbital Characteristics and data products- MSS, TM, LISS I and II, SPOTPLA and MLA SLAR.

There shall be 10 periods and 15 marks allotment of this unit.

Unit IV: Image processing; types of imagery, techniques of visual interpretation, Ground verification, transfer of interpreted them tic information to base maps – digital processing.

10 periods and 15 marks for this unit.

Unit V: **Applications Techniques**
Air photo and image interpretations and mapping land use and land cover, and evolution, resources. Integration of Remote sensing and GIS remote sensing and hazard management, remote sensing and environmental management.

20 periods and 20 marks for this unit.

Suggested Reading:

1. **American society of photogrammetry:** Manual of Remote Sensing. ASP, Falls Church, **V.A., 1983.**

2. **Barrett E.C. and L.F. Curtis**: Fundamentals of Remote Sensing and Air Photo interpretation, Mcmillan, **New York, 1992.**

3. **Compbell J.:** Introduction to Remote Sensing, Guilford, **New York. 1989.**

4. **Curran, Paul J.:** Principles of Remote Sensing, Longman, **London, 1985**.

5. **Hord R. M.:** Digital Image Processing of Remotely Sensed Data, Academic, **New York. 1989.**

6. **Pratt W.K**. Digital Image Processing. Wiley, **New York, 1978**.

7. **Luder D.:** Aerial Photography Interpretation: Principles and Application, McGraw Hill, **New York, 1959.**

Practical Geography (Compulsory)

Subject Ref No : GEO 454

No. of Credits : 04
No. of Periods per Week : 04
Semester Exam : 100

Unit 1: Data sources and types of data. Statistical diagrams; study of frequency distribution and cumulative frequency.

There shall be 20 periods and 20 marks allotment of this unit.

Unit 2: Measure of central tendency. Selection of class intervals for mapping.

20 periods and 20 marks for this unit.

Unit 3: Measure of dispersion and concentration standard deviation.

20 periods and 20 marks.

Unit 4: Tour and Tour Report.

5 Days and 20 Marks.

Unit 5: Viva-Voce and Journals

20 Marks allotted for this unit.

Suggested Reading:

1. **David Unwin**, Introductory Spatial Analysis, Methuen, **London, 1981**.
2. **Gregory, S**, Statistical Methods and the Geographer, Longman, **London,1978.**
3. **Hammond R and P.S. McCullagh** Quantitative Techniques in Geography: An introduction, Clarendan Press, **Oxford, 1974.**
4. **John P. Cole and Cuchlaine A.M. King**, Quantitative Geography, John Wiley, **London. 1968**.
5. **Johnson R.J.**, Multivariate Statistical Analysis in Geography, Longman, **London, 1973**.
6. Koutsoyiannis, Theory of Economic, McMillan, **London, 1973.**
7. Maurice Yeats, An Introduction to Quantitative Analysis in Human Geography, McGraw Hill, **New York, 1974.**

DR.BABASAHED AMBEDKAR MARATHWADA UNIVERSITY, AURANGBAD

DEPARTMENT OF GEOGRAPHY

Revise Curriculum of choice Based Credit and Grading System

CURRICULUM STRUCTURE AND SCHEME OF EVALUATION FOR

M.A 1ST YEAR

SEMESTER-THIRD

Sr. No.	Type of Paper	Paper No.	NAME OF THE SUBJECT	SCHME OF TEACHING (PERIODS PER WEEK)			SCHEME OF EVALUTION MARKS				
				T	P	Total periods	Theory Exam	Internal	Practical	Total marks	Total credits
1	Core Theory Geoinformatics	GGT-2	Fundaments of RS (Remote Sensing)	04	-	04	80	20	-	100	04
2	Specialized Theory **(Only for Group G Students)**	GSTG-3	Arid Geomorphology	04	-	04	80	20	-	100	04
3		GSTG-4	Glacial Geomorphology	04	-	04	80	20	-	100	04
4		GSTG-5	Computer Application in Physical Geography	04	-	04	80	20	-	100	04
5	Specialized Theory **(Only for Group P Students)**	GSTP-3	Urban Geography	04	-	04	80	20	-	100	04
6		GSTP-4	Rural Geography	04	-	04	80	20	-	100	04
7		GSTP-5	Computer Application in Population Geography	04	-	04	80	20	-	100	04
8	Specialized Practical **(For G Group)**	GEP-2	Practical in Geomorphology	-	04	04	-	-	100	100	04
9	Specialized Practical **(For P Group)**	GEP-2	Practical in Population Geography	-	04	04	-	-	100	100	04
10	Core Practical	GGP-2	Basic Practical in RS (Remote Sensing)	-	02	02	-	-	50	50	02
11	Service Course Theory	GSCT-1	Disaster Management	04	-	04	80	20	-	100	04
			TOTAL	20	06	26	400	100	150	650	26

M.A./M.Sc. Geography

Semester III: Specialized Practicals - (4 credits)

EPG-2: Practicals in Geomorphology

Unit	Teaching and Learning points (Complete at least 50 % practicals from each Unit)	Practicals Hours
I	**Sediment Analysis** 1) To prepare for soil sampling and collect soil samples for analysis / testing. 2) To analyze sandy sample, using by Sieving Method. 3) To analyze clayey sample, using by Sieving Method. 4) To plot the data on probability graph paper. 5) To analyze soil sample, using by Pipette Method. 6) To measure the grain size and plot the graph.	9
II	**Soil Testing** 1) To understand different purposes and basics parameters of soil with their methods of testing (Major, Secondary and Minor Nutrients). 2) To measure the soil pH using a ratio of 2:5 soil/ Water paste in soils 3) To measure the soil EC (Electrical conductivity) using a ratio of 2:5 soil/ Water paste in soils 4) To estimate the soil texture by hydrometer method. 5) To estimate the soil moisture by Gravimetric method 6) To estimate soil Bulky density (Db) from situ undisturbed soil method 7) To estimate the soil porosity	9
III	**Hill slope Analysis** 1) To understand the functions and uses of the Brunton Clino Meter. 2) To measuring vertical angles, height, and distance using by the Brunton Clino Meter. 3) To calculate slope from Contour Lines in a Topographic Map of given region. 4) To measure the degree of slope by using simple Protractor method. 5) To measure the degree of slope by using simple measuring tape and staff method.	9
IV	**Morphometric Analysis** 1) To demarcate selected drainage basin and its sub-basins by using hilly region's SOI toposheet. 2) To measure the Drainage Density of given basin. 3) To measure the Stream Frequency of given basin. 4) To measure the Drainage Intensity of given basin. **5)** To measure the Drainage Texture of given basin.	9
Grand Total		**36**

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M.A./M.Sc. Geography

Semester III: Specialized Practicals - (4 credits)

EPP-2: Practicals in Population Geography

Unit	Teaching and Learning points (Complete at least 50 % practicals from each Unit)	Practicals Hours
I	**Demography** 1) To understand various Demographic Indices and calculate it with suitable examples - a) mean age of female at marriage and fertility b) mean age of female at marriage and infant mortality c) under weight children of 1 to 47 months and under 5 year mortality rate d) percentage of women married to blood relative and infant mortality e) mean age of female at marriage and delivery deaths f) per capita income of the family and infant mortality rate g) level of education of mother and number of deliveries 2) To understand the concept Age-Sex Pyramid of the population and present the given data.	12
II	**Population and Economic Activities** **(Industry, Agriculture, Trade, Transport, Settlement, landuse etc)** 1) To calculate Economic Density of the given region. 2) To calculate Marginal Resource Density of the given region. 3) To calculate Caloric Density of the given region. 4) To calculate Nutritional Density of the given region. 5) To calculate Agricultural Density of the given region. 6) To calculate Index of Agricultural Efficiency of the given region. 7) To calculate Agricultural Productivity of the given region. 8) To calculate a) Index of Area under Crop, b) Index of Net Area Sown, c) Index of Cropping Pattern, d) Index of Yield, e) Index of Productivity per Hectare of Net Area f) Relative Yield index.... etc of given region. 9) To calculate Location Quotient of given Industry from the given region. 10) To understand Lorenz Curve and estimate it with suitable example. 11) To understand Gini's Coefficient with suitable example. 12) To understand the Law of Retail Trade Gravitation and calculate the Breaking Point for any two selected cities.	24
Grand Total		**36**

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M.A./M.Sc. Geography

Semester III: Specialized Practicals - (4 credits)

GP-2: Basic Practicals in Remote Sensing

Unit	Teaching and Learning points (Complete at least 50 % practicals from each Unit)	Practicals Hours
I	**Fundamental Investigation** 1. To study the working of stereoscope. 2. To understand the various types of aerial photographs and their applications. 3. To determine the scale of given aerial photograph. 4. To determine the relief displacement from given aerial photograph. 5. To determine the focal length of given aerial photograph.	9
II	**Photo Interpretation** 1. To interpret the given pair of aerial photographs using Mirror stereoscope. 2. To interpret the given pair of aerial photographs using pocket stereoscope. 3. To study the change detection from aerial photographs. 4. To determine the height of given object (tree, building, monument etc) from given aerial photograph. 5. To determine the area of given object from aerial photograph. 6. To explain the cultural/ social/ agricultural features from given aerial photographs. 7. To identify the patterns of Drainage from given aerial photographs. 8. To explain the cultural/ social/ agricultural features from given satellite image.	18
III	**Numerical Examples** 1. To calculate the scale of the aerial photograph from given data….. 2. To calculate the relief displacement of given object from given data….. 3. To calculate the elevation of given object from given data….. 4. To calculate the area of given object from given data….. 5. To calculate the focal length of the aerial photograph from given data…..	9
Grand Total		**36**

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M.A. / M.Sc. Geography

Semester III: Theory Paper (4 credits)

GT-2: Fundaments of RS

Unit	Teaching / Learning Points	Periods
I	**Introduction to Remote Sensing:** • Definition of Remote Sensing • History of Remote Sensing • Type and Scope of Remote Sensing • Aerial Remote Sensing • Satellite Remote Sensing • Indian, European and US Satellite Systems	12
II	**EMR (Electromagnetic Radiation):** • Stages in remote sensing data acquisition • Electromagnetic Radiation and Electromagnetic Spectrum • Spectral Quantities • Black Body Radiation and Radiation Laws • Spectral Signature • Interaction of EMR with atmosphere and Earth's surface features	15
III	**Platforms, Sensors, Orbits:** • Definition: Platforms, Sensors, Orbits • Types of Platform • Types of Cameras • Types of Sensors: Optical and Microwave Sensors; Passive and Active Sensors • Characteristics of Sensors • Types of Satellite Orbits	15
IV	**Aerial photography:** • Introduction to Aerial Photography • Principles of photography • Basic Photogrammetry • Aerial or Flight cameras • Classification of Aerial Photographs • Flight Planning (Overlaps) • Photo Scale and Flight Height • Ground Coverage	16
V	**Data products:** • Satellite Data Generation • Digital Products • Data Formats • Aerial Photography Products	14
Grand Total		**72**

Reference Books:

1. Joseph, G. (2004): Fundamentals of Remote Sensing, Universities Press, Hyderabad, India
2. Lillesand, TM, Kiefer, RW and Chipman, JW (2008): Remote Sensing and Image Interpretation, John Wiley & Sons, New Delhi
3. Sabins, FF (1996): Remote Sensing: Principles & Interpretation, WH Freeman & Company, San Francisco
4. Jensen, JR (2005): Introductory Digital Image Processing, Prentice Hall, New Jersey
5. Drury, SA (2001): Image Interpretation in Geology, Blackwell, Oxford
6. Campbell, J (2002): Introduction to Remote Sensing, Taylor & Francis, London
7. Anji Reddy, M (2008): Textbook of Remote Sensing and Geographic Information System, B.S. Publication, Hyderabad

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M.A./M.Sc. Geography

Semester III: Theory Paper (4 credits)

STG-3: Arid Geomorphology

Unit	Teaching / Learning Points	Periods
I	**Basic Concepts:** Arid Region, Topography of Arid Lands, Difference between Soil and Regolith, Soil Creep, Impermeable Surface, Sand, Basins of Interior Drainage, arid vegetation, Nature of Rainfall, Moist and Dry Climate, Wind.	12
II	**Desert Landscape Surfaces:** a) Erg – A Sea of Sand b) Reg – Stony Desert c) Hamada – Barren bedrock	12
III	**Arid / Desert Terrain:** a) Basin and Range Terrain b) Mesa and Scarp Terrain	12
IV	**Water in the Arid Regions:** a) Surface Water in the desert i) Exotic Streams ii) Ephemeral Streams iii) Desert Lakes b) Fluvial Erosion in Arid Lands i) Differential Weathering and Erosion ii) Residual Surface and Features iii) Desert Stream Channels c) Fluvial Deposition in Arid Lands : Piedmont Zone	18
V	**Aeolian Processes:** a) Aeolian Erosion i) Deflation and ii) Abrasion b) Aeolian Transportation i) Saltation, ii) Traction and iii) Creep c) Aeolian Deposition i) Desert Sand Dunes, ii) Coastal Sand Dunes and iii) Loess	18
Grand Total		**72**

Reference Books:

1.

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M.A. / M.Sc. Geography

Semester III: Theory Paper (4 credits)

STG-4: Glacial Geomorphology

Unit	Teaching / Learning Points	Periods
I	**Basic Concepts:** Glaciology and Glacial Geomorphology, Glaciation, Glacial Period, Cryosphere, Impact of Glaciers on the Landscape	10
II	**Types of Glaciers** a) Mountain Glaciers i) Highland Ice fields, ii) Valley Glaciers, iii) Piedmont Glaciers iv) Alpine Glaciers, v) Cirque Glaciers b) Continental Glaciers i) Continental Ice Sheets, ii) Outlet Glaciers, iii) Ice Shelf, iv) Iceberg	14
III	**Glacial Formation and Movement:** a) Changing Snow to Ice i) Accumulation zone, ii) Ablation zone, iii) Equilibrium zone iv) Alpine Glaciers, v) Cirque Glaciers b) Glacial Movement i) Plastic Flow of Ice, ii) Basal Slip/ Sliding, iii) Crevasses c) Glacial flow Vs Glacial Advance	14
IV	**Erosion by Glaciers with Landforms:** a) Erosion: i) Glacial Plucking, ii) Glacial Abrasion, iii) Sub-glacial Melt-water erosion b) Landforms i) In the High Land : Cirque, Tarn, Horn, Col, Arete etc ii) In the Valley: U shaped Glacial Trough, Glacial Steps, Hanging Valleys, Pater noster Lakes, Truncated Spurs etc	16
V	**Transportation and Deposition by Glaciers with Landforms:** a) Transportation: i) Melt Streams, ii) Glacial Floor, iii) Sub-glacial Melt-water erosion b) Deposition: i) Direct Deposition by Glacial Ice ii) Secondary Deposition by water iii) Glacio-fluvial Deposition b) Landforms: Drumlin, Esker, Moraines, Kame, Kettles, Floodplains, etc	18
Grand Total		**72**

Reference Books:

1.

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M.A. / M.Sc. Geography

Semester III: Theory Paper (4 credits)

STG-5: Computer Applications in Physical Geography

Unit	Teaching / Learning Points	Periods
I	**Introduction to Computer:** • Computer Applications in Various Disciplines • Types of Applications • Hardware: Input and Output Devices • Software: Basic and Applied • Language and Programming • Internet	12
II	**Operating System:** • Introduction to Windows • Meaning and Applications of Memory, Processor, Hard disk, Icons, Menus, Drives, Files, Folders etc • Different Functions of Operating System • Types of Operation Systems : Single- and multi-tasking, Single- and multi-user, Distributed, Templated, Embedded, Real-time & Library	12
III	**Utility Softwares:** • Office: Word, Excel, PowerPoint etc • Cartographic Utility: Paint, CoralDRAW, AutoCAD, GIS softwares etc • Internet / Web Browsers: Internet Explorer, Google Chrome, Mozilla Firefox, Microsoft Edge, Apple Safari, Opera, AOL etc • Maps & Images: Google Map, Google Earth etc	16
IV	**Excel and Its Various Applications in Physical Geography:** • Basics of Excel • Basic Keys and Functions: entering, editing and presenting data, arranging worksheet, data arrangement and modification, building of simple formulas, etc • Tools for Statistical Analysis • Selected Statistical Applications in Physical Geography	16
V	**Images, Maps and Computer Mapping in Physical Geography:** • Computerized Images from Physical Geography • Sources and types of maps available on computerized systems • Computerized Mapping tools and techniques • Applications of computerized images, maps and related tools-techniques in Physical Geography • Advantages and disadvantage of computerized cartography	16
	Grand Total	**72**

Reference Books:

1.

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M.A. / M.Sc. Geography

Semester III: Theory Paper (4 credits)

STG-5: Computer Applications in Physical Geography

Unit	Teaching / Learning Points	Periods
I	**Introduction to Computer:** • Computer Applications in Various Disciplines • Types of Applications • Hardware: Input and Output Devices • Software: Basic and Applied • Language and Programming • Internet	12
II	**Operating System:** • Introduction to Windows • Meaning and Applications of Memory, Processor, Hard disk, Icons, Menus, Drives, Files, Folders etc • Different Functions of Operating System • Types of Operation Systems : Single- and multi-tasking, Single- and multi-user, Distributed, Templated, Embedded, Real-time & Library	12
III	**Utility Softwares:** • Office: Word, Excel, PowerPoint etc • Cartographic Utility: Paint, CoralDRAW, AutoCAD, GIS softwares etc • Internet / Web Browsers: Internet Explorer, Google Chrome, Mozilla Firefox, Microsoft Edge, Apple Safari, Opera, AOL etc • Maps & Images: Google Map, Google Earth etc	16
IV	**Excel and Its Various Applications in Physical Geography:** • • • • • •	16
V	**Images, Maps and Computer Mapping in Physical Geography:** • • • • • •	16
Grand Total		**72**

Reference Books:

1.

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M.A. / M.Sc. Geography

Semester III: Theory Paper (4 credits)

STP-3: Urban Geography

Unit	Teaching / Learning Points	Periods
I	**Urbanization - Basic Concepts:** • Urban Geography • Nature and Scope of Urban Geography • Strengths of Urban Geographer • Meaning of Urban Settlement • Urbanization • Behavioural, Structural and Demographical Concept of Urbanization • Urbanization Curve • Contemporary factors of Urbanization	12
II	**Urban Morphology - Models:** • Park and Burgess Model • Homer Hoyet Model • Harris and Ullman Model • Characteristics and Demarcation of CBD	15
III	**Urban Classification:** • Various Approaches to Classification • Urban Functions and its Classification • Functional Classification of Towns and Cities by C.D. Harris and H.J. Nelson	15
IV	**Rural-Urban Fringe:** • Meaning of Rural-Urban Fringe • Characteristics of Rural-Urban Fringe • Methods of Demarcation of Suburban areas • Concepts : Conurbation, Megalopolis, Satellite Towns, Urban Sprawl	14
V	**Central Place and Urban Hierarchy:** • Concept - Central Place • Christaller's Central Place Theory • Rank-size Relationships and Rules • Concept – Urban Hierarchy • Hierarchy of Urban Settlements	16
Grand Total		**72**

Reference Books:

1.

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M.A. / M.Sc. Geography

Semester III: Theory Paper (4 credits)

STP-4: Rural Geography

Unit	Teaching / Learning Points	Periods
I	**Urbanization - Basic Concepts:** • Rural Geography: Rural Population and Settlement • Nature and Scope of Rural Geography • Site, Situation and Location of Rural Settlements • Settlement Size and Shape • Evolution of Settlement • Rural-Urban Dichotomy • Transformation of Villages	12
II	**Types and Patterns of Rural Settlements:** • Difference between Type and Pattern • Types of Settlement: Clustered, Compact and Nucleated • Basic Village / Settlement Forms • Patterns of Rural Settlement: Rectangular, Circular, Star, Linear etc • Classification of Settlement • Functional Classification of Villages	15
III	**Rural Morphology - Models:** • Morphological Changes • Factors Responsible for Dispersion • Socio-Spatial Structure, Caste and Segregation of Settlements • Index of Dispersion of Settlement by Albert Demangeon • Nearest Neighbour Analysis	15
IV	**Rural Landscape and Settlements:** • Meaning of Village and Surrounding Farmland • Von Thunen's Agriculture Landuse Model • Economic Rent and Farming Patterns • Rural Dwelling: Rural house types, Building material, Size etc	15
V	**Rural Central Places:** • Concept – Rural Central Place • Rural Market Centres • Factors affecting on Rural Market Centres • Periodic Markets : types, functions, periodicity etc • Problems of Rural Market System • Rural-Urban Relationship	15
Grand Total		**72**

Reference Books:

1.

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DR.BABASAHED AMBEDKAR MARATHWADA UNIVERSITY, AURANGBAD

DEPARTMENT OF GEOGRAPHY

Revise Curriculum of choice Based Credit and Grading System

CURRICULUM STRUCTURE AND SCHEME OF EVALUATION FOR

M.A 1ST YEAR

SEMESTER-FOURTH

Sr. No.	Type of Paper	Paper No.	NAME OF THE SUBJECT	SCHME OF TEACHING (PERIODS PER WEEK)			SCHEME OF EVALUTION MARKS				
				T	P	Total periods	Theory Exam	Internal	Practical	Total marks	Total credits
1	Core Theory	GCT-4	Economic Geography	04	-	04	80	20	-	100	04
2	Elective Theory (Select any two from the given)	GET-1	Regional Planning	04	-	04	80	20	-	100	04
3		GET-2	Agricultural Geography	04	-	04	80	20	-	100	04
4		GET-3	Geographical Thoughts	04	-	04	80	20	-	100	04
5		GET-4	Oceanography	04	-	04	80	20	-	100	04
6	Specialized Theory **(Only for Group G Students)**	GSTG-6	Soil Geography	04	-	04	80	20	-	100	04
7	Specialized Theory **(Only for Group P Students)**	GSTP-6	Human Resource Development	04	-	04	80	20	-	100	04
8	Core Practical	GCP-2	Surveying	-	04	04	-	-	100	100	04
9	Research Methodology, Practical , Project	GRMP-2	Dissertation (Individual)	-	06	06	-	-	150	150	06
			TOTAL	16	10	26	390	60	200	650	26

M.A./M.Sc. Geography

Semester IV: Theory Paper (4 credits)

CT-4: Economic Geography

Unit	Teaching / Learning Points	Periods
I	**A) Economic Geography:** Definition, nature and scope Recent trends in Economic Geography **B) Basic Economic processes:** Production, exchange & consumption Classification of economic Activities and their characteristics Location of Economic activities	12
II	**Resources:** Classification of Resources - Renewable & Non-renewable Resources and Environment - Scarcity and Sustainability Conversation of resources and its need	14
III	**Industries:** Classification of Industries, Principles of Industrial Location Profit maximization - Least cost location Location theories – Weber & Losch.	16
IV	**Trade and Transport:** Major Transport Routes - Land, Water and Air Routes Models of transportation and transport cost Accessibility and connectivity Trade - National and International	14
V	**A) Economic Development:** Spatial and Temporal aspects Measures of economic development – Rostow's and Myrdal's models **B) Economic Development in India:** Regional disparity in economic Development Impact of Green Revolution Privatization	16
Grand Total		72

Reference Books:

1. Alexander J.W. (1976): Economic Geography. Prentice Hall of India. New Delhi.
2. Hartshorne, T.A. and J.W. Alexander (1988) –Economic Geography, Prentice Hall.
3. Berry, Conkling & Ray (1988): Economic Geography Prentice Hall of India New Jersey.
4. Hurst Elliott (1986): Geography of Economic Behaviour. Unwin, London.
5. Johnson R.J. & Taylor D.J. (1989): A world in crisis. Basil-Blackwell, Oxford.
6. Losch (1954): Economics of Location. Yale University Press New York.
7. Redcliff M. (1987): Development & the environmental crisis. Methuen. London.
8. Sinha B.N.(1971): Industrial geography of India
9. Watts H.D. (1987): Industrial Geography, Longman scientific and Technical New York.
10. Haggett, Peter: Modern Synthesis in Geography.
11. Robinson H & Bamford C. G. (1978): Geography of Transport, Macdonald & Evans USA.
12. Jones & Darkenwald : Economic geography.
13. Fairbridge, R. W. (1968): Encyclopedia of Geomorphology, Reinholdts, New York.

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M.A./M.Sc. Geography

Semester IV: Theory Paper (4 credits)

ET-1: Regional Planning and Development

Unit	Teaching / Learning Points	Periods
I	**Basic Concepts:** • Concept of Region, Types and hierarchy of regions • Concept of Planning, Types of planning • Concept of Approach, Different Approaches to Regional planning • Concept of Geographical Indication, its relation with Planning • Concept of Growth and Development. • Indicators of development • Measures of regional development	14
II	**Theories and Models:** a) Models of economic growth: • Rastows stages of economic growth • Gunnar Myrdal's concept of internal growth b) Theoretical frame work for regional planning: • Central Place Theory • Growth Pole Theory	16
III	**Regional imbalances in India** • Industrial Imbalances • Agricultural Imbalances • Rural-Urban ratio Imbalances • Infrastructural Development and its Imbalances	14
IV	**Regional Planning in India** • Metropolitan planning • Rural development planning • Tribal area development planning	14
V	**Geographical Need and Feasibility** • Geographical Factors affecting on Planning and Development • Urgent Needs for Planning and Development o Watersheds o Solid and Liquid Domestic Wastes o Disaster and Hazard o Drinking Water and Health Services	14
Grand Total		72

Reference Books:

- Bhandari S (1992): Transport and Regional Development, Concept Publication, New Delhi
- Bhat, L. S. (1973): Regional Planning in India, Statistical Publishing Society, Kolkata
- Chandana, R. C. (2000): Regional Planning - A Comprehensive Text, Kalyani Publishers, Ludhiana
- Dube K. N. (ed) (1990): Planning and Development in India, Asia Publishing House, New Delhi
- Friedmann, J Alanso W (1967): Regional Development and planning - A Reader, MIT Press Mass
- Govt. of India (1986), Regional Plan 2001 - National Capital Region, NCRPB, Ministry of Urban Development, New Delhi
- Hall P. (1992) Urban and Regional Planning, Routledge, London
- Mishra R. P (Ed.) (1992): Regional Planning, Concepts, Techniques, Policies and Case Studies, Concept Pub. New Delhi.
- Vaidya B C (eds)(1998): Reading in Transport Geography: A Regional Perspective, Devika Publications, New Delhi

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M.A./M.Sc. Geography

Semester IV: Theory Paper (4 credits)

ET-2: Agriculture Geography

Unit	Teaching / Learning Points	Periods
I	**a) Introduction to Agricultural Geography:** • Nature scope and significance. • Different Approaches to study the subject **b) Land use:** • General and Agricultural Land use • Land use surveys • Land Classification in India	
II	**Determinants of Agricultural Patterns:** • Relief, climate, soil • Land holding, marketing, transport • Irrigation • Mechanization. • Biochemical inputs	
III	**Agricultural Types:** • Shifting cultivation • Intensive subsistent farming. • Mixed farming • Plantation agriculture • Commercial grain farming	
IV	**Problems & Prospects of Agriculture:** • Definition and characteristics of arid and semi-arid regions. • Droughts and famines • Role of irrigation and dry farming.	
V	**Agricultural Regionalization (Methods):** • Views of Baker Whittlesey Hann. • Crop combination techniques, Weaver and Thomas method. • Agricultural efficiency, Kendall's ranking coefficient, Bhatia's method • Agricultural regions of India.	
Grand Total		72

Reference Books:

- Aiyer, A.K.Y.N.(1949) – Agricultural and Allied Arts in Vedic India.
- Grigg. D.G. (1974) – The Agricultural Systems of the world An Evolutionary Approach.
- Grigg. D.G.(1964) – An Introduction to Agricultural Geography Hutchinson & Co.Ltd.,
- Illbery, B.W. (1985) – Agricultural Geography, Social & Economic Analysis, Oxford University Press.
- Morgan. W.B. & S.C. Monton (1971) – Agricultural Geography Methuen, London.
- Randhawa, M.S. (1980) – An History of Agriculture in India Vols. I, II, III,IV ICAR, New Delhi.
- Singh. J. and Dhillon S.S. (1994) – Agricultural Geography. Tata McGraw Hill, Publishing Co. Ltd.
- Symons, Leslie (1970) – Agricultural Geography, G. Belt and Sons Ltd., London.
- Tarrent, J.R. (1970) – Agricultural Geography, David and Charles, Newton Abbot.

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M.A./M.Sc. Geography

Semester IV: Theory Paper (4 credits)

ET-3: Geographical Thoughts

Unit	Teaching / Learning Points	Periods
I	**Pre-Historical Review:** Contributors and their Role in Geography Impact of Explorations and Discoveries	10
II	**Founders of Modern Geographical Thought:** Alexander von-Humboldt, Carl Ritter, Friedrich Ratzel, Vidal de la Blache, Richard Hartshorne	12
III	**A) Dualism and Dichotomies in Geography:** Determinism verses Possibilism Systematic verses Regional Geography **B) Conceptual and Methodological development:** Paradigms and philosophy in Geography	16
IV	**A) Measurements and explanation in Geography:** Laws, theories and models **B) Areal differentiation and Spatial Organization:** Structure, Pattern & Process	20
V	**Approaches:** Positivism, Humanism, Radicalism, Behaviouralism Quantitative revolution in Geography	14
Grand Total		**72**

Reference Books:

1. Abler, Adms J.& Gould P.(1971): Spatial organization. The Geographer's view of the world. Prentice Hall, Engle wood cliff, New Jersey.
2. Adhikari Sudeepta(1972): Fundamentals of Geographic Thought. Chaitanya Pub,lishing House, Allahabad.
3. Dickinson R.E.(1969) : The makers of modern Geography. Rout/edge & kegan Paul, London.
4. Dixit R.D. (1999): Development of Geographic Thought Longmans India Limited.
5. Free Man T.w.(1965): Geography As social science. Harper International Edition Harper & Row, Publishers, New York.
6. Harvey D. (1969): Explanation in Geography. London, Edward Arnold.
7. Hartshorne R.(1959): Perspective on the Nature of Geography. Rand McNally, Chicago.
8. Majid Hussain (1999): Geographic Thought. Rawat Publishing House, Jaipur.
9. Richard Peet (1977): Radical Geography - Alternative view points on contemporary social issue. Methuen & Co. Ltd. London.
10. Holt Jensen, Arid: (1998) Geography: History and Concepts, Sage publication, New Delhi.

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M.A./M.Sc. Geography

Semester IV: Theory Paper (4 credits)

ET-4: Oceanography

Unit	Teaching / Learning Points	Periods
I	**Introduction to Oceanography:** • Definition and Meaning of Oceanography • Foundation of Modern Oceanography • Contribution of Oceanographers in the subject • Modern Trends	12
II	**Ocean Floor:** • Continental Margin • Oceanic Ridges and Rises • Abyssal Plains • Oceanic Trenches • Volcanoes, Coral Reefs and Atolls	14
III	**Properties of Sea Water:** • Factors affect temperature on water and distribution • Factors affecting density • Origin and composition of sea salt and residence time • Carbon dioxide and carbonate cycles • Viscosity • Surface tension	14
IV	**Waves:** • Ideal sea waves • Wave height, length and period • Formation of sea and swell • Capillary, gravity, shallow water and deep • Water waves • Internal and standing waves • Seismic waves (Tsunami) and storm surges • Wave reflection, refraction and diffraction • Breaking of waves	16
V	**Tides:** • Tide generating forces: • Equilibrium Theory of Tides • Dynamical Theory of Tides • Spring Tides • Neap Tides • Tidal Currents and their Channels • Tidal Bores • Tidal effects in coastal areas	16
Grand Total		72

Reference Books:

- Basu S.K. (2003) (ed): Handbook of Oceanography, Global Vision, Delhi
- Davis Richard A. (1972): Oceanography, Addition Wesley Publishing Co.
- Garrison Tom (1999): Oceanography, Brooks/ Cole Wadsworth, New York
- Garrison Tom (2004): Essentials of Oceanography. Thompson, Australia
- Grant Gross M. (1982): Oceanography, Prentice hall, Ince, New Jersey
- King Cuchlain A. M (1962): Oceanography for Geographers (ED) Edward Arnold
- Sharma & Vatal (1962): Oceanography for Geographers. Chaitanya Publishing House, Allahabad
- Thurman Harold V. (1985): Introductory Oceanography. Bell & Howell Co. London
- Weisberg J. and Howard P. (1974): Introductory Oceanography. McGraw Hill, Kogakusha, Tokyo.

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M.A./M.Sc. Geography

Semester IV: Theory Paper (4 credits)

STG-6: Soil Geography

Unit	Teaching / Learning Points	Periods
I	**Physical Geography and soils:** • Hydrology and soils, buried soils, Paleosoils • Human Geography and Soils • Soils and Agriculture • Soils and Forestry	
II	**Soil formation:** Factors of soil formation • Parent material and soil • Topography and soil • Vegetation and soil • Climate and soil	
III	**Physical Properties of Soils:** • Soil Texture • Soil Structure • Soil Colour • Bulk Density and Porosity • Soil Temperature • Permeability • Soil Water • Soil Moisture	
IV	**Chemical and Biochemical Properties of Soils:** Chemical Properties • Acidity and Alkalinity • Soil pH • Soil Colloids • Redox Potential • Cation, Anion exchange Biochemical Properties • Organic matter-floral & faunal • Humus content • Soil biomass	
V	**Problems related to Soil Degradation and Conservation:** Degradation. • Salinization • Acidification • Soil fertility decline • Soil contamination Conservation • Deforestation • Overgrazing • Incorrect methods of farming	
Grand Total		72

Reference Books:

1. Birkeland P.W. (1999): Soil and Geomorphology, Oxford University Press Inc., New York.
2. Brady N.C. (1984): The Nature and Properties of Soils. Macmillan Publishing Company, New York and Collier Macmillan Publishers, London.
3. Bunting B.T. (1969): Geography of Soil, Hutchinson University Library, London.
4. Charman P.E.V and Murphy B.W. (2000): Soils : Their Properties and Management, Oxford University Press, Melbourne, Australia
5. Cruickshank J.G (1972): Soil Geography, David and Charles (publishers) Limited, Newton Abbot.
6. Fenwick I. M. and Knapp B.J. (1982): Soils - Process and Response, Unwin Brothers Ltd.
7. Foth H.D and Turk L.M (1973): Fundamentals of Soil Science, Wiley Eastern Private Limited, Delhi.
8. Pitty A.F. (1978): Geography and Soil Properties, Methuen and Company Ltd., London.
9. Thomas J.B. and Brunsden D (1977): Geomorphology And Time, Methuen and Company Ltd.
10. White R.E. (1987): Introduction to The Principles And Practice of Soil Science, Blackwell Scientific Publications, London.

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M.A./M.Sc. Geography

Semester IV: Theory Paper (4 credits)

XXX-1: Human Resource Development

Unit	Teaching / Learning Points	Periods
I	**Basic Concepts:** • Concept of Resource, Basic types of resource • Concept of Human Resource • Human Development • Concept and Meaning of HRD • Human Resource Management (HRM) • Indicators of Human Development • Need and Benefits of HRD	12
II	**Fundaments of HRD:** • **Features of HRD**: Systematic approach, Continuous process, Multi-disciplinary subject, All-pervasive and Techniques • **Scope of HRD:** • **Objectives of HRD:** Equity, Employability and Adaptability • **HRD Functions:**	16
III	**Demographic Aspects and HRD:** • Demographic Factors affecting on HRD : Birth and Death rate, Age, Sex, Sex Ratio, Literacy, Age-sex Pyramid, Migration, Dependency ratio, Education, Health, etc • Human Development Index	14
IV	**Physio-Climatic Aspects and HRD:** • Physio-Climatic Factors affecting on HRD : Topography (Mountain, Hill, Plataea, Plain, Coastal etc zones) , Soil and Agrarian Activities, Vegetation, Hydrological resources, Climatic Aspects, Regional Imbalance etc	14
V	**Disasters and HRD** • Factors associated with Natural Disasters affecting on HRD • Factors associated with Manmade Disasters affecting on HRD • Workplace and HRD • War Versus Peace • Terrorism and HRD • Socio-Cultural Crises and HRD • Equity and HRD	16
Grand Total		72

Reference Books:

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M.A./M.Sc. Geography

Semester II: Theory Paper (4 credits)

STG-1: Fluvial Geomorphology

Unit	Teaching / Learning Points	Periods
I	**Introduction to Fluvial Geomorphology** **a) Basics** • Definition and scope • The drainage basin as a geomorphic unit • Horton's law of drainage composition • Law of allometric growth **b) Mechanics of fluvial erosion** • Overland flow • Through flow • Channel flow	10
II	**Channel Morphology** **a) Cross section morphology and reach morphology** • From ratio, • Channel capacity, • Wetted perimeter, • Hydraulic radius and Gradient **b) Channel Patterns** • Meandering • braided and • Anabraching **c) Channel Types** • Gradient and variations in bed and bank material and discharge • Sand bed, • Gravel bed • Bedrock channel	20
III	**Fluvial Erosion** **a) Types of erosion and erosive process, factors** • Vertical, Lateral and Headwater erosion • Abrasion, Cavitation and Aattrition **b) Erosion Features** • Gorges, Canyon, Waterfall, Potholes etc	10
IV	**Sediment Transportation and Fluvial Deposition** **a) Sediment Transportation** • Capacity and Competence, Tractive Force, Suspended and Bedload	10
V	**b) Fluvial Deposition** • 1) Landforms: Alluvial Fans, Flood Plains and other associated features • 2) River Terraces: Types and Combination	10
Grand Total		**60**

Reference Books:

1. Leopold, L. B., Wolman, M. G. and Miller, P. (1954) Fluvial processes in Geomorphology, Freeman and Co., San Francisco.
2. Schumm, S. A. (1977). Fluvial Systems. Wiley, New York.
3. Richards, K. (1982). River: Forms and processes in alluvial channels. Methuen and Co. London
4. Morisawa, M. (1985). Rivers: Forms and Processes, Longman
5. Dr. Kale, V. S. and Gupta, A. (2001). Introduction of Geomorphology, Orient Longman, Kolkata.

M.A./M.Sc. Geography

Semester II: Theory Paper (4 credits)

GSTG-2: Coastal Geomorphology

Unit	Teaching / Learning Points	Periods
I	**Introduction to Coastal Systems** a) Components of coastal system process, Sediment transport morphology, Stratigraphy b) Spatial and temporal scales in coastal geomorphology c) Coastal classification: Genetic and Morphology	10
II	**Coastal Waves** a) Definition, Wave length, Wave Height, Amplitude, Depth, Period, Fetch, Frequency. b) Types of wave: Sea waves, Swell waves, Capillary waves, Gravity waves, Long Period Tidal waves, Storm waves, Standing waves **c)** Process of Shoaling and Wave Barkers: Spilling, Plunging and Surging, Reflection, Diffraction and Refraction of Waves	10
III	**Currants** Wave induced shore normal and long shore currents, rip current, beach current, wind induced, river induced and tide induced current, flood and ebb current	10
IV	**Tides** 1) Equilibrium Theory of tides 2) Semidiurnal, Diurnal, Spring and Neap Tide 3) Amphidromic Point, Co-tidal Lines, 4) Coastal Tides, Tide in Bays and Estuaries 5) Tide and Coastal Landforms	15
V	**Sea Level** a) Transgression, Regression, b) Relative and Eustatic Sea Level Changes c) Causes and Consequences Sea Level Changes d) Pleistocence Sea Level, Glacial Eustasy, Staircase Theory e) Holocene Transgression f) Future Sea Levels g) Indicators of Former Sea Levels: fossil beach ridge, beach rock, abandoned cliffs, caves, raised features, shore platforms	15
Grand Total		**60**

Reference Books:

1. Davis J L (1980): Geographical variation in coastal development, Longman, New York
2. Embelton and Thornes (1979): Process in geomorphology, Arnold, London
3. Hails J and Carr A (1975): Nearshore sediment dynamics and sedimentation, Wiley, London
4. Karlekar Shrikant (1993): Coastal geomorphology of Konkan, Aparna Publication, Pune
5. Masselink G, Hughes M G (2003): Introduction to coastal processes and geomorphology, Arnold, London
6. Pethick John (1984): An Introduction to coastal geomorphology, Arnold Heinemann, London
7. Tooley M M and Shennan I (1987): Sea level changes, Basil Blackwell, Oxford, U K
8. Bird, E. (2000): Coastal Geomorphology. An Introduction, John Wiley and Sons, Chichester.

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Bio- Geography (Optional)

Subject Ref No : GEO 427

No. of Credits : 04
No. of Periods per Week : 04
Assignment/Sessionals : 20
Semester Exam : 80

Unit I: scope and development of Biogeography. Environments, Habitat and plant-animal association.

There shall be period 8 and 15 marks for this unit.

Unit II: Physical factors influencing world distribution of plants and animals; forms functions of ecosystem; Forest, Grassland, Marine and Mountain ecosystem.

There shall be 12 periods and 15 marks for this unit.

Unit III: Bio-diversity and its depletion through natural and man induced.

12 periods and 15 marks for this unit.

Unit IV: Human Ecology and environmental relationship.

Periods 8 and marks 15.

Unit V: Conservation and Management of ecosystems; Environmental hazards and problems of population; ozone depletion.

20 periods and 20 marks for this unit.

Suggested Reading :

1. Agarwal D.P.: Man and Environment in India through Ages, Book and Book 1992.
2. Mathur H.S: Essential of Biogeography. Anuj Printers Jaipur 1998.
3. Pears N: Basic Biogeography 2nd edition. Longman London 1985.
4. Simmon I.G: Biography, Natural and cultural Longman. London 1974.
5. Tivy. J.I: Biography : A Study of plants in Ecosphere 3rd Edition. Olive an Boyd U.S.A. 1992.

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M.A 1ST YEAR

SEMESTER-FIRST

Sr. No.	Type of Paper	Paper No.	NAME OF THE SUBJECT	SCHME OF TEACHING (PERIODS PER WEEK)			SCHEME OF EVALUTION MARKS				
				T	P	Total periods	Theory Exam	Internal	Practical	Total marks	Total credits
1	Core Theory	GCT-1	Geomorphology	04	-	04	80	20	-	100	04
2		GCT-2	Population Geography	04	-	04	80	20	-	100	04
3	Geoinformatics Theory	GGT-1	Fundamental of GIS & GPS	04	-	04	80	20	-	100	04
4	Multidisciplinary Theory	GMT-1	Constitution of India	02	-	02	50	-	-	50	02
5	Core Practical	GCP-1	Practical in PG & HG (Physical Geography and Human Geography)	-	04	04	-	-	100	100	04
6	Geoinformatics Practical	GGP-1	Basic Practical in GIS & GPS	-	04	04	-	-	100	100	04
			TOTAL	14	08	22	290	60	200	550	22

Revised syllabus

M.A./M.Sc. Geography

Semester I: Theory Paper (4 credits)

GCT1: Geomorphology

Unit	Teaching / Learning Points	Periods
I	**A) Nature and Scope of Geomorphology:** Definition of Geomorphology, Fundamental Concepts in Geomorphology, **B) Basic Theories in Geomorphology:** Wegener's Continental Drift, Plate Tectonics, W M Davis's Concept of Geomorphic Cycle	15
II	**A) Endogenic Forces:** Epiorogenic and Orogenic Movements, Compression, Tension, Folds, Faults **B) Denudational Processes:** Weathering, Mass Movement, Erosion and Comparison of these processes	15
III	**Land Forms:** Associated with Fluvial, Glacial, Arid and Coastal processes	10
IV	**Slope Morphology:** Slope Forms and Processes	10
V	**Application in Geomorphology:** Human activities and Geomorphology	10
Total		60

Reference Books:

1. Thornbury, W. D. (I960): Principles of Geomorphology, John Wiley and Sons, New York.
2. Chorley, R. J., Schumm, S. A. and Sugden, D. E.(1984): Geomorphology, Methuen, London.
3. Kale, V. S. and Gupta, A. (2001): Introductionto Geomorphology, Orient Longman, Calcutta.
4. Savindra Singh (2002): Geomorphology, Prayag Pustak Bhawan, Allahabad
5. Spark B. W. (1972): Geomorphology, Longman, NewYork
6. Steers, A. (1958). The Unstable Earth, Methuen,London
7. Ollier, C. D. (1981) Tectonics and Landforms, Longman , London
8. Strahler A. H and Strahler, A. N. (1992) : Modern Physical Geography, John Wiley, New York
9. Wooldridge and Morgan: Geomorphology
10. Holmes: Physical Geology
11. Fairbridge, R. W. (1968): Encyclopedia of Geomorphology, Reinholdts, New York.

M.A./M.Sc. Geography

Semester I: Theory Paper (4 credits)

GCT2: Population Geography

Unit	Teaching / Learning Points	Periods
I	**Basic Concepts:** Population Growth, Birth rate, Death rate, Crude Birth rate, Crude Death Rate, Infant Mortality rate, Fertility, Mortality, Migration, Age, Sex ratio, Age and Sex Pyramid, Density	15
II	**Population Growth:** A) Influencing Factors 1. Terrain, 2. Climate, 3. Soil, 4. Water Bodies, 5. Mineral Resources, 6. Industries, 7. Transport, 8. Urbanization 9. Socio-economic and Cultural, 10. Political Peace and Violence	15
III	**Theory and Model:** Basic Concept, Scope, Applications and Relevance of 1. Malthus' Theory of Population Growth and 2. Demographic Transition Model	10
IV	**Population Distribution:** Distribution of Population in India, Pattern Of World Population Distribution.	10
v	**Population as a Resource:** A) Concepts: 1. Over, 2. Optimum and 3. Under Population B) Various aspects: 1. Size, 2. Growth, 3. Age, 4. Education and 5. Health C) Population-Resource Regions	10
Grand Total		**60**

Reference Books:

1. Beaujeu Garnier J. – Geography of Poluation, Longman Group Ltd.
2. Chandna R. C. (2000) – A Geography of Population, Concepts, Determinants and Patterns, Kalyani Publishers, New Delhi
3. Bhende Asha and Kanitkar T. – Principles of Population Studies, Himalaya Publishing House, Bombay, 1993.
4. Clark J. I. Geography of Population Approaches and Applications, Pergamon Press Ltd., Oxford
Clark J. I. (1973) – Population Geography, Pergamon Press Ltd., Oxford.

M.A./M.Sc. Geography

Semester I: Theory Paper (04 credits)

GGT1: Fundaments of GIS and GPS

Unit	Teaching / Learning Points	Periods
I	**Introduction to GIS:** Definition of GIS Introduction and Development of GIS Components of GIS GIS Diversity GIS Workflow	15
II	**Data, Model and Processes of GIS:** Spatial and Non-Spatial Data Raster Data and Vector Data, Advantages and Disadvantages Processes of GIS Applications of GIS DMS (Database Management System)	15
III	**Introduction to GPS:** Definition of GPS Introduction and Development of GPS Advantages and Disadvantages of GPS DGP	10
IV	**Technology and Processes:** Segments of GPS Technology Ephemeris data Trilateration Process	10
V	Applications of GPS	10
Total		60

Reference Books:

1. George Joseph (2003) Fundamentals of Remote sensing University press, Hyderabad.
2. Chang Kang tsug (2002) Introduction to GIS, Tata MCGRAW Hill, New Delhi.
3. Burrough P.A. and R. A. MC Donnecl (2000), Principles of Geographical Information system, Oxford University, Press.
4. C.P. Lo and Albert K. W. Yeung Concepts and Techniques of Geographical Information System – 2002. Prentice – Hall, India.

M.A./M.Sc. Geography

Semester I: Practical Paper (4 credits)

GGGP1: Basic Practicals in GIS and GPS

Unit	List of Experiments (Cover at least 75 per cent practicals sequentially from each sub-unit)	Practicals
I	**Cover at least** **A) GIS (Theoretical Practicals):** 1. To understand the various types of GIS Softwares (List and their Features etc) 2. To enlist and compare various Cartographical Tools and GIS 3. To study the various elements of basics of Maps and GIS maps **B) GIS (Computer/ Software based Practicals):** 1. To apply Geo-referencing method in GIS (at least 2 examples) 2. To prepare Base Layer Map (Digitization) 3. To use Mozacking tools 4. To use GPS points Create contour map 5. To use DEM data Create 3D map 6. To use point interpolation technique (IDW Krigging) 7. To use Google Earth image for measuring area, length etc) 8. To use Google Earth pro make 3D modeling map	51
II	**GPS:** 1. To study the GPS equipment 2. To identify point locations (Wax-Point) 3. To apply tracking tool 4. To measure and compare elevation of various locations	21
Total		72

Reference Books:

1. George Joseph (2003) Fundamentals of Remote sensing University press, Hyderabad.

2. Chang Kang tsug (2002) Introduction to GIS, Tata MCGRAW Hill, New Delhi.

3. Burrough P.A. and R. A. MC Donnecl (2000), Principles of Geographical Information system, Oxford University, Press.

4. C.P. Lo and Albert K. W. Yeung Concepts and Techniques of Geographical Information System – 2002. Prentice – Hall, India.

M.A./M.Sc. Geography
Semester I: Practical Paper (4 credits)

GGCP1: Practical In Physical Geography and Human Geography

Unit	List of Experiments (Cover at least 75 per cent practicals sequentially from each sub-unit)	Practicals
I	**Drainage basin** Basin relief analysis Relief analysis (for a 3 to 5 order drainage basin; based on grid method) 1. Absolute relief map 2. Relative relief map 3. Slope map (degrees) 4. Dissection indeed map 5. Hypsometric integral 6. Basin cross profiles 7. Block Diagram (multiple section)	36
II	**Population Geography** Indices and Projection 1. Age-sex pyramid 2.Child-women ratio 3. Dependency ratio 4. Infant mortality rate 5. Age specific mortality 6. Population growth rate 7. Population projection **Computer Application** Data Analysis by Computer Use of data.	36
Total		72

Reference Books:

1. Monkhouse F.J. and Wilkinson, H. R. (1962): Maps and Diagrams, Methuen and Company Ltd. London.
2. Raisz, E. (1962) : Principles of Cartography. McGraw Hill Books company, Inc. , New York.
3. Singh, R. L. and Singh, Rana P. B. (1993): Elements of Practical Geography. Kalyani Publishers, Ludhiana and New Delhi. (English and Hindi Editions)

M.A./M.Sc. Geography
Semester I: Service Course (4 credits)

GSCT1: Disaster Management

Unit	Teaching / Learning Points	Periods
I	Meaning of disaster, calamity, Hazards, Major characteristics of disasters. Physical and cultural disasters. Major regions of the world of such disasters and loss of life and property.	15
II	Hazards-cyclone, Hurricanes Tornado, Typhoons, causes for the formation of cyclones. Regions of the cyclones.	15
III	Precautions before the arrival of cyclones. Effect of cyclonic hazards. Thunder storm, lightening, hail storms and cloud burst calamities.	10
IV	Flood disaster. Reasons and types of flood disasters. Wet draught areas. Consequences of floods. Major rivers of heavy floods, measures of flood controls.	10
V	Disaster warning system. Rehabilitations, Prevention, Social Response measures for disasters.	10
Total		60

Reference Books:

1. Dhara S : Natural disaster, Minimizing Risks the Hindu survey of Environment (2001)
2. Daoglas I and Spencer T : Environmental change and Tropical Geomorphology (Edited) George Allen and Unwin London (1985)
3. Embleton C: Natural Hazards and Global change, ITC Journal 1989 ¾ pp 169-175, Erickson S. L and King B. J. Fundamental of Environmental Management wiley New York (1999)
4. Gupta H. K. Dons and Earthquakes Elsevier Amsterdam (1976)
5. Press F. Need for Action Reduction copying with Natural Hazards, UNESCO (1993)
6. Sinha D. K. towards Basic of Natural disasters, University of Calcutta (1990)
7. Verstappen H. T. Geomorphology, Natural disaster and Global disaster. Proceeding of the symposium sept- 14-16 1989, Enschede Netherlands PP 159- 164.

DR.BABASAHED AMBEDKAR MARATHWADA UNIVERSITY, AURANGBAD

DEPARTMENT OF GEOGRAPHY

Revise Curriculum of choice Based Credit and Grading System

CURRICULUM STRUCTURE AND SCHEME OF EVALUATION FOR

M.A 1ST YEAR

SEMESTER-SECOND

Sr. No.	Type of Paper	Paper No.	NAME OF THE SUBJECT	SCHME OF TEACHING (PERIODS PER WEEK)			SCHEME OF EVALUTION MARKS				
				T	P	Total periods	Theory Exam	Internal	Practical	Total marks	Total credits
1	Core Theory	GCT-3	Climatology	04	-	04	80	20	-	100	04
2	Specialized Theory **(Only for Group G Students)**	GSTG-1	Fluvial Geomorphology	04	-	04	80	20	-	100	04
3		GSTG-2	Costal Geomorphology	04	-	04	80	20	-	100	04
4	Specialized Theory **(Only for Group P Students)**	GSTP-1	Demography	04	-	04	80	20	-	100	04
5		GSTP-2	Social and Cultural Geography	04	-	04	80	20	-	100	04
6	Research Methodology Theory	GRMT-1	Basics of Research Methods	03	-	03	75	-	-	75	03
7		GRMT-2	Basic Statistical Methods	03	-	03	75	-	-	75	03
8	Specialized Practical **(For G Group)**	GEP-1	SOI for Geomorphology	-	04	04	-	-	100	100	04
9	Specialized Practical **(For P Group)**	GEP-1	SOI for Population Geography	-	04	04	-	-	100	100	04
10	Research Methodology Practical/Project	GRMP-1	Village Survey (Group)	-	04	04	-	-	100	100	04
			TOTAL	18	08	26	390	60	200	650	26

M.A./M.Sc. Geography

Semester II: Research Methodology Practical/ Project - Paper (4 credits)

RMP-1: Village Survey and Report Writing

Unit	Teaching and Learning points	Practicals Hours
I	**A) Physical Survey:** **(For Group G – Geomorphology)** Location on toposheet (lat. & long), extension, grid reference if available, height above mean sea level, area, site and situation Physical features surrounding the village Position of the village on the cross-section line Drainage System Landuse	12
	B) Socio-Economic Survey: **(For Group G – Geomorphology)** Population, population structure, facilities available Information regarding households - based on at least 10% sample survey	
II	**Data Analysis and Mapping:** Primary and Secondary Data Analysis Preparation of Various Maps showing present status Prepared of Developmental Plan with Description	12
III	**Report Writing:** Report writing Preparation of Results	
Grand Total		**36**

Note:

1. The selection of the village must be based on the availability of S.O.I. toposheet and / or Cadastral Map.
2. As far as possible the village should be selected from the nearby area, so that the students can undertake at least two field visits.
3. Collection of data / information should be undertaken by the student by visiting the various Government Offices
4. The Village Survey Report should include the following:
   - A Locational aspects of the village (Both Group Geomorphology & Population)
   - B Physical Landscape (For Group Geomorphology)
   - C Soil / Agricultural etc Aspects (For Group Geomorphology)
   - C Demographical aspects (For Group Population)
   - D Socio-Cultural & economic setup (For Group Population)
   - E Critical Observations (Both Group Geomorphology & Population)
5. Appropriate maps, diagrams, graphs, sketches etc should be included.
6. The Report should be preferably exceeding 15 pages.

Reference Books:

1. Ramamurthy, K. (1982): Map interpretation, Madras
2. Dury G.H. (1960), Map Interpretation. Sir Isaac Pitman and Sons Limited, Pitman House, Bath.
3. Meux A. H. (1960), Reading Topographical Maps. University of London Press Limited
4. Jones P. A. (1968), Field work in Geography. Longmans, Green and Company Limited
5. Archer J. E and Dalton T. H. (1968), Field work in Geography B.T. Batsford Limited London
6. Wheeler K.S. Ed (1970), Geography in the field. Blond Educational, London.
7. Gupta, KK & Tyagi VC (1992): Working with maps, Survey of India Publication, Dehradun
8. Vaidyanadhan. R. (1968). Index to a set of 60 topographical maps, CSIR, New Delhi

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M.A./M.Sc. Geography

Semester II: Theory Paper (2 credits)

RMT-2: Basic Statistical Methods for Research in Geography

Unit	Teaching and Learning points	Practicals Hours
I	Basics • Define Geographical Research • Concept of Statistical Methods	06
II	• Use of Statistical Methods and Techniques in Geographical Research • Data : Types and Sources	06
III	Central Tendency: Grouped and Ungrouped Data • Average (mean) and their Types): • Median Mode	06
IV	Dispersion • Absolute Measurements • Mean Deviation • Quartile Deviation • Standard Deviation	06
V	Applications of Statistical Methods in Geography	06
Grand Total		**30**

Reference Books:

1. Cole, J.P. & King, C.A.M. (1968): Quantitative Techniques in Geography. John Wiley & sons Inc.New York.
2. Elhance, D.N. (1972): Fundamentals of statistics, Kitab Mahal, Allahabad.
3. Gregory, S.(1968): Statistical methods and the geographer. Longman, London.
4. Gupta, C.B.(1978); An introduction to statistical Methods, Vikas Pub.House, New Delhi.
5. Hoel P.G.: Elementary Statistics, Wiley, New York.
6. King, L.J. (1991): statistical Analysis in geography. Prentice Hall, Englewood Cliff N.J.
7. Hemawati: Statistical Methods for Geographers.
8. Singh R. L.: Elements of Practical Geography. & Co.London

M.A./M.Sc. Geography

Semester II: Theory Paper (4 credits)

CT-3: Climatology

Unit	Teaching / Learning Points	Periods
I	**Basic Concepts:** Weather and Climate, Nature and Scope of Climatology, Development of Modern Climatology	10
II	**Earth's Atmosphere:** Composition and Vertical Structure, Heat Balance and Budget of Earth	10
III	**A) Temperature and Air Pressure:** Distribution of Temperature: Vertical and Horizontal Distribution of Pressure, Atmospheric pressure & general circulation of winds **B) Humidity:** Evaporation, Humidity, Condensation Formation of Clouds and their types Precipitation – types and characteristics.	10
IV	**A) Air Masses and Fronts:** Source Regions, Classification Frontogenesis and Frontolysis, Types of Fronts. **B) Atmospheric Disturbances:** Cyclones, Anticyclones, Storms, Water spouts, thunderstorms and tornadoes.	15
V	**Classification of Climate:** Bases of Classification Kop pen's Classification of Climate	15
	Grand Total	**60**

Reference Books:

1. Frederick K. Lutgen, Edward Tar buck: "The Atmosphere An Introduction to Meteorology" Prentice Hall, Englewood Cliffs, New Jersey 0762 ,1998
2. Pettersons : "Introduction to Meteorology " ---------,,---------- 1969
3. Richl H : "Introduction to Atmosphere"---------,,---------- 1972
4. Sellers W.D : "Physical Climatology"University of Chicago Press. 1965
5. Trewartha G.T: An Introduction to climate "McGraw Hill BK Co. New York, 1968.
6. Das P. K. : The Mansoon, Prayag pustak Bhavan, Allahabad.
7. Shastri Rama: Weather and Weather Forecasting, Ministry & Information NBT Delhi.
8. Lal D. S.: Climatology. Prayag pustak Bhavan, Allahabad.
9. Ramashatri: Weather & Weather forecasting, Ministry of Information & Broadcasting.
10. Savindra Sing (2000) : Climatology, Prayag Pustak Bhavan, Allahabad.
11. Mather JR (1975): Climatology : Fundamentals & Applications. Mc Gray Hills Book, New York.
12. Hobbs J.E. (1980) : Applied Climatology, Butterworth, London
13. Crist Field : Principles of Climatology; Prentice Hall, London.
14. Oliver J. E. (1973) : Climate & Mans Environment, John Wiley & Sons; New York.
15. Byers R.H. : "General Meteorology "McGraw Hill BKCo New York 1974

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M.A./M.Sc. Geography

Semester II: Theory Paper (4 credits)

GSTP-2: Social and cultural Geography

Unit	Teaching / Learning Points	Periods
I	**Nature and Scope:** a. Definition of social Geography and cultural Geography b. Nature and Scope of Social and Cultural Geography c. Different approaches of study d. Culture and Society as a Essential Elements of Geographical Studies e. Evolution of Culture and Social Things	10
II	**Socio-Cultural Setup and Regions** **A) Concepts** 1) Region 2) Social Diversity, 3) Social Areas, 4) North-South and East-West Socio-Cultural Diversity of India 5) Grifith Talyer's Theory	10
III	**B) Differential Factor of Socio-Cultural Set-up** 1) Human Race 2) Language 3) Religion 4) Castes 5) Tribes 6) Migration of other activities.	10
IV	**Regional Differentiation of Social and Cultural Characteristics** a. Social and Cultural Region b. Tribal Region and their social activities c. Tribes and their cultural activities d. Social and Cultural reforms e. Urban and Rural Difference	15
V	**Issues** a. Causes of Social and Cultural problems b. Social Cultural problems and migration Demography c. Human development Index d. Social well being (meaning Patterns, measuring, method) e. Social justice : equality and welfare f. Social cultural problems and migration	15
Grand Total		**60**

REFERENCES:

1. Ahmad, Aijazuddin (1999): Social Geography, Rawat Publications, Jaipur.
2. Blij, H.J. (1995): The earth-An introduction to its Physical and Human Geography, John Wiley & Sons,inc; New York.
3. Broad, Jan O.M.& webb,John W(1973): A Geography of mankind, McGraw Hill Book Co. New York.
4. Cater, Hohn & Jones, Trevor (1989): Social Geography-An Introduction to Contemporary Issues, Arnold Publishers, New Delhi.
5. Jackson, Peter (1989): Maps of meaning- An Introduction to cultural Geography, Unwin Hyman, and London.
6. Jackson, Richard H. & Loyd E.Hudman (1990): Cultural Geography-People, Places and Environment West publishing co., New York.
7. Jones, Emrys & Eyles, John (1977): An Introduction to social Geography, Oxford University Press, Oxford.
8. Jorden, Terry G. & Rowntree, Lester (1976): The Human Mosaic-A Thematic Introduction to Cultural Geography, Canfield press, sen Francis Co., Harper & Row Publisher, New York.
9. Tripathi, R.S. & Parmar, S.B.Singh: Social and Economic Development in India, Ashish Publishing House New Delhi, PP 451-454.
10. Smith, David M.(1977): Human Geography- A Welfare approach, Arnold-Hinmann, London.
11. Majid Hussain (1994) : Human Geography., Rawat Publications, Jaipur.

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M.A./M.Sc. Geography

Semester II: Theory Paper (2 credits)

RMT-1: Basics of Research Methodology

Unit	Teaching and Learning points	Practicals Hours
I	**Basics** • Meaning and Connect of Research.	03
II	• Purpose of Research in Geography.	03
III	• Types of Research o Descriptive and Analytic o Applied/Fundamental Research o Quantitative and Qualitative o Conceptual and Empirical o Experimental and Non-Experimental o Cross-Section Study o Longitudinal Study	10
IV	**Research Process** • Identification and Selection of the research problem • Review of literature • Formulate the Hypothesis • Preparation of Research Design • Sample: Methods, Design • Data Collection	10
V	Data analysis (hypothesis testing) Interpret and Report	04
Grand Total		30

Reference Books:

1) Dr. C. Rajendar Kumar (2008): Research Methodology. APH Publishing Corporation.
2) C.R. Kothari (2004): Research Methodology: Methods and Technique. New Age International.

M.A./M.Sc. Geography

Semester II: Specialized Practicals – (4 credits)

EP-1: SOI for Geomorphology

Unit	Teaching and Learning points	Practicals Hours
I	**Basics of Toposheets (List of Practicals)** 1) To known about the Historical Development of SOI. 2) To understand the various types of SOI Toposheet. 3) To study the Indexing System and elaborate it with drawings 4) To draw Signs and Symbols. 5) To write the Marginal Information of the SOI Toposheet 6) To study the Grid System, its type and to give Grid Reference to some Geographical Locations. 7) To understand and draw the signs and symbols used for topographical elevation, e.g. spot height, bench mark, triangulation station, counters, etc from given toposheet.	12
II	**SOI for Geomorphology (List of Practicals)** 1) To give geographical location with latitude and longitude of select geomorphological features. 2) To give geographical extension with latitudinal and longitudinal extents of selected geomorphological regions / selected area occupied by geomorphological feature. 3) To identify selected features e.g. Hills, Slopes, Cliff, River, Lakes etc. 4) To identify the types of Slope with the help of counters given on the SOI toposheet and draw it. 5) To draw Cross Profile of the given region. 6) To draw Longitudinal Profile of the given river. 7) To read the SOI Toposheet of Hilly Region. 8) To read the SOI Toposheet of Plateau Region. 9) To read the SOI Toposheet of Plain region 10) To interpret the SOI Toposheet with respect to Physical / Geomorphological features. 11) To interpret the SOI Toposheet with respect to Drainage System and Water bodies. 12) To interpret the SOI Toposheet with respect to Vegetation.	
Grand Total		**36**

M.A./M.Sc. Geography

Semester II: Specialized Practicals – (4 credits)

EP-2: SOI for Population Geography

Unit	Teaching and Learning points	Practicals Hours
I	**Basics of Toposheets (List of Practicals)** 1) To known about the Historical Development of SOI. 2) To understand the various types of SOI Toposheet. 3) To study the Indexing System and elaborate it with drawings 4) To draw Signs and Symbols. 5) To write the Marginal Information of the SOI Toposheet. 6) To study the Grid System, its type and to give Grid Reference to some Geographical Locations. 7) To understand and draw the signs and symbols used for topographical elevation, e.g. spot height, bench mark, triangulation station, counters, etc from given toposheet.	12
II	**SOI for Population Geography (List of Practicals)** 1. To give geographical location with latitude and longitude of select socio-cultural features. 2. To give geographical extension with latitudinal and longitudinal extents of selected socio-cultural region / selected area occupied by the manmade activity / expansion of village/ urban area. 3. To identify Manmade Things e.g. Road, Bridge, Railway Station, Post Office, Railway line, Bridge, Settlements, Cultural and Historical features, etc. 4. To identify the types of agricultural landuse and mark the agricultural activities like wells, dug wells, tube well, canal, bore wells, percolation tank etc given on the SOI toposheet and draw it. 5. To draw Cross Profile of the given urban region / agricultural region / etc. 6. To draw Longitudinal Profile of the given road / hilly street / railway line / etc. 7. To read the SOI Toposheet of Hilly Region. 8. To read the SOI Toposheet of Plateau Region. 9. To read the SOI Toposheet of Plain region. 10. To interpret the SOI Toposheet with respect to Settlement (urban / rural). 11. To interpret the SOI Toposheet with respect to Transportation and Communication (Roads / Railway lines / power lines / pipelines / water ways / Lighthouse / etc.). 12. To interpret the SOI Toposheet with respect to Historical and Cultural things (Fort, Temple, Church, Chhatri, Mosque, Idgah, Tomb, Graves etc).	12
Grand Total		**36**

M.A./M.Sc. Geography

Semester II: Theory Paper (4 credits)

GSTP-1: Demography

Unit	Teaching / Learning Points	Periods
I	**Introduction to Demography** • Definition and Conceptual Understanding. • Evolution of demography as a scientific discipline;	**05**
II	• Nature and scope of the subject Demography. • Changes in Demography over the time period. • Multi-disciplinary nature of demography, its links with other social science disciplines. • Basic demographic concepts. • Components of population change.	10
III	**Demographic transition** • Historical population trends - World and India. • Past, present and future population trends across world, continents, major regions, India and Indian states, with brief description of causes. • Demographic Transition Theory – by Frank W. Notestein. • Demographic Transitions of Major Countries including India.	15
IV	**Sources of Demographic Data** • Data requirement, type of demographic data. • Different sources of data. • Population censuses across the world. • Indian censuses, details of different items on which Indian censuses collect data. • Vital registration system, sample registration system, survey on causes of death. • National Sample Survey Organization's surveys, details of different rounds collecting population and health data. • Nationwide sample surveys, National Family Health Survey, District Level Household Survey, etc.	15
V	**Age-Sex Structure and its Dynamics** • Role of the study of age-sex structure in demography. • Present levels, past trends and probable future changes in age-sex structure of the world and major regions. • Present levels, past trends and probable future changes in age-sex structure of India and states. • Determinants and consequences of sex-age structure of population. Demographic dividend. • Ageing of the population. Relative role of low fertility and low mortality in ageing. Socio-economic consequences of population ageing.	15
Grand Total		**60**

Reference Books:

1. Jacob S. Siegel and David a. Swanson (2004): *The Methods and Materials of Demography*, Second Edition, Chapters 1, 2, 3, 7, 9,10, Elsevier Science, USA.
2. John Weeks (2005): *Population: An Introduction to Concepts and Issues*, Wordsworth Learning. Singapore 9 edition.
3. United Nations, (1973): *The Determinants and Consequences of Population Trends*, Vol. I, *Population Studies*, No. 50, Chapter VII, New York.
4. Bhende, A., (1996): *Principles of Population Studies* (Seventh Edition), Himalaya Publishing House, Bombay.
5. United Nations, *World Population Ageing*, 1950-2050

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1.4.1 : Action taken report of feedback for last Five Years

- We have adapted new educational Aids for effective teaching
- From semester II we have change pattern of syllabus. we have focus on specialization.
- Critical concepts and Theories, instruments base practical's are adapted in Curriculum.

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