UG PROGRAM (4 Years Honors)

CBCS - 2020-21

B.A/ B.Sc
GEOGRAPHY

Syllabus and Model Question Papers

TABLE OF CONTENTS

Note: BOS shall provide final soft copy in pdf and word formats and four copies of hard copies in bounded form to the office of Dean academic affairs.

1. Resolutions of the Board of Studies

Meeting held on : Dt. 21.01.2021
Time : 10 am
Venue : Adikavi Nannaya University Campus

Agenda: To discuss and finalize the course syllabus for B.A./ B.COM./ B.Sc./ B.Voc. program (4 years Honors) 2020-21A.Y. onwards

Members present:

Dr. K. Nooka Ratnam	Chairman	
Sri. G. Bhaskar Rao	Convener	
K. Ganga Bhavani	Member	
Dr. K. Samuel Peter	Member	

Resolutions:

1. The BOS has reviewed the content of syllabus and agreed to implement the same.
2. The BOS has prepared the model question Courses and recommended for implementation.
3. The details of the Course titles and credits were reviewed and approved.
4. The points concerning (2a) Proposed combination of subjects, (2b) Student eligibility for joining, (2c) Faculty eligibility for teaching, (2f) Instruments/software/ computer requirements were discussed (2g) List of Suitable levels of positions eligible in the Govt. / Pvt. organizations (2h) List of Govt. / Pvt. organizations for employment opportunities or internships or projects were discussed and recommended for implementation.
5. The points related to the program objectives, outcomes, co-curricular and assessment methods were discussed and recommended for implementation.

2. DETAILS OF COURSE TITLES & CREDITS

Sem.	Course No.	Course Name	Course type (T/L/P)	Hrs./ Week (Arts:5+2 &Science4+2)	Credits (Arts:4 +1 &Science:4+1)	Max. Marks Cont/ Internal/Mid Assessment	Max. Marks Sem- end Exam
I	1	Physical Geography	T	5	4	25	75
		Study of Weather and Climate Lab	L	2	1	-	50
II	2	Human Geography	T	5	4	25	75
		Elements of Mapping Lab	L	2	1	-	50
III	3	Economic Geography	T	5	4	25	75
		Surveying and Socio-Economic Village Survey Lab	L	2	1	-	50
IV	4	Geography of India	T	5	4	25	75
		Geography of India Lab	L	2	1	-	50
	5	Introduction toRemote Sensing & Geographical Information Systems	T	5	4	25	75
		Introduction toRemote Sensing & Geographical Information Systems Lab	L	2	1	-	50

Note: *Course type code: T: Theory, L: Lab, P: Problem solving

a. Proposed combination of subjects:
   1. Geography, Geology, Computer Science
   2. Geography, Geology, Physics
   3. Geography, Geology, Chemistry
   4. Geography, Maths, Computer Science
   5. Geography, Maths, Physics
   6. Geography, Social Work, Politics
   7. Geography, Economics, History
   8. Geography, Maths, Economics

b. Student eligibility for joining the course:

   The **eligibility criteria** for the **course** is to complete (10+2) Secondary and Higher Secondary **course** with a minimum of 50% marks from a recognised board.
   In case of reserved category (SC / ST / OBC / PH candidates), relaxation of 5% marks or equivalent grade is given as per UGC guidelines.

c. Eligibility of Faculty for teaching the course:
   Post Graduation in concerned subject with minimum of 55% Marks from any govt. recognized college or university. NET/SLET/Ph.D. Preferable.
   In case of reserved category (SC / ST / OBC / PH candidates), relaxation of 5% marks or equivalent grade is given as per UGC guidelines.

d. List of Proposed Skill enhancement courses with syllabus, if any

e. Any newly proposed Skill development/Life skill courses with draft syllabus and required resources

f. Required instruments/software/ computers for the course (Lab/Practical course-wise required i.e., for a batch of 15 students)

Sem. No.	Lab/Practical Name	Names of Instruments/Software/ computers required with specifications	Brand Name	Qty Required
1	Remote Sensing and GIS Lab	Intel i7 with 8GB RAM 1TB HD	Dell / HP / Samsung	15
2	Cartographic Techniques in Geography	Plane Table, Dumpy Level, Chains and Tapes, Level Staffs, Prismatic Compasses and Clinometers, Theodolites, GPS	Leica Geosystems	2No. Each

g. List of suitable level of positions eligible in the Govt. / Pvt. organizations

   Suitable level of positions for these graduates either in industry/govt. organization like., technical assistants/ scientists/ school teachers., clearly define them, with reliable justification

S.No.	Position	Company/ Govt. organization	Remarks	Additionalskills required, if any
1	Geography Teacher, Surveyor, Urban Planner, Cartographer, GIS specialist, Environmental Management specialist, Climatologist, Demographer, Researcher, Geo Analyst Trainee, and so on.	Census department, Revenue departments, Planetariums, Local Government, Universities, Private Companies, the Armed Forces, Environmental Protection Agencies, Environmental		
		Consultancies, Charities, Education Authorities, Information Systems Organizations, Forest Department, etc.		

h. List of Govt. organizations / Pvt companies for employment opportunities or internshipsor projects

S.No	Company/ Govt organization	Position type	Level of Position	Internships	Projects	Field Training
1	GSI	Surveyor, Analyst	Class-III	YES	YES	YES
2	MRO	Surveyor, Analyst	Class-III	YES	YES	YES
3	NGRI	Data Analyst	Class-III	YES	YES	YES
4	APSAC	Data Analyst	Class-III	YES	YES	YES
5	NRSC	Data Analyst	Class-III	YES	YES	YES
6	Census of India	Data Analyst	Class-III	YES	YES	YES
7	NIC	Data Analyst	Class-III	YES	YES	YES
8	Dept. of town planning	Surveyor, Analyst	Class-III	YES	YES	YES
9	Dept. of Revenue Survey, Settlements and Land Records	Surveyor, Analyst	Class-III	YES	YES	YES

a. Any specific instructions to the teacher /Course setters/Exam-Chief Superintendent

3. Program objectives, outcomes, co-curricular and assessment methods

B. Sc. /B. A.	Geography

1. Aim and objectives of UG program in Subject:

- Geography is a mixture of social and physical sciences which combines the study of the physical properties of the planet with a focus on societies and how they interact.
- BSc Geography focuses on Physical geography which includes the climate, atmosphere, ecosystems and natural processes of the Earth including tectonic plates, glaciers, erosion, and volcanology.
- It is a three-year undergraduate programme in the domain of Earth Sciences which provides theoretical and practical knowledge.
- It extends basic knowledge of human geography, economic geography, physical geography, maps and scales.
- It involves field trips, providing fieldwork to immerse students in local environments so that lessons learned in class can be implemented.
- Modules may include river topics, ecology, environmental engineering, physical environment, climate change policy, modern city building, political geography and geopolitics, economic geography, coastal and marine ecosystems, environmental hazards, urban planning and energy resources.

2. Learning outcomes of Subject

After completing the course, the candidates can work as Urban Planner, GIS Specialist, Cartographer, Environmental Management specialist, Surveyor, Climatologist and so on. The top recruiters are Planetariums, local government, universities, private companies, and so on.

The average annual salary for BSc Geography candidates stands in the range of INR 2,00,000 to INR 8,00,000 per annum and increases with the candidate's experience and skill sets.

If the candidates want to go for higher studies after completing this course, then they can pursue an **MSc Geography** after successfully completing BSc Geography.

3. Recommended Skill enhancement courses: (Titles of the courses given below and details of the syllabus for 4 credits (i.e., 2 units for theory and Lab/Practical) for 5 hrs class- cum-lab work

4. Recommended Co-curricular activities:(Co-curricular Activities should not promote copying from text book or from others' work and shall encourage self/independent and group learning)

A. Measurable:

1. Assignments on:
2. Student seminars (Individual presentation of Courses) on topics relating to:
3. Quiz Programmes on:
4. Individual Field Studies/projects:
5. Group discussion on:
6. Group/Team Projects on:

B General

1. Collection of news reports and maintaining a record of Course-cuttings relating to topics covered in syllabus
2. Group Discussions on:
3. Watching TV discussions and preparing summary points recording personal observations etc., under guidance from the Lecturers
4. Any similar activities with imaginative thinking.

5. Recommended Continuous Assessment methods: Field Work, Seminars, Group Discussions etc.,

5. Details of course-wise Syllabus

B.Sc./B.A.	Semester: I	Credits: 4
Course: 1	Physical Geography	Hrs/Wk: 5

1. Aim and objectives of Course (**Physical Geography**):

To learn about 1) Types of rocks, Earth Movements, Volcanoes, of Theory of Continental Drift, 2) Weathering and erosion processes, 3) Origin and composition of Atmosphere, 4) Types of precipitation 5) Land and water distribution.

Learning outcomes of Course (in consonance with the Bloom's Taxonomy):

After completion of Course student will learn Physical factors of the Earth system like earthquakes, volcanoes, atmosphere, climate, weathering processes types of precipitation, distribution of land and water.

UNIT I:
Definition, Nature, scope of Physical Geography, Classification of rocks.Earth Movements; organic, epeirogenic, earth quakes and volcanoes.Wegner 's theory ofcontinental drift and plate tectonic theory.

UNIT II:
Weathering: causes and its types. Mass – movements; causes, its types and impacts.Concept of cycle of erosion; cycle of erosion by W.M. Davis.Process ofWind, River, Underground water, Glaciers and Sea waves.

UNIT III:
Weather and Climate; Origin, composition and structure of atmosphere. Insolation, Horizontal and vertical distribution of temperature, inversion of temperature.Atmospheric pressure- measurement and distribution, pressure belts, planetary winds, Monsoon and Local winds

UNIT IV:
Humidity- measurement and variables, evaporation, condensation, precipitation forms and types and distribution.Climate classification by Koppen.

UNIT V:
Configuration of oceanic floors, Temperature and Salinity of ocean, Land and water distribution. Tides, waves and ocean currents.

RECOMMENDED TEXT BOOKS:

1. Sharma H.S.Perspective in Geomorphology , Concept , New Delhi 1980.
2. Singh Savinder,Geomorphology,PrayagPublication, Allahabad 1998.
3. Singh Savinder, Physical Geography PrayagPublication,Allahabad, 1998.
4. Sparks B.W. Geomorphology, Jojngman, London ,1960.
5. Thornbury W.D. 1969 principles of Geomorphology, New York, John Wiley & Sons.
6. Barry, RG and Chorley R.J., Atmosphere, Weather and Climate, Routledge, 1998.
7. Critchfield, H., General Climatology, Prenticc-Hall of India, 2002.

REFERENCE BOOKS:

1. King, C. Oceanography for Geographers, Edward Arnold, London, 1975.
2. Trewartha, GT: An Introduction to Climate, Mc-Graw Hill, New York, 1981.
3. Trewartha, G.T., The Earth's Problems Climates, University of Wisconsin Press,USA.

MODEL QUESTION COURSE

B. Sc /B.A DEGREE EXAMINATION
SEMESTER: I
Course 1: Physical Geography

Time: 3Hrs. Max. Marks: 75

Section - A

Answer any 5 question. **5X5 = 25M**

1. Inversion of temperature .
2. Crust topography
3. High salinity areas
4. Ocean Currents
5. Continental shelf
6. Merits of Tids and Waves
7. Troposphere
8. Currents of Gulf streams

Section – B

Answer all the questions each question carries 10 marks 5x10=50 Marks

9. a)Explain the continental drift theory

(or)

b)Explain interior of earth

10. a)Structure and composition of Atmosphere

(or)

b)Describe the atmospheric pressure and write about the world atmospheric pressure belt.

11. a)Describe the planetary wind system

(or)

b)Write an essay on salinity

12. a) Briefly explain ocean movements and discuss the details the oceanic tides

(or)

b)Discuss the glacial land forms .

13. a)Give an account of the land forms resulting from weathering

(or)

b)Write about the humidity and precipitation forms.

8. Details of Lab/Practical/Experiments/Tutorials syllabus:

B.Sc./B.A.	Semester: I	Credits: 1
Course: 1	Practical : Study of Weather and Climate	Hrs/Wk:2

Objectives

To learn about th ther, measuring of weather conditions, instruments, interpretation ofweather reports and Weather Forecasting.

Weather Reports – Definition and applications

Use of Weather Instruments- Wet & Dry Bulb Thermometer, Barometer
Wind-Vane, Rain Gauge.
Study of Weather Symbols and Interpretation of Indian Daily Weather Reports of January &July.
Weather Forecasting.

Learning Outcome

After completion of the Course the student will learn about weather reports, instruments to study weather and climate, interpretation of weather reports and applications of weather forecasting.

Suggested readings:

1. Allen,P.D. :-Environment & Development
2. Gerasimov: Ecology & Geography
3. Kayastha, S.L. :-Fundamentals of Environmental Studies
4. Khushoo, T.N. :-Environment and Sustainable Development of India
5. Singh, J. :-VatavaranNiyojanaumSamvikas
6. Singh, Savindra :-Environmental Geography(Hindi & English)
7. Shrivastava, V.K. & Rao, B.P. :- Paryavaran Evam Paristhitiki

MODEL QUESTION COURSE-Practical

B. Sc /B.A DEGREE EXAMINATION
SEMESTER: I
Practical :Study of Weather and Climate

Time: 3Hrs. Max. Marks: 50

Draw any **TWO** of weather instrument 2x15= 30 Marks

1. Wet and Dry Bulb
2. Rain Guage
3. Wind – Vane

II. Draw the any **TEN** weather symbals 10 Marks

III. Record 10 Marks

B.Sc /B.A	Semester: II	Credits: 4
Course: 2	HUMAN GEOGRAPHY	Hrs/Wk: 5

Objectives: To learn about 1) Spatial distribution of race, 2) Human adaptation of environment, 3) Classification of Natural resources, 4) World population density, populationgrowth 5) Rural settlements.

Learning Outcome

After completion of the Course student will learn about the Human race spatial distribution, adaptation of environment, world population density, population growth and Rural settlements.

UNIT I:

Nature scope and Historical development of Human Geography. Division of Mankind: Spatial distribution of race and tribes of India.

UNIT II:

Human adaptation to the environment (i) Cold region — Eskimo (ii) Hot region- Bushman (iii) Plateau — Gonds (iv) Mountains — Gujjars.

UNIT III:

Meaning, nature and components of resources; Classification of resources — renewal and non-renewable ; biotic and abiotic, recyclable and non recyclable

UNIT IV:

Distribution and density of world population, population growth, fertility and mortality patterns. Concept of over, under and optimum population; Population theories: Malthus.

UNIT V:

Rural settlements: Meaning, classification and types. Urban settlements: Origin, classification. Population pressure, resource use and environment degradation;

SUGGESTED READINGS:

1. Alexander, John. W. : Economic Geography, Prentice Hall of India Ltd., New Delhi, 1988
2. Carr, M. Patterns: Process and Change in Human Geography, McMillan Education, London, 1987.
3. Chandna, R.C. : A Geography of Population : Concepts, Determinants and Patterns, Kalyani Publishers, New Delhi, 1986.
4. DeBlij, H. J.: Human Geography, Culture, Society and Space, John Wiley, New York. 1996.
5. Fellman, J.L. : Human Geography-Landscapes of Human Activities, Brown and Benchman Pub., USA, 1997.
6. McBride, P.J. Human Geography; Systems Patterns and Change, Nelson. UK and Canada, 1996.
7. Michael, Can: New Patterns : Process and Change in Human Geography, Nelson, 1996.

MODEL QUESTION COURSE

B. Sc /B.A DEGREE EXAMINATION
SEMESTER: II
Course 2: Human Geography

Time: 3Hrs. Max. Marks: 75

Section - A

Answer any five of the following 5x5=25 Marks

1. conservation of Resources .
2. Pigmis
3. High Density Areas
4. Resources – Resistances
5. Gonds and Gujjars
6. Man and environment
7. Tribes in India
8. Malthus

Section – B

Answer All the Questions 5x10=50 Marks

9. a)Define the classify the resources write a note on conservation of resources

(or)

b)Write about the Eskimos in cold regions

10. a)Define Human Geography and explain its scope and importance

(or)

b)Write about the different types tribes distributed in India

11. a)Discuss the world population growth

(or)

b)Rural settlements and explain their classification

12. a)What is urbanization discuss various urban activities in the world.

(or)

b)Distribution of density of world population

13. a)Write a geographical essay on distribution of population in India.

(or)

b)Write about the Malthus theory.

PRACTICAL SYLLABUS

B.Sc./B.A.	Semester: II	Credits: 1
Course: II	Practical : Element of Mapping	Hrs/Wk:2

1. Conventional signs.
2. Representation of Topographical features by contours

   Slopes (concave, convex, undulating and terraced)

   Valleys (V shaped, U shaped, Gorge-Re-entrant)

   Ridges (Conical Hill, Volcanic Hill, Plateau, Escarpment)

   Complex features (Waterfall, see cliff, Overhanging clips Tiord coast)

MODEL QUESTION COURSE-Practical

B. Sc /B.A DEGREE EXAMINATION
SEMESTER: II
Practical: Elements of Mapping

Time: 3Hrs. Max. Marks: 50

I. Draw any **TEN** conventional symbols 10x1= 10 Marks

II. Draw the below topographical features by contours 30 Marks

a) "V" Shaped valley b) Conical hill

c) Cliff d) pleatue

e) Ridge f) Escarpment

g) Concave h) Convex

i) "U" Shaped valley j) Volcanic hill

III. Record 10 Marks

B. Sc. /B. A.	Semester: III	Credits: 4
Course: III	Economic Geography	Hrs/Wk: 5

Objectives: To learn about 1) Classification of economic geography, 2) Agriculture Vonthunen Theory, Webar's Industrial theory, 3) Spatial distribution of food 4) Classification of Industries, 5) Trade and transport.

Learning Outcome

After completion of the Course student will learn about the Economic Geography, classification, Agriculture theory and Industrial theory, Spatial distribution of food, classification of industries, Trade and transport.

UNIT I:

Nature, scope and relationship of economic geography with economics and otherbranches of social sciences. Classification of economic activities

UNIT II:

Factors affecting location of economic activity with special reference to agricultureVonthunen Theory. We bar's industrial theory.

UNIT III:

Spatial distribution of food (rice and wheat), commercial (cotton and sugarcane) and plantation crops (tea, rubber and coffee). Ferrous and non-ferrous resources, distributionand production of coal, iron ore, petroleum and natural gas.

UNIT IV:

Classification of Industries, world distribution and production of iron and steel andtextile industry.

UNIT V:

Transport, communication and trade: Land and air transport, recent trends ininternational trade.

SUGGESTED READINGS

1. Hartshorne TN and Alexander JW. 1988. Economic Geography, Prentice Hall, New Delhi.
2. Jones CF and Darkenwald GG. 1975. Economic Geography Mc. Millan Company, New York.
3. Thomas, RS 1962. The Geography of Economic Activities. McGraw Hill, New York.
4. Wheeler J et al. 1995. Economic Geography. John Wiley, New York

MODEL QUESTION COURSE

B. Sc /B.A DEGREE EXAMINATION
SEMESTER: III
Course 3: Economic Geography

Time: 3Hrs. Max. Marks: 75

Section - A

Answer any five of the following 5x5=25 Marks

1. Primary activities
2. Impact of economic activities about the environment
3. Distribution of sugar cane
4. Alfred Weber
5. Rubber
6. Iron and Steel Industry
7. Coal types
8. Airways

Section – B

Answer All the Questions 5x10=50 Marks

9. a)Define nature and scope of Economic Geography

(or)

b)Write about the Alfred Weber theory

10. a)Write about the Geographical features of Paddy Crops

(or)

b)Write about the commercial crops Tea and Coffee

11. a)Write about the distribution of wheat in the world

(or)

b)Write about the cotton textile industry in the world

12. a)Discuss about the water ways in the world

(or)

b) Write about oil deposits in the world

13.a)Discuss about the Railway Net Work in the world

(or)

b)Write about the Iron types and distribution.

Practical Syllabus

B.Sc./B.A.	Semester: III	Credit:1
Course: III	Practical : Surveying and Socio-economic Village Survey	Hrs/Wk:2

1. Chain Survey
2. Plain Table Survey
3. Prismatic Compass Survey
4. Socio – Economic Village Survey.

MODEL QUESTION COURSE-Practical

B. Sc /B.A DEGREE EXAMINATION
SEMESTER: III
Practical: Surveying and Socio EconomicVillage Survey

Time: 3Hrs. Max. Marks: 50

I. Answer any one the following 1x20= 10 Marks

1. Chain Survey
2. Prismatic compass Survey

II. Viva voice on Village Survey 20 Marks

III. Record 10 Marks

B.Sc. /B. A.	Semester: IV	Credits: 4
Course: 4	GEOGRAPHY OF INDIA	Hrs/Wk: 5

Objectives: to learn 1)topography, soils, drainage system 2) Population density, human settlements, urbanization 3) Agriculture, energy and minerals resources 4) Industrial development 5)Trade and transport system in India.

Learning outcome

After completion of the Course, the student will learn about different physical, anthropogenic features, mineral wealth and features agriculture, industries and trade and transport systems in India

UNIT I:

India: Location, relief structure and drainage systems.Climate, Soils, naturalvegetation.

UNIT II:

Population: distribution, density, growth and composition.Migration, humansettlement types and urbanization.

UNIT III:

Land resources, irrigation, Green revolution and problems of Indian agriculture. Energy and mineral resources: coal, petroleum, hydroelectricity and nuclear energy, iron ore, manganese and mica.

UNIT IV:

Industries- iron and steel, cotton textile, sugar and petrochemical industries; and industrial regions of India.

UNIT V:

Modes of transport and communication, international trade changing pattern of exportand import.

SUGGESTED READINGS:

1. Deshpande, C D: India – A Regional Interpretation, Northern Book Depot, NewDelhi, 1992.
2. Singh, Gopal: Geography of India, Atma Ram and Sons,2006.
3. Shafi, M: Geography of South Asia, McMillian and company, Calcutta, 2000.
4. Singh, R L (ed): India: A Regional Geography, National Geographical Society, India, Varanasi,1971.
5. Spate, D H K and ATA Learmonth: Indian and Pakistan – Land, People andEconomy, Methnen and Company, London, 1967.

MODEL QUESTION COURSE

B. Sc /B.A DEGREE EXAMINATION
SEMESTER: IV
Course 4: Geography of India

Time: 3Hrs. Max. Marks: 75

Section - A

Answer any five of the following 5x5=25 Marks

1. Deciduous forest .
2. Green Revolution
3. Southwest Monsoons
4. Thermal Power
5. Petroleum Products
6. Subsistence Types
7. Soil types
8. Urbanisation

Section – B

Answer All the Questions 5x10=50 Marks

9. a) Write an essay on Aquaculture problems of India

(or)

b)Write an essay on Major Irrigation Projects of Andhra Pradesh

10. a)Discuss about the mountains system of Peninsular India

(or)

b) International Trade in India.

11. a) Explain the geographical locations , scope and India

(or)

b)Write about the cropping pattern in India

12 a)Discuss about the Cotton textile Industry in India

(or)

b)Bring out the salient features of growth pattern of population in India

13. a)Write a Geographical note on the Iron and Steel Industry.

(or)

b)Give an account of Indian Climatic conditions.

SYLLABUS

B.Sc./B.A.	Semester: IV	Credits:1
Course: 4	Practical : Cartographic Techniques	Hrs/Wk:2

Objectives

To learn about the concept, techniques and applications of Cartography.

Content

Map – Definition, Scale of map, applications.

Map Projections – classification, polar, zenithal, stereographic, Bonne's and Mercator's projections

Topographic Profiles

Toposheets – Interpretation, slope analysis

Interpretation of Weather maps (one summer, winter and monsoon seasons).

Learning Outcome

After completion of the Course, the student will learn about the importance of scale of a map, importance of map projections,preparation of map, reading and interpretation of a Toposheet and interpretation of Weather maps.

Suggested Readings

1. Anson, R., and Ormelling F. J.,(1994): *International Cartographic Association: Basic Cartographic, Vol.*Pregmen Press.

2. Singh, Gopal., (1998): *Map Work and Practical Geography (4th Edition)*, Vikas Publishing House, Ahmedabad.

3. Gupta, K.K. and Tyagi V.C.,(1992): *Working with Map*, Survey of India, DST, New Delhi.

4. Kraak, M.J., (2010):*Cartography: Visualization of Geospatial Data* (3rd edition), PearsonEducation Ltd., London.

5. Misra, R.P.,(2014): *Fundamentals of Cartography (*Second Revised and Enlarged Edition), Concept Publishing, New Delhi.

6. Monkhouse, F. J. and Wilkinson, H. R.,(1973): *Maps and Diagrams*, Methuen, London.

7. Rhind, D. W. and Taylor D. R. F., (eds.) (1989): *Cartography: Past, Present and Future*, Elsevier, International Cartographic Association.

8. Robinson, A. H.,(2009): *Elements of Cartography* (6th Edition), John Wiley and Sons, New York.

9. Sarkar, A.,(2015):*Practical geography: A systematic approach*, Orient Black Swan Private Ltd., New Delhi

10. Sharma, J. P., (2010): *PrayogicBhugol(Hindi)*, Rastogi Publishers, Meerut.

MODEL QUESTION COURSE-Practical

B. Sc /B.A DEGREE EXAMINATION
SEMESTER: IV
Practical: Cartographic Techniques

Time: 3Hrs. Max. Marks: 50

I. Answer the following questions 20 Marks

1. Definition scale of map

(or)

Draw the one standard parallel projection

II. Draw the bone projection 20 Marks

(or)

Interpretation of toposheets

III. Record 10 Marks

B.Sc. /B. A.	Semester: IV	Credits: 4
Course: 5	Introduction To Remote Sensing & Geographical InformationSystem	Hrs/Wk: 5

Objectives: To learn about the 1) Basics of Remote Sensing, 2) Basics of Aerial Photography, Advantages of Remote Sensing and Aerial Photography, 3) Basics of Geographical Information System, 4) GIS data types, GPS, 5) Remote Sensing and GIS integration.

Learning Outcome

After completion of the Course student will learn about the Remote Sensing, Aerial Photography, Geographical Information Systems (GIS), Global Positioning System (GPS) and their integration.

UNIT I:

Introduction to Remote Sensing, Definition, Basis of remote sending. Electromagnetic spectrum, stages in remote sensing. Platforms of Remote Sensing, typesof satellites. Types of Sensors

UNIT II:

Introduction to Aerial Photographs: their advantages and types. Remote sensing in India Development. Applications of Remote sensing techniques inGeographical aspects.

UNIT III:

Introduction to Geographical Information Systems: Definition, Purpose, Advantages. History of GIS. Software and hardware requirements. Classification of Software andHardware.

UNIT IV:

GIS data types: Spatial and attribute data-Raster and Vector data structure.GPS/DGPS, Definition, GNSS and GPS applications.

UNIT V :

Remote sensing and GIS integration. Application of GIS in various fields of geography.

SUGGESTED READINGS

1. John R. Jensen 2009. Remote Sensing of the Environment; An Earth Resource Perspective, Pearson Education, (Indian Edition) New Delhi.
2. Kumar Meenakshi 2001. Remote Sensing, NCERT, New Delhi.
3. Lillesand and R.W.Kiefer, 2005. Remote Sensing and Image Interpretation, John Wileyand Sons.
4. Pritvish Nag, and M.Kudrat 1998. Digital Remote Sensing, Concept Publishing Company, New Delhi.
5. M.Anji Reddy 2009. Text book of Remote sensing and Geographical Information Systems, BS Publications, Hyderabad.
6. Telugu Academy 2011. B.A./B.Sc., SuduraGrahakaSastram-BowgolikaSamacharaVyavasta.
7. M.Anji Reddy 2008. Text book of Remote sensing and Geographical Information Systems, BS Publications, Hyderabad.
8. Telugu Academy 2011. B.A./B.Sc., SuduraGrahakaSastram-BowgolikaSamacharaVyavasta.
9. Burrough P.A. 1986. Principles of Geographic Information Systems for Land Resources Assessment. Oxform University Press, New York.
10. Fraser Taylor D.R. 1991. Geographic Information System. Pergamon Press, Oxford.
11. Star J. and Estes 1994. Geographical Information Systems: An Introduction. Prentice Hall, Englewood, Cliff, New Jersey.

MODEL QUESTION COURSE

B. Sc /B.A DEGREE EXAMINATION
SEMESTER: IV
Course 5: Introduction to Remote Sensing & Geographical Information System.

Time: 3Hrs. Max. Marks: 75

Section - A

Answer any five of the following 5x5=25 Marks

1. Introduction of Remote Sensing? .
2. Arial Photography?
3. GIS software?
4. GPS data types?
5. Platforms?
6. Type of sensors?
7. Raster and Vector Data?
8. Data Capture?

Section – B

Answer All the Questions 5x10=50 Marks

9. a)Platforms of Remote Sensing types of Satellites, types of sensors?

(or)

b)GPS definition?

10. a)Application of Remote Sensing techniques in Geographical aspects?

(or)

b)Input data storage, retrieval analysis and output?

11. a) History of GIS?

(or)

b)Definition of Basis of Remote sensing electromagnetic spectrum stage in remote sensing?

12. a)Types of imageries and their application in various fields such as agriculture,environment and resources mapping?

(or)

b)Restore and vector data structure GPS definiations?

13. a)Classification of software and hardware .

(or)

b)Elements of Arial Photo interpretation?

GISSYLLABUS

B.Sc./B.A.	Semester: IV	Credits:1
Course: 5	Practical: Remote Sensing and GIS	Hrs/Wk:2

Objectives: *To learn about the 1) Remote Sensing Principles, Platforms, 2) Aerial Photography Principles, 3) GIS data structures, 4) Image processing techniques, 5) Interpretation of Remote Sensing data and application of GIS.*

1. Remote Sensing and GIS: Definition and Components, Development, Platforms and Types,

2. Aerial Photography and Satellite Remote Sensing: Principles, Types and Geometry of Aerial

Photograph; Principles of Remote Sensing, EMR Interaction with Atmosphere and Earth Surface;

Satellites (Landsat and IRS) and Sensors.

3. GIS Data Structures: Types (spatial and Non-spatial), Raster and Vector Data Structure

4. Image Processing (Digital and Manual) and Data Analysis: Pre-processing (Radiometric and

Geometric Correction), Enhancement (Filtering); Classification (Supervised and Un-supervised),

Geo-Referencing; Editing and Output; Overlays

5. Interpretation and Application of Remote Sensing and GIS: Land use/ Land Cover, Urban SprawlAnalysis; Forest Monitoring

Learning Outcome

After completion of the Course student will learn about the Remote Sensing data, platforms, Aerial Photography, GIS data structures, Image Processing and Remote Sensing and Aerial Photography data interpretation.

Suggested Readings

1. Campbell J. B., 2007: *Introduction to Remote Sensing*, Guildford Press.
2. Jensen J. R., 2004: *Introductory Digital Image Processing: A Remote Sensing Perspective*, PrenticeHall.
3. Joseph, G. 2005: *Fundamentals of Remote Sensing*, United Press India.
4. Lillesand T. M., Kiefer R. W. and Chipman J. W., 2004: *Remote Sensing and Image Interpretation*,Wiley. (Wiley Student Edition).
5. Nag P. and Kudra, M., 1998: *Digital Remote Sensing*, Concept, New Delhi.
6. Rees W. G., 2001: *Physical Principles of Remote Sensing*, Cambridge University Press.
7. Singh R. B. and Murai S., 1998: *Space-informatics for Sustainable Development*, Oxford and IBHPub.
8. Wolf P. R. and Dewitt B. A., 2000: *Elements of Photogrammetry: With Applications in GIS*, McGraw-Hill.
9. Sarkar, A. (2015) Practical geography: A systematic approach. Orient Black Swan Private Ltd.,New Delhi
10. Chauniyal, D.D. (2010) SudurSamvedanevamBhogolikSuchanaPranali, Sharda Pustak Bhawan, Allahabad

MODEL QUESTION COURSE-Practical

B. Sc /B.A DEGREE EXAMINATION
SEMESTER: IV
Practical : Remote Sensing and G.I.S.

Time: 3Hrs. Max. Marks: 50

I. Answer the following Questions

1. Remote Sensing and GIS 1x15=15 Marks
   (or)
   Areal Photography

2. GIS data structure types 1x10=10Marks
   (or)
   Raster and Vector Data Structure

3. Image Processing 1x15=15 Mark
   (or)
   Interpretation and application of Remote sensing and GIS

II. Record 10 Marks

9. Recommended Co-curricular activities:(Co-curricular Activities should not promote copying from text book or from others' work and shall encourage self/independent and group learning)

   A. Measurable:
      1. Assignments on:
      2. Student seminars (Individual presentation of Courses) on topics relating to:
      3. Quiz Programmes on:
      4. Individual Field Studies/projects:
      5. Group discussion on:
      6. Group/Team Projects on:

   B. General
      1. Collection of news reports and maintaining a record of Course-cuttings relatingto topics covered in syllabus
      2. Group Discussions on:
      3. Watching TV discussions and preparing summary points recording personal observations etc., under guidance from the Lecturers
      4. Any similar activities with imaginative thinking.

10. Recommended Continuous Assessment methods: