BANGALORE **UNIVERSITY**

FOR QUALITY & EXCELLENCE IN HIGHER EDUCATION
ACCREDITED BY NAAC

SEMESTER SCHEME FOR U.G. COURSES FROM THE ACADEMIC YEAR 2004-04-05 REGULATIONS AND SYLLABUS IN GEOGRAPHY FOR B.A./B.SC. SEMESTER SCHEME OF BANGALORE UNIVERSITY, BANGALORE – 560 056

Dr. A.S. Rayamane
Chairman, B.O.S.(U.G.).

MEMBERS OF B.O.S (U.G) in GEOGRAPHY

1. Prof. (Smt.) L.Shaheen Safiha Khanum
2. Prof. Chandrashekar
3. Sri. K.Ningaih
4. Prof. B.N.Ramu
5. Smt. K.M.Sumathy
6. Sri. B.R.Gopinath
7. Prof. V.Y.Gubbannavar
8. Dr. Nagarajappa

SEMESTER SCHEME FOR U.G. COURSES
FROM THE ACADEMIC YEAR 2003-04

Regulations and Syllabus in Geography
For B.A./ B.Sc. Semester Scheme

I (i) To be eligible to take 'GEOGRAPHY' as one of the optional subjects of U.G. level, a student must complete pre-university or equivalent course.

Scheme of Instruction

1 (i) The subject 'GEOGRAPHY' for this scheme has to be taught by a Master's degree holder in geography only.

II (i) Geography at under graduate level consists of six semesters with 'eight theory papers and eight practical papers.

In the I, II, III and IV semesters there will be one theory paper and one practical paper each.

In the V and VI semesters there will be two theory papers and two practical papers each.

(ii) Each theory paper will have a minimum of '60' hours of teaching and each practical paper will have a minimum of '42' hours of teaching in each semester course.

(iii) The Duration of each semester being 18 weeks excluding Ex. Period

III (i) Practicals are to be conducted in batches. Each batch consists of '15' students with 'one' teachers, or between '16-27' students with 'two' teachers. In case, if the student number is below '15' is also considered as one batch with one teacher.

(ii) Each batch (depends on the number of students) must be supervised by one/two teachers covering instructions supervision of practicals and correction of records.

IV (i) ATTENDANCE: In each semester 75% of the attendance is compulsory

SCHEME OF INSTRUCTION AND EXAMINATION [FIRST TO SIXTH SEMESTER]

Semester	Title of the paper	No. of hours/week		Examination Marks		Internal Assessment		Duration of examination		Total Marks
		Theory	Practical	Theory	Practical	Theory	Practical	Theory	Practical	
I	Theory paper-I Practical-I	4	3	50	30	10	10	2	2	100
II	Theory paper-II Practical-II	4	3	50	30	10	10	2	2	100
III	Theory paper-III Practical-III	4	3	50	30	10	10	2	2	100
IV	Theory paper-IV Practical-IV	4	3	50	30	10	10	2	2	100
V	a) Theory paper-V (Compulsory) b) Practical-V	3	3	50	30	10	10	2	2	100
	a) Theory paper-VI (Optional) b) Practical-VI	3	3	50	30	10	10	2	2	100
VI	a) Theory Paper-VII (Compulsory) b) Practical-VII	3	3	50	30	10	10	2	2	100
	a) Theory Paper-VIII (Optional) b) Practical-VIII	3	3	50	30	10	10	2	2	100

Note: Total '8 papers [800 Marks)

SCHEME OF EXAMINATION

I. THEORY EXAMINATION

(i) Each theory paper carries a maximum of '50' marks and is of '2' hours duration.

(ii) Each theory paper consists of '3' sections 'A', 'B', and 'C'.

Section-A – will have '8' questions, of them candidates have to answer any '5' and each question carries '2' marks. Answer should not exceed more than '50' words.

Section-B – Will have '6' questions, of them candidates have to answer any '4' and each question carries '05' marks. Answer should not exceed '200' words.

Section-C – will have '4' questions, of them, candidates have to answer any '2' and each question carries '10' marks. Answer should not exceed '500' words.

Questions for all the '3' sections have to be set from the complete syllabus prescribed for the semester scheme.

II. PRACTICAL EXAMINATION

(i) Each practical examination is of '2' hours duration with a maximum of '30' marks – consisting of 25 marks for examination exercises and '5' marks for the evaluation of practical record. Submission of practical record is compulsory.

(ii) The practical examination is to be conducted in batches with not more than '10' candidates per batch.

(iii) There will be one-internal examiner and one external examiner to conduct the practical examination for each batch.

(iv) Simple calculators can be allowed in the examination hall.

(v) (a) Semester I, II, III and IV practical examinations, there will be '4' question and all are compulsory;

(b) Semester V, and VII Practical Examinations there will be '3' questions and all are compulsory.

III.

(i) Minimum to pass in each paper, both in theory and practicals is 35%.

IV.

(i) Each theory paper shall carry 10 marks for Internal Assessment and each practical paper shall carry 10 marks for internal Assessment (Test and Attendance)

SEMESTER AND TITLE OF THE PAPERS

I Semester

Theory-Paper-I - Physical Basis of Geography-I [Geomorphology]

Practical-Paper-I- Cartography [Maps, Scales, and Graphs]

II Semester

Theory-Paper-II – Physical Basis of Geography-II [Climatology and Oceanography]

Practical-Paper-II – Weather instruments and study of Indian Daily Weather Reports.

III Semester

Theory-Paper-III – Human Geography

Practical-Paper-III – Representation of Statistical Data

IV Semester

Theory-Paper-IV – Regional Geography of Karnataka

Practical-Paper-IV – Profiles, Contour diagrams and Study of Topographical Maps.

V Semester

(1) Theory-Paper-V – Environmental Geography [Compulsory paper]

(1) Practical-Paper-V – Map Projections-I [Cylindrical and Conical groups]

(2) Theory-Paper-VI – (a) Regional Geography of Asia
(b) Geography of Tourism

(2) Practical-Paper-VI – Basic Statistics

VI Semester

(1) Theory-Paper-VII – Regional Geography of India [Compulsory paper]

(1) Practical-Paper-VII – Map projections-II [Zenithal and Conventional groups]

(2) Theory-Paper-VIII – (a) Economic Geography of the World.
(b) Regional Geography of North America

(2) Practical-Paper-VIII– Fundamentals of GIS, Remote Sensing and Computer Graphics.

Note: 1. There will be a compulsory study tour to the places of Geographical interest for the students of final semester only.

I-SEMESTER

THEORY-PAPER-I - PHYSICAL BASIS OF GEOGRAPHY-I [GEOMORPHOLOGY]

Unit-I
1. Field and scope of Physical Geography.
2. Evolution of the Earth-Theories-Nebular, Tidal action and Big Bang.

10 hr

Unit-II
1. Solar system
2. Movements of the earth-Rotation, Revolution and their effects. Latitudes and Longitudes, Longitude and time; International Date live

15 hr

Unit-III
1. Earth's interior – Structure and Composition.
2. Rocks – Formation and types

8 hrs

Unit-IV
1. Earth's crustal movements – Folding and Faulting.
2. Major landforms – Mountains, plateaus and plains.
3. Earthquakes and Volcanoes

15 hrs

Unit-V
1. Weathering – Physical, Chemical and biological
2. Agents of Denotation – River, Glacier, underground water and wind-Functions and their resultant landforms.

12 hrs

Books recommended:

1. Earth's Science – Strahler, A.N.
2. Principles of Physical Geography – Das Gupta A. and Kapoor A.N.
3. Geomorphology – Savindra Singh.
4. Principles of Geomorphology – Thornbury W.D.
5. Physical Geography – Philip Lake
6. Physical Geography – Dr. Tikka, R.N.

7. Physical Geography – Monkhouse F.J.
8. Fundamentals of Physical Geography – Majid Hussain.
9. Physical Geography – Longman W.
10. Physical Geography – Dr. Shanti Swaroop.

Kannada Version:

1. Physical Geography – Mallappa, P.
2. Principles of Physical Geography – Dr. Ranganath.
3. Mysore University Prasaranga Publications on Physical Geography.
4. Prakruthika Bhoogola Shastra – Nanjannavar S.S.
5. Boovignan Parichaya – Naganna C.

I-SEMESTER

PRACTICAL-I; MAPS, SCALES AND GRAPHS

10 hrs.

Unit-I Cartography – Maps, definitions, classification and importance. 9 hrs.

15 hrs

Unit-II Scales-Methods of Representation – Statement, Graphical, Representatives Fraction and Conversion of Scales. 18 hrs.

8 hrs

Unit-III Graphs- (a) Line-Single and Double.

(b) Bar – Single and Double-both Vertical & Horizontal

(c) Compound Bar Graph 15 hrs

15 hrs

Books Recommended:

1. Elements of practical Geography – Singh R.L.
2. Practical Geography – Negi, B.S.
3. Practical Geography – Tiwari N.
4. Elements of Practical Geography – Singh R.L, and Rana Singh P.B.

12 hrs

5. Map work and practical Geography - Gopal Singh.
6. A text book of Practical Geography – Dr. Karennavar and Nanjannavar S.S.
7. Fundamentals of Cartography – Mishra R.P.
8. Practical Geography – Singh R.L. and Dutta P.K.
9. Practical Geography – A Systematic Approach – Ashish Sarkar.
10. Mysore and Karnataka University Prasaranga Publciations for Geography Practical books in Kannada version. By Prof. M.F. Kavennar and Prof.S.S. Nanjannavar.

II-SEMESTER

THEORY-PAPER-II PHYSICAL BASIS OF GEOGRAPHY-II

[CLIMATOLOGY AND OCEANOGRAPHY]

Unit-I

1. Atmosphere – Structure and Composition, Elements of Weather and Climate
2. Temperature – Insolation – Controlling factors horizontal and vertical distribution

12 hr

Unit-II

1. Atmospheric pressure – Controlling factors; Global pressure belts.
2. Wind system – Determining factors – planetary, periodic and local winds.

12 hr

Unit-III

1. Humidity – Absolute and Relative, clouds their types.
2. Precipitation – Fog types; Rainfall, Factors, types and distribution.

12 hrs

Unit-IV

1. Hydrosphere – Distribution of oceans and their significance, configuration of ocean floor – continental shelf; continental slope, ocean plain and ocean deeps.
2. Distribution of temperature and salinity of oceans and seas.

12 hrs

Unit-V

1. Circulation of ocean water – Ocean currents Atlantic, pacific and Indian; Tides.
2. Coral reefs – Theories of Origin, types, ocean deposits – types and distribution

12 hrs

Books Recommended:

1. Physical Geography – Strahler, A.H and Strahler.A.N
2. Climatology – Lal.P.,
3. General Climatology – Cratchfield H.J.
4. Introduction to Climate – Trewartha, G.T. and Horn. L.A.
5. Earth's Science – Strahler, A.N.

6. Elemental Geo-system; A foundation in physical Geography. – Christopherson R.W.
7. Climatology – Lal. D.S.
8. Physical Geography – Dr. Tikka, R.N.
9. Essentials of Oceanography- Garrison, T.
10. Oceanography for geographers – Vittal and Sharma.
11. Oceanography – Pinet D.R.
12. An introduction to Physical Geography – Von Arx. W.S.

Kannada Version:

1. Principles of Physical geography – Dr. Ranganath.
2. Mysore and Karnataka Universities Prasaranga Publications on Physical Geography.
3. Bhouthika Bhoogola – Nanjannavar.S.S.
4. Physical Geography – Mallappa. P.

II-SEMESTER- PRACTICAL-II

WEATHER INSTRUMENTS AND STUDY OF INDIAN DAILY WEATHER REPORTS

Unit-I Weather Instruments – Working Principles of Fahrenheit, Centigrade and six's or maximum and minimum thermometers, mercurial and aneroid barometers, wet and dry bulb thermometer, rain gauge, wind vane and anemometer.

15

Unit-II Relevance of the study of Indian Daily weather Reports, Weather Symbols.

9 h

Unit-III Observations and Interpretations of Indian Daily Weather Reports of different seasons [in particular July and January months] Forecasting of weather

18 h

Books Recommended:

1. Elements of Practical Geography – Singh R.L.
2. Practical Geography – Negi, B.S.
3. Practical Geography – Tiwari N.
4. Elements of Practical Geography – Singh R.L. and Rana Singh, P.B.
5. Map Work and Practical Geography – Gopal singh.
6. A text book of Practical Geography – Dr. Karennavar. M.F. and Nanjannavar S.S.
7. Fundamentals of Cartography – Mishra, R.P.
8. Practical Geography – A systematic approach – Asish Sarkar.
9. Practical Geography – Singh R.L. and Dutta P.K.
10. Mysore and Karnataka Universities Prasaranga publications for Geography practical books in Kannada Version by Prof. M.F. Kavennavar and Prof. S.S. Nanjannavar.

III-SEMESTER

THEORY-PAPER-III- HUMAN GEOGRAPHY

Unit-I	Content and Scope of human geography	6 hrs.
Unit-II	Races of mankind- classification and distribution, Man environment relationship – Primitive Societies – Eskimos, Bushman, Pygmies.	16 hrs.
Unit-III	Distribution of World's Population – Factors affecting the distribution of population in the world. Population regions – Growth of population in the World	10 hrs.
Unit-IV	Human Migration – Nature of early and present day migration, Causes and consequences of migration, internal and international migration.	12 hrs.
Unit-V	Human settlements, Origin, growth and distributional pattern of rural and urban settlements. Their functions and characteristics, problems and measures of rural and urban settlements.	16 hrs.

Books recommended :

1. Principles of Human Geography – Huntington.
2. Human Geography – Perillou A.V.
3. Human Geography – Brunhes.
4. Man and his habitation – Singh R.L.
5. Principles of Human Geography – Vidal –de-la-Blache
6. Human Geography – Majid Hussain.
7. Geography and Man's Environment – Strahler A.H. and Strahler A.N.
8. Human and Economic Geography – Harm D. Blij.
9. Introduction to Human Geography – Dickens and Pitts.
10. An Introduction to Human Geography – Rubenstein J.B.
11. Human Geography, People, culture and Landscape – Neilson, Gabler and vining.

Kannada Version:

1. Manava Bhoogola Shastra – Ranganath and P. Mallappa.
2. Manava Bhoogola Shastra – Nanjannavar S.S.

III-SEMESTER

PRACTICAL-III- REPRESENTATION OF STATISTICAL DATA

Unit-I	Types of Cartographic symbols and their uses – point symbols-dots, circle, spheres, cubes and block pile.	15 hrs.
Unit-II	Distributional maps – Isopleth, choropleth flow lines, pyramids, bars.	15 hrs.
Unit-III	Hythergraph, climograph, Ergograph	12 hrs.

Books Recommended:

1. Elements of Practical Geography – Singh R.L.
2. Practical Geography – Negi B.S.
3. Practical Geography – Tiwari, N.
4. Elements of Practical Geography – Singh R.L., and Rona Singh P.B.
5. Map work and Practical Geography – Gopal Singh.
6. A text book of Practical Geography – Dr. Karennavar. M.F. and Nanjunnavar S.S.
7. Fundamentals of Cartography – Mishra R.P.
8. Practical Geography – Singh R.L. and Dutta P.K.
9. Practical Geography – A systematic Approach – Ashish Sarkar.
10. Mysore and Karnataka University Prasaranga Publications for Geography Practical Books in Kannada Version, by Prof. M.F. Karennavar & Prof. Nanjanavar. S.S.

IV-SEMESTER

THEORY-PAPER-IV- GEOGRAPHY OF KARNATAKA

Unit-I

1. Location and extent, relief features, drainage system and climate.
2. Resources- soils and forests.

14 hrs

Unit-II

1. Irrigation – Major and minor irrigational schemes, multi-purpose projects – Tungabhadra, Upper Krishna and K.R.S.
2. Agriculture – Major Crops.
   - (i) Food crops – paddy, ragi, jowar.
   - (ii) Industrial crops – cotton and sugarcane.
   - (iii) Beverage crop - coffee

12 hrs

Unit-III

1. Mineral Resources – Iron ore, Manganese, gold and Copper.
2. Power Resources – Hydroelectricity, Solar-energy, Kaiga nuclear plant.

12 hrs

Unit-IV

1. Industries – Iron and Steel, Silk, Sugar paper and Cement.
2. Transportation –
   - (i) Road ways, Railways, Air ways, water ways,
   - (ii) Major ports and harbours.

12 hrs

Unit-V

1. Population – Growth, density and distribution.
2. Major urban centres – Bangalore, Mysore, Hubli, Dharward and Mangalore.

10 hrs

Books Recommended:

1. Geography of Mysore State – Mishra R.P.
2. Regional Geography of Karnataka – Reddy N.B.K., and Murthy.
3. Geography of Karnataka – Ramachandra Rao.
4. Geography of Karnataka – Mallappa P.
5. Geography of Karnataka – Nanjannavar S.S.
6. Karnataka Economy – Gamber, S.G. and Nanjannavar S.S.
7. Planning Regions of Karnataka – Achyuthi Rao.T.N.

IV-SEMESTER

PRACTICAL-IV- REPRESENTATION OF LANDFORMS AND STUDY OF TOPOSHEETS

Unit-I	Contour diagrams – Conical hill, plateaus, Kinds of slope-uniform, undulating, concave and convex, Kinds of valleys – 'U' shaped and 'V' shaped, ridge and cliff. Profiles – Super imposed, projected and composite.	18 l
Unit-II	Importance of the study of topographical maps, conventional symbols	6 h
Unit-III	Interpretation of Survey of India topographical maps in respect of (a) relief (b) Drainage, (c) vegetation (d) transportation, communication and settlements.	18 h

Books Recommended:

1. Maps and diagrams – Monkhouse F.J. and Wilkinson.
2. Fundamentals of Practical Geography – Singh R.L.
3. Fundamentals of Cartography – Mishra R.P.
4. Map Interpretation – Ramamurthy K.
5. Cartography – Robinson.
6. Practical Geography – Ashish Sarkar.
7. Practical Geography – Tiwari D.
8. Practical Geography – negi.
9. Elements of Practical Geography – Singh and Dutta.
10. Practical Geography – Gopal Singh.

V-SEMESTER

THEORY PAPER-V – ENVIRONMENTAL GEOGRAPHY

[COMPULSORY PAPER]

Unit-I	1. Definition, Scope and Content of Environmental Geography. 2. Environment – Definition and Components.	6 hrs
Unit-II	1. Concept of Eco-System, Structure and Functioning of Ecosystem, 2. Biogeochemical cycles- Hydrological cycle, Nitrogen cycle and carbon cycle.	12 hrs.
Unit-III	1. Biomes – Meaning and types. Distribution of major biomes in the World [equatorial to polar]	12 hrs.
Unit-IV	1. Environmental pollution – Air, water; land and noise, Environmental Impact Assessment (EIA). 2. Environmental hazards – floods, drought, cyclones, earthquakes and volcanoes. Natural hazards reduction and management.	15 hrs.
Unit-V	1. Man and atmospheric environment – Creation, depletion and maintenance of ozone layer, Greenhouse effect, Global warming, Acid rain. 2. Role of United Nations and national Organizations in the protection of the global environment.	15 hrs.

Books Recommended:

1. Environmental Geography – Savindra Singh.
2. Geography and Man's Environment – Strahter A.N. and Strahler A.H.
3. Environmental Geography – Saxena H.M.
4. Fundamentals of Ecology – Odum E.P.
5. An introduction to our earth and environment- Singh J. and Singh D.N.
6. Man and his environment – An Ecosystem Approach – Smith R.L. Harper and Row.
7. Bio-Geography – Robinson A.
8. Environment Geography – Sinha S.P.
9. Environment Pollution – Consequences and measures – Chaurasia, B.P.
10. Environmental Pollution – Katyal T.

Kannada Version:

1. 'Parisara' – Shivaramakarantha.
2. Hasiru Namma Usiru – Veerappa, K.M.
3. Kannada publications of Karnataka Council for Science and Technology ITSC, Bangalore.
4. Hasiru Honnu- Swamy. B.G.L.

V-SEMESTER

PRACTICAL PAPER-V MAP PROJECTION-I

[CYLINDRICAL AND CONICAL GROUPS]

Unit-I Definition, Classification and Importance

Unit-II Cylindrical projections.

a) Simple cylindrical equidistant.
b) Cylindrical equal area.
c) Mercators.

Unit-III Conical projections

a) 'one' standard parallel.
b) 'Two' standard parallel.
c) Bonne's projection.
d) Polyconic projection.

Note: [The above projections to be dealt with construction properties and uses]

Books Recommended:

1. Map Projection – Salar Masood. M.
2. Map Projection – George P. Kellaway
3. Map Projection – Enyat Ahmed.
4. Map Projection – Streers J.A.
5. Map Projection – Methuen and Co. London.
6. Practical Geography – Nanjannavar and Karennarar.
7. Practical Geography – R.L. Singh.
8. Practical Geography – Negi.

Kannada Version:

1. Prayogika Bhugola Shastra – Nanjannavar and Karennavar.
2. Prayogika Bhugola Shastra – Mallappa.P.

V-SEMESTER

THEORY-PAPER-IV - GEOGRAPHY OF TOURISM

[OPTIONAL PAPER]

Unit-I 1. Tourism – Origin, Development and Significance of Tourism
2. Types of tourists – Domestic and Foreign. — 10 hrs.

Unit-II Factors influencing Tourism
a) Physical factors.
b) Economic, Commercial and Socio-Cultural factors.
c) Political factors.
d) Role of Government. — 12 hrs.

Unit-III Tourism Infrastructure
Resorts, Hotels, Transport Communication, comparison of West with India. — 12 hrs.

Unit-IV Tourism Planning and Development.
a) Transport.
b) Marketing
c) Advertisement.
d) Hospitality. — 12 hrs

Unit-V Tourism Development in India.
a) Tourism Potential – Major tourists Centers of India.
b) Trend of Tourism Development in India.
c) Importance of Tourism in the Economy of India.
d) Problems and Prospects of Tourism in India. — 14 hrs.

Books Recommended:

1. Tourism Development – Principles and Practices – Bhatia, A.K.
2. A Geography of Tourism - Robinson, H.
3. Tourism in India. History and Development- Bhatia, A.K.
4. Successful Tourism Planning and Management, New Delhi, Cross Section Publications, Seth, P.N.
5. 'Tourism Blessing or Blight – Young George.
6. 'Hindu' Survey of Indian Environment' Since 1991, Hindu Annual Publications, Chennai.

Kannada Version:

1. 'Karnataka Pravasodyama – Ondu Bhougolika Chintane' – Wodeyar, A.K.
2. 'Parisara' – Dr. Shivaramakarantha.

V-SEMESTER

THEORY PAPER-VI- REGIONAL GEOGRAPHY OF ASIA – EXCLUDING INDIA [OPTIONAL PAPER]

Unit-I
1. Asia in the context of the World.
2. Physical features, major river system, climate vegetation and soil

12 h

Unit-II
1. Mineral resources – Iron, Ore, Manganese.
2. Power Resources – coal, Petroleum, Hydroelectricity.

10 hr

Unit-III
1. Agriculture – Geographical distribution and production of Crops – rice, sugarcane, tea, cotton, rubber.
2. Industries – Factors of Location, distribution and production of – Iron and Steel, cotton textile, automobiles.

14 hr

Unit-IV
1. Transport – Modes of transport and their network of roads, railways – Trans-sibrian; Waterways; Airways.
2. Major international ports – Karachi, Colombo Rangoon, Seoul, Djakarta, Dubai.

12 hrs

Unit-V
1. Human Resource – Growth, Distribution, Density.
2. Geographical account of the countries.
   a) China
   b) Japan

12 hrs.

Books Recommended:

1. Geography of Asia – Dudley Stamp.
2. Asia's Land and People – Cressey.
3. The pattern of Asia – Ginsbury. N.
4. Japan – Trewartha.
5. Far East – Nall
6. South East Asia – Fisher C.A.
7. The Middle East – Fisher W.B.
8. Geography of Asia – Shivakumar Tiwari.
9. Monsoon Lands of Asia – Rawson, B.C.
10. South Asia – Joseph, B.L.C.

Kannada Version:

1. Manava Bhogola Shastra – Ranganath and Mallappa P.
2. Manava Bhogola Shastra – Nanjannavar.
3. Asia Pradeshika Bhogolashastra – Ranganatha.
4. Geography of Asia – Mahadevappa.

V-SEMESTER

PRACTICAL PAPER-VI – BASIC STATISTICS

Unit-I
1. Definition, Scope and Importance of Statistics.
2. Methods of Data Collection
   a) Primary and Secondary
   b) Census and Sampling

12 hrs.

Unit-II Measures of Central Tendency
   a) Mean
   b) Median
   c) Mode.

18 hrs.

Unit-III Measures of Dispersion.
   a) Mean Deviation.(both for grouped & ungrouped data)
   b) Standard Deviation

12 hrs.

Books Recommended:

1. Statistical Methods in Geographical Studies – Rajesh Publications, New Delhi, 1977, Aslam Mohamod.
2. Elements of Practical Geography – Kalyani Publishers, 1992 – Singh R.L.
3. Techniques of Map – Toyin, P and Newby.
4. Fundamentals of Statistics – Elhance D.N.
5. Statistical Methods and the Geographer – Gegory S.
6. A Text Book of Practical Geography – M. Istiq.
7. P. Quantitative Techniques in Geography – Hammond R. and Macallagh.
8. Quantitative Methods in Human Geography – Yeates M.
9. Moda Sankya Sasthra- Renukarya. C.N.
10. Moda Sankya Sastra- Najannavar.S.S.

VI-SEMESTER

THEORY – PAPER-VII – GEOGRAPHY OF INDIA [COMPULSORY PAPER]

Unit-I
1. Location, size, frontiers, Physical features, drainage system and climate.
2. Soil and Forest Resources.

10 h

Unit-II
1. Irrigation – Types; Multipurpose projects – Bhakra-Nangal, Damodar Valley Corporation.
2. Agriculture –

   Major Food Crops – (i) Rice; (ii_ Wheat

   Major Industrial Crops – (i) Sugarcane; (ii) Cotton.

   Major Beverage Crops – (i) Tea; (ii) Coffee.

14 h

Unit-III
1. Mineral Resources – Iron Ore, Manganese, Mica.
2. Power Resources – Coal, petroleum and Hydroelectricity.

12 h

Unit-IV
1. Industries – Iron and Steel, Cotton Textile, Sugar, Fertilizers.
2. Transport – Roads, Railways, Waterways [Inland waterways), Airways.

12 hr

Unit-V
1. Foreign Trade – Past and Present Trends, Major Ports – Mumbai, Kolkota, Chennai, Cochin.
2. Human Resource – Growth, Density and Distribution. Problems of Population and remedial measures.

12 hr

Books Recommended:

1. Economic and Commercial Geography of India – C.B. Mamoria.
2. Economic Geography of India – Dubey and Negi.
3. Geography of India – Gopal Singh.
4. Economic Geography – Prithvish Nag. Roy.
5. A New Approach to Economic Geography 0- Guha and Chattoraj.
6. Economic and Commercial Geography of India – Sharma and Countiho.
7. Economic Geography of India – Kamlesh patiwals.
8. Regional Geography of India – Singh R.L.

Kannada Version:

1. Bharathada Arthika Bhugola Shasthra – P. Mallappa.
2. Bharathada Arthika Bhugola Shasthra – Nanjannavara.S.S.
3. Bharathada Arthika Bhugola Shasthra – Dr. Ranganath

VI-SEMESTER

PRACTICAL PAPER-VII – MAP PROJECTION-II

(ZENITHAL AND CONVENTIONAL GROUPS OF PROJECTION)

Unit-I Zenithal Projection (Polar cases)

a) Zenithal equidistant.
b) Zenithal equal area.
c) Zenithal Gnomonic
d) Zenithal Orthographic.
e) Zenithal Stereographic — 24 hrs.

Unit-II Conventional Projections.

a) Sinusoidal projections
b) Mollweide's projections — 12 hrs.

Unit-III Choice of Map Projection — 6 hrs.

Note: The above projection should be dealt with Construction, Properties and uses.

Books Recommended:

1. Map Projection – Salar Masood
2. Map Projection – George, P. Kellaway
3. Map Projection – Enyal Ahamed
4. Map Projection – Steers J.A.
5. Map Projection – Mathenen & Co., London
6. Practical Geography – Nanjannavar S.S. and Karanvar.
7. Practical Geography – R.L. Singh
8. Practical Geography- Negi.

Kannada Version:

1. Prayogika Bhogulashastra – Nanjanavar and Karawar.
2. Prayogika Bhogolashastra – Mallappa

VI-SEMESTER

THEORY-PAPER-VIII –ECONOMIC GEOGRAPHY OF THE WORLD [OPTIONAL PAPER]

Unit-I
1. Field and Scope of Economic Geography
2. Man and Environment – Study of Environmental factors and their influence on the Economic activities.

10 h

Unit-II
1. Soil Resources-Types, distribution, Conservation, and soil-profile.
2. Marine Resources – Major Fishing Groups of the World, Production and Trade.

10 h

Unit-III
1. Mineral Resources – Distribution, Production and Trade of Iron ore, Manganese, Bauxite.
2. Power Resources – Distribution, Production and Trade of Coal, petroleum, atomic minerals.

15 hr

Unit-IV
1. Agricultural Resources – Distribution, Production and trade of wheat, cotton, sugar-cane, coffee.
2. Major Manufacturing Industries, Iron and Steel, Cotton Textile and ship building.

15 hr

Unit-V
1. Transportation – Mode of transportation – trans – continental roadways and railways.
2. Major ocean routes – North Atlantic Oceanroute Suez and Panama canals. Major Ports-Shanghai, Singapore, Sydney & New York.

10 hrs

Books Recommended:

1. Economic Geography – Alaxander, J.V.
2. Economic Geography – Jones C.F. and Darkenwald E.B.
3. Economic and Commercial Geography – Khanna & Gupta.
4. A new Approach to Economic Geography – Guha and Chattoraj.
5. Fundamentals of Economic Geography – Bangston and Van Royen.
6. Handbook of Economic Geography - Chisolm.
7. Economic and Industrial Geography –Smith and Russel.
8. World Resources and Resource Trade – Khanna & Gupta.
9. Economic and Commercial Geography – Chowdhari M.R.

Kannada Version :

1. Prapancha Arthika Bhugola Shastra – P. Mallappa.
2. Prapancha Arthika Bhugola Shastra – S.S. Nanjannavar.

VI-SEMESTER

THEORY-PAPER-VIII REGIONAL GEOGRAPHY OF NORTH AMERICA [OPTIONAL PAPER]

Unit-I	Location, size, & Frontiers of North America. Physical Features, Climate, Drainage, Vegetation and Soil	15 hrs.
Unit-II	Agriculture – Characteristics of American Agriculture Agricultural regions of North America – Special reference to cotton belt and corn-belt of Prairie provinces.	10 hrs.
Unit-III	1. Mineral Resources – Iron ore, Manganese. 2. Power Resources – Coal, Petroleum	10 hrs.
Unit-IV	1. Industries – Distribution, factors of location, and production of iron and steel, cotton, textile, automobiles. 2. Fisheries – Distribution, Production and Trade	10 hrs.
Unit-V	1. Transport and International Trade, Modes of Transport, Network – Roads, Railways, Waterways and Airways. 2. Population – Growth, Distribution and Density.	15 hrs.

Books recommended:

1. Regional landscapes of United States of America and Canada – Birdsall, S.S.
2. North America - Patterson, J.H.
3. North America – Monkhonse F.J. and Clain.
4. North America – Smith J. Russels and Philips M.D.
5. North America – Its countries and Regions – Watson J.W.
6. Canada: A Geographical Interpretation – Warkentia, Joha.
7. Economic Geography – Alexander J.W.

VI. – SEMESTER

PRACTICAL PAPER-VIII – FUNDAMENTALS OF GIS, REMOTE SENSING AND COMPUTER GRAPHICS

Unit-I Fundamentals of GIS, Meaning of GIS, Components of GIS, Recent trends in GIS. 12 h

Unit-II Remote Sensing – Meaning, Definition Principles of Remote Sensing, Stages in Remote Sensing. 12 h

Unit-III Representation of Socio-Economic Data its means of Computer Graphics.

a) Line graph b) Bar graph

c) Pie graph d) Compound bar graph

18 h

Books Recommended:

1. Principles of Geographic Information System for Land Resources assessment – Burroughs P.A.
2. The ABC's of Internet – Cristian Crumtish.
3. Computers Today – Sanders B.H.
4. Terrain Analysis in Remote Sensing – John R.G.& Townshed
5. Internet for Everyone – Leon Vikas Publication.
6. Fundamentals of Computer- Raja Raman V.
7. Introduction to Environmental Remote Sensing – Barret E.G.
8. Manual of Remote Sensing – Reemios Riffer (ed.).
9. Remote Sensing and its applications – DOI R.D.
10. Remote sensing in Geographic Information System – Anji Reddy. M.
11. Concepts and Techniques of Geographic Information system – C.P. LO, Albert K.W. Yeung.