

Cluster University Srinagar

B. Sc. / B.A. Three-Year Semester Course Outline

2021 Onwards

B. Sc. / B.A. First Year

Semester-I

Course Code	Type	Title of the Paper	Credits
<i>GG-CR-17101</i>	Theory	Elements of Physical Geography	4
<i>GGP-CR-17101</i>	Practical	Cartography I	2
Total			6

Semester-II

Course Code	Type	Title of the Paper	Credits
<i>GG-CR-17201</i>	Theory	Philosophies and Methodologies in Geography	4
<i>GGP-CR-17201</i>	Practical	Surveying	2
Total			6

B. Sc. /B.A. Second Year

Semester-III

Course Code	Type	Title of the Paper	Credits
<i>GG-CR-17301</i>	Theory	Human Geography	4
<i>GGP-CR-17301</i>	Practical	Quantitative Techniques in Geography	2
<i>GG-SEC-17301</i>	Skill	Surveying and its Applications	4
Total			10

Semester-IV

Course Code	Type	Title of the Paper	Credits
<i>GG-CR-17401</i>	Theory	Geography of India	4
<i>GGP-CR-17401</i>	Practical	Remote Sensing Techniques	2
<i>GG-SEC-17401</i>	Skill	Mapping Techniques	4
<i>GG-SEC-17402</i>	Skill	GIS and Remote Sensing	4
Total			14

B. Sc. /B.A. Third Year**Semester-V**

Course Code	Type	Title of the Paper	Credits
<i>GG-DSE-17501</i>	Discipline Specific Elective	Economic Geography	4
<i>GG-DSE-17502</i>	Discipline Specific Elective	Geography of Tourism	4
<i>GGP-CR-17501</i>	Practical	Map Projection	2
<i>GG-SEC-17501</i>	Skill	GIS and GPS Application	4
Total			14

Semester-VI

Course Code	Type	Title of the Paper	Credits
<i>GG-DSE-17601</i>	Discipline Specific Elective	Fundamentals of disaster management	4
<i>GG-DSE-17602</i>	Discipline Specific Elective	Field Techniques & Survey Based Project Report	4
<i>GGP-CR-17601</i>	Practical	Map Projection	2
Total			10

Code: GG-CR-17101

Title: Elements of Physical Geography

Course Outcome: *The course has been designed to provide learners an understanding of Physical Geography - theories and process in geomorphology and the evolution of landforms in various environmental settings. The lesson students able to hone their scientific understanding, illustration, skill and developed themselves as self- confident coveted learner in the field of landforms study. The individuals will be able to identify, describe, create, construct and prepare different cartographic features such as maps, scales, relief and will be adept of conduct survey.*

Credit/Unit-I

1. Physical Geography and its various branches
2. Structure of Earth's interior- Seismographic evidence and analysis
3. Continental Drift Theory- Wegener's concept
4. Sea floor spreading and Plate Tectonics-Geometry of Plates

Credit/Unit-II

1. Rocks: major classification, origin and general characteristics
2. Weathering: factors, types and effects
3. Soil: process of formation, major types and distribution
4. Landforms and their formation : fluvial, karstand glacial

Credit/Unit-III

1. Climatology: definition, scope and significance
2. Composition and Structure of atmosphere
3. Insolation: factors, global heat budget
4. Atmospheric pressure, Winds: major classification (planetary, periodic and local), cyclones and anti-cyclones

Credit/Unit-IV

1. Surface configuration of ocean floors
2. Temperature and Salinity: horizontal and vertical distribution
3. Coral reefs: origin, types and distribution
4. Movement in ocean waters- tides, waves and currents

Suggested Readings

1. Singh, S.: Geomorphology, PrayagPustakalaya, Allahabad, 1998.
2. Sparks, B.N.: Geomorphology, PrayagPustakalaya, Allahabad, 1998
3. D. S. Lal, Physical Geography, ShardaPustakBhawan, 2009
4. Savindra Singh, Physical Geography, PrayagPustakBhawan, 2000
5. MajidHussain, Physical Geography, Anmol Publications Pvt. Ltd., 2007
6. S. A. Qazi, Principals of Physical Geography, AHP Publishing Co. 2004
7. Satopa Mukherjee, Understanding Physical Geography, Oriental Longman 2002
8. A. H. Strahler& A. N. Strahler, Modern Physical Geography, John Willy & sons, Inc. 2001.
9. Barry, R. G & Chorley, R.J., Atmosphere, Weather and Climate Routiedge, 1998.
10. Critchfield, H, General Climatology, Prentice Hall, New York, 1975.
11. Stringer, E.T Foundation of Climatology, Surjeet Publication, Delhi, 1982.
12. Grald, S, General Oceanography- An Introduction, John Wiley & Sons, New York, 1980.
13. King, C.A.M., Oceanography for Geographers, E Arnold, London, 1975.
14. Paul R, Pinet, Oceanography, Jones and Bartelett Publishers, 1998

Practical-2 Credits**30 Marks***Code: GGP-CR-17101**Title: Cartography-I***Credit/Unit-I**

1. Map: definition, importance and essentials
2. Scale: definition and ways of expressing scale
3. Graphical scale: importance, construction of plain, diagonal and comparative scales
4. Contours: representation of different landforms and slopes by contours

Credit/Unit-II

1. Profiles: drawing simple, serial, longitudinal and superimposed profiles
2. Line graph and bar graph: drawing of simple and compound line and bar graphs
3. Cartographic symbols: types, use of point and area symbols to represent distribution and density of population
4. Digital cartography: definition, scope and application

Suggested Readings

1. Robinson, A.H et al., Elements of Cartography, John Wiley & Sons, U.S.A., 1995.
2. Sarkar, A.K., Practical Geography: A Systematic Approach, Oriental Longman, Calcutta, 1997.
3. Singh, R.L and Dutt, P.K., Elements of Practical Geography, Kalyani Publishers New Delhi, 1979.
4. Gopal Singh, Map World and Practical Geography, Vikas Publishing House, 2000.
5. Kali Charan Sahu, Textbook of Remote Sensing and Geographic Information System, Atlantic Publishers and Distributors, 2008.
6. Khullar, D.R., Essentials of Practical Geography, New Academic Publishing Co., Jalandhar, 2013.

Course Outcome: *The course provides a broad overview of the development of geographical thought. It appreciates the diverse subject matter of Geography which has incorporated and developed theories and ideas from interdisciplinary contexts and also focuses on the evaluation of core elements which make up geographical thought and how these have emerged as a result of debate, controversy and innovations in geographical research. The course aims to enable the learners to evaluate and articulate the strengths and weaknesses in the philosophical basis of Geographical research and also equip them with the abilities to formulate and articulate their own perspectives on issues related to thought and practice in geography. The individuals will be able to identify, describe, create, construct and prepare different cartographic features such as maps, scales, relief and will be adept of conduct survey.*

Credit/Unit –I

1. The nature of Geography- A brief overview
2. Relevance and objectives of Geography
3. Major themes in Geography:
 - i. Aerial Differentiation
 - ii. Man-Environment Interaction
 - iii. Spatial Organisation
4. Dualism in Geography
 - i. Regional/Systematic
 - ii. Physical/Human
 - iii. Historical/Contemporary

Credit/Unit –II

1. Contribution of Phoenicians and Greeks (Thales, Anaximander, Erastheneis, Hecataeus, Herodotus) in Geography
2. Contribution of Romans in Geography, Dark age and its impact
3. Contribution of Arabs (Al-Biruni, Al-Masudi) in Geography
4. Schools of Thought: German school (Humboldt, Ritter and Ratzel)

Credit/Unit –III

1. Ecology: definition, scope and significance
2. Ecosystem: concept and broad types
3. Biodiversity: concept, significance and conservation
4. Ecological imbalances: causes and consequences

Credit/Unit –IV

1. Quantitative revolution in geography, its relevance and impact
2. Sampling and its types
3. Geomorphic field survey: significance and procedure
4. Socio-economic field survey: significance and procedure

Suggested Readings

- 1.** Dikshit R D: Geographical Thought -A contextual History of Ideas. Prentice Hall India, New Delhi, 2000.
- 2.** Hartshorne, Richard: Perspectives on the Nature of Geography, Rand McNally and Co., Chicago. 1959.
- 3.** Harvey, David: Explanation in Geography, Edward - Arnold London, 1972.
- 4.** Husain, Majid: Evolution of Geographical Thought, Rawat Publications, Jaipur, 1984.
- 5.** James, P E: All Possible Worlds: A History of Geographical Ideas, Sachin Publication, Jaipur, 1980.
- 6.** A.H. Strahler& A.N. Strahler, Modern Physical Geography, John Willy & sons, Inc 2001.
- 7.** M. Z. A. Khan & S.K. Agarwal, Environmental Geography, AHP Publishing Co.2010.
- 8.** S. Gupta & M. Gupta, Environmental Population and Resources, 1997.

Practical-2 Credits**30 Marks****Code: GGP-CR-17201****Title: Surveying****Credit/Unit-I**

1. Field surveying: introduction, classification and types
2. Plane table survey: accessories, procedure and precautions
3. Plane table survey: radiation, intersection and resection methods (actual field survey)

Credit/Unit-II

1. Study of General Topographic sheets of Survey of India
2. Interpretation of General Topographic sheets: relief, drainage, settlement and communication
3. One day Geomorphic field trip and report writing

Suggested Readings

1. Robinson, A.H et al., Elements of Cartography, John Wiley & Sons, U.S.A., 1995.
2. Sarkar, A.K., Practical Geography: A Systematic Approach, Oriental Longman, Calcutta, 1997.
3. Singh, R.L and Dutt, P.K., Elements of Practical Geography, Kalyani Publishers New Delhi, 1979.
4. Gopal Singh, Map World and Practical Geography, Vikas Publishing House 2000.
5. Kali CharanSahu, Textbook of Remote Sensing and Geographic Information System, Atlantic Publishers and Distributors 2008.

Course Outcome: The expected learning outcome would be; the student will be able to understand, identify and describe social, cultural and economic dynamics of society. The course is aimed to introduce the foundational skills of how to generate and display the quantitative and qualitative spatial and non-spatial data to solve Earth and Space science problems, and how to gain an appreciation for the processes that operate at these spatio-temporal scales. The students will develop hands on computer algorithms and digital image processing techniques. The course will help the students to identify the specific data and methodologies for effective mapping and evaluation of natural resources. Moreover, the application of geospatial technologies for hazard mitigation and management is the core concern of the curriculum.

Credit: I

1. Pragmatism and Positivism
2. Behavioural Approach
3. Humanistic Approach
4. Radicalism

Credit: II

1. Races: Physical and Socio-Economic Characteristics, Spatial Distribution
2. Major Religious Groups: Spatial diffusion and distribution (Christianity, Islam, Hinduism and Buddhism)
3. Economic activities (Primary Secondary, Tertiary, Quaternary and Quinary)
4. Human Adaptation and Environment
 - i. Cold region- Eskimo
 - ii. Mountain –Gujjars

Credit: III

1. Population: Structure and Composition (Age, Gender), Comparison between developed and developing countries
2. Distribution and density of Population: Factors (Geographic, Socio-Economic and Demographic)
3. Concepts of Over-Population, Under-Population and Optimum-Population, Zero-Population growth
4. Theories of Population Growth: Malthus and Demographic Transition

Credit: IV

1. Resources- concept and classification
2. Sustainable development of resources
3. Land degradation- causes and consequences
4. Water resource depletion- causes and consequences

Suggested Readings

1. Beblig, H.J., Human Geography: Culture, Society and Space, John Wiley, New York, 1996.
2. Singh, K.N., People of India, An Introduction, Seagul Book, 1992.
3. Spate O.H.K, People of India, An Introduction, Seagul Books, 1992.
4. MajidHussain, Human Geography, Rawat Publications 1994
5. L. N. Verma, Urban Geography, Rawat Publications 2006
6. Grish Chopra, Economic Geography, Commonwealth 2006
7. T. C. Sharma, Economic Geography of India, Rawat Publications 2013
8. R. K. Jain, A Textbook of Population Studies, Astha Publishers and Distributors 2014
9. Hans Raj, Fundamentals of Demography, Surjeet Publications.

Practical-2 Credits

30 Marks

GGP-CR-17301

Title: *Quantitative Techniques in Geography*

Credit: I

1. Data and its types
2. Classification and tabulation of data
3. Representation of geographical data-statistical diagrams, bar diagram, histogram, ogive and pie diagram
4. Climatic diagrams-climograph, hythergraph and ergograph

Credit: II

1. Measures of Central Tendency: Mean, Median, Mode, Partition Values (Quartiles, Deciles & Percentiles)
2. Measures of Dispersion: Mean Deviation, Standard Deviation and Coefficient of Variation in data analysis
3. Correlation Analysis: Karl Pearson's and Spearman's method
4. Use of above mentioned Statistical tools in Physical and Socio- Economic Data Analysis

Suggested Readings

1. Mahmood A., Statistical Methods in Geographical Studies, *Rajesh Publication, Delhi.*
2. Gupta S.P., Statistical Methods, *Sultan Chand And Sons, New Delhi.*
3. Elhance D. and Elhance V., Fundamentals of Statistics, *KitabMahal Publications, New Delhi.*
4. Najma Khan, Quantitative Methods in Geographical Research, *CPC, New Delhi 1998.*
5. Pal, S.K., Statistics for Geographers- Techniques and Applications, Concept, New Delhi, 1998.
6. Jones, p .A., Fieldwork in Geography, Longman,1968.
7. Singh, R.L. and Dutt, P.K.: Elements of Practical Geography Kalyani Publishers, New Delhi.
8. AshisSarkar, Quantitative Geography- Techniques and Presentation, Oriental Blackswan 2013
9. Sarkar ,A.K., Practical Geography- A Systematic Approach, orient Longman, Calcutta, 1997.
10. Singh,R.L.,Elements of Practical Geography, Kalyani Pub, New Delhi.
11. L. R. Singh, Fundamentals of Practical Geography, ShardaPustakBhawan 2006
12. Gopal Singh, Map World and Practical Geography, Vikas Publishing House 2000

Skill Enhancement Course(4 Credits)

60 Marks

GG-SEC-17301

Title: Surveying and its Applications

Course Outcome: The main objectives of this course is aimed at making the students to know about the significance of advanced surveying in field measurements in terms of utility and precision of data collection and to learn on the principles of Electronic distance measurements, Total station, GPS and their accuracy. The course enables the students to know in detail the concepts of coordinate systems, Map projections, its working principles, data collection, data processing and analysis.

Credit -I

- 1) Instrument Field Surveying---Introduction
- 2) Types of Surveying
- 3) Surveying Instruments

Credit- II

Plane table survey

- 1) Radiation method (3-exercises)
- 2) Intersection method (3-exercises)
- 3) Resection method (3-exercises)

Credit- III

- 1) Dumpy level (3-exercises)
- 2) Theodolite (3-exercises)

Credit-IV

- 1) Prismatic Compass survey
Open Traverse (2 exercises)
Closed Traverse (2 exercises)
- 2) Attendance
- 3) Record file
- 4) Viva voce

Suggested Readings

1. Pal, S.K., Statistics for Geographers- Techniques and implications, Concept, New Delhi, 1998.
2. Robinson, A.H et al., Elements of Cartography, John Wiley and 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 Geograph;yKalyani Publishers New Delhi, 1979.
5. Gopal Singh, Map World and Practical Geography; Vikas Publishing House 200.

GG-CR-17401

Title: Geography of India

Course Outcome: The main objective of this course is aimed at making the students to gain In-depth knowledge of physiography, climate, demography natural vegetation, agriculture energy resources and industries of India. It also broadens understanding of students with respect social, cultural and ethno-linguistic profile of India. This course has been conceptualized to address the requirements of a large segment of students interested in various competitive examinations. Students will acquire knowledge regarding the use of modern tools and technology like remote sensing in geographical studies and can apply this knowledge in any field of study. The Students can acquire a broad knowledge regarding natural resources, various sensors and can developed idea about aerial photographs, satellite imagery etc. Through this course students can develop their base regarding the practical use of advanced technology in different field of geography through which they can prepare more accurate and precise maps of different cultural and physical features.

Credit: I

1. Land: Physical Divisions and Drainage Systems of India.
2. Climate: General Climatic Conditions and Seasonal Variations in India
3. Monsoons: Mechanism and Jet streams
4. Soil: Types and Distribution

Credit: II

1. Population: Distribution, Density and Growth since 1951
2. Land Resources and Utilization
3. Characteristics of Indian Agriculture
4. Distribution and Production of Food Crops: Rice and Wheat

Credit: III

1. Distribution and production: Iron Ore, Coal and Petroleum in India
2. Cotton Textiles Industry
3. Iron and Steel Industry
4. Fertilizer Industry

Credit: IV

1. Physical Divisions: Drainage, Climate and vegetation (J&K)
2. Population Distribution: Density and Growth (J&K)
3. Agriculture with special reference to Horticulture and Saffron (J&K)
4. Tourism industry and its significance (J&K)

Suggested Readings

1. Drew, F .K.,The territories of India, Kashmir State. Standard Press London. 1979
2. Gazetteer of Kashmir and Ladakh. (1890) Reprint (1974)
3. Lawrence, S.W. The Valley of Kashmir, Oxford University Press. 1895
4. Raina, A.N. Geography of Jammu and Kashmir. National Book Trust, New Delhi, 1971.
5. Spate, O.H.K., India and Pakistan, Mac Million & Co. 1967.

6. Singh, R.L., India, Regional Geography, Banarus Hindu University, 1987
7. Qazi, S.A., Geography of India with special reference to J&K State, APH Publishing Co. 2000.
8. MajidHussain, Systematic Geography of Jammu and Kashmir, Rawat Publications 2000
9. R. L. Singh, India- A Regional Geography, National Geographical Society of India 2003
10. Chandra Vijay Purty, Geography of India, ABD Publishers.
11. MajidHussain, Geography of India, 2nd Ed. Tata Mcgraw Hill, 2011
12. D.R Khullar, India- A Comprehensive Geography, *Kalyani publishers, New Delhi, 2011.*
13. Husain M., Geography of India, *McGraw Hill Publications, U.P., 2017.*
14. Kaul A. K., Studies In Geography of Jammu & Kashmir, Rawat Publications, Jaipur 2014.
15. Husain M., Indian & World Geography, McGraw Hills, 2011.

Practical-2 Credits**GGP-CR-17401****30 Marks*****Title: Remote Sensing Techniques*****Credit:-1**

1. Remote Sensing: Definition, Scope and Applications
2. Types of Remote Sensing
3. Sensors and their types
4. Types of Remote Sensing Data

Credit:-II

- 1) Scale of Aerial Photographs and Methods of its Determination
- 2) Visual image interpretation
- 3) Digital image processing
- 4) Ground truthing (one day field visit)

Suggested Readings

1. Kali Charan Sahu, Textbook of Remote Sensing and Geographic Information System, Atlantic Publishers and Distributors 2008
2. B.C. Panda, Remote Sensing- Principles and Applications, Viva Books 2008
3. Jensen, R Fundamentals of Remote Sensing. Shree Maitree Printech Pvt Limited Noida 2007.
4. Lillesand, Kiefer & Chipman, Remote Sensing And Image Interpretation, Wiley, 2011.

C. Skill Enhancement Course(4 Credits)

60 Marks

GG-SEC-17401

Title: Mapping Techniques

Course Outcome: The main purpose of geography is to show different physical or cultural phenomena on maps for enlightening various aspects of spatial organization and areal differentiation. The main outcome of the course lies in the fact that it gives clear idea regarding different types of maps and different map making processes, and their utility in various fields of human interest.

Credit –I

Maps- Definition and Essentials
Classification of maps
Scale- Definition and importance
Ways of expressing scales
Graphical scale-Construction of plain, comparative and diagonal scales.

Credit -II

Relief representation- Various methods
Contours- definition, importance and drawing of contours
Representation of different types of land forms- U shape and V shape valleys, conical hill, plateau, ridge, etc.

Credit -III

Use of point, line and polygon symbols
Isopleths
Choropleths
Chorochromatic maps & choroschematic maps
Dot maps and Flow diagrams.

Credit –IV

Representation of Climatic data- Climograph and Hythergraph.
Representation of Socio-economic data
One day Socio-economic field survey (Report) Attendance, Record
File and Viva Voce.

Suggested Readings

1. Robinson, A.H et al., Elements of Cartography, John Wiley & Sons, U.S.A., 1995.
2. Sarkar, A.K., Practical Geography: A Systematic Approach, Oriental Longman, Calcutta, 1997.
3. Singh, R.L and Dutt, P.K., Elements of Practical Geography, Kalyani Publishers New Delhi, 1979.
4. Gopal Singh, Map World and Practical Geography, Vikas Publishing House, 2000.
5. Khullar, D.R., Essentials of Practical Geography, New Academic Publishing Co., Jalandhar, 2013.

A. Theory-4 Credits

Marks 60

GG-DSE-17501

Title: Economic Geography

***Course Outcome:** The course aims at providing students with tools, models and methods which are useful in understanding economic phenomenon with reference to the changing geographical attributes. At the end of the course, the students will be able to identify and measure factors responsible for establishment and localization of industry at national and global level. The course will enable students to understand various aspects manufacturing, clustering and agglomeration dynamics, to evaluate the role of different attractive and repulsive forces within relevant models to explain the international flows of goods, capital and work force. It also enables the students to understand by geographic template and patterns along with biodiversity gradients across the globe. The individuals will be able to identify, describe, create, construct different map projections.*

Credit-I:

- 1) Introduction to Economic Geography
- 2) Classification of Economic Activities
- 3) Factors of Location of economic activities-physical, social and economic
- 4) Regional disparities in the level economic development

Credit-II:

- 1) Classification of Industries
- 2) Factors influencing location of industries
- 3) Industrial Regions in India
- 4) Introduction to regional economic forums-ASEAN, SAARC, EU

Credit-III:

- 1) Globalization and Privatization
- 2) Globalization and its Impact on Indian Economy
- 3) Concept of Knowledge Economy
- 4) Emerging trends in Indian Economy

Credit-IV:

- 1) Impact of Green Revolution on Indian Economy and Recent Developments
- 2) Role of Infrastructure (energy) in the Economic Development of India
- 3) Import Export policy of India
- 4) Emerging trends in Indian Economy-Economic Reforms Post-1991

Suggested Readings

1. Coe, N., Kelly, P., and Yeung, H. (2007) *Economic Geography: A Contemporary Introduction*, London: John Wiley & Sons
2. Leyshon, A., Lee, R., McDowell, L and Sunley, P. (eds) (2011) *The Sage Handbook of Economic Geography*, London: Sage
3. Aoyama, Y., Murphy, J., and Hanson, S. (2010) *Key Concepts in Economic Geography*, London: Sage
4. Clark, G., Gertler, M. and Feldman, M.(eds) (2003) *The Oxford Handbook of Economic Geography*, Oxford: Oxford University Press
5. Economic Geography of India by T. C Sharma
6. Economic Geography by MajidHussain
7. Economic Geography By Prithwish Kumar Roy

Theory-4 Credits

Marks 60

GG-DSE-17502

Title: Geography of Tourism

Course Outcome: To study the relationship of geography and tourism. To prepare learners with knowledge and skills those are essential to understand and manage the needs of destination. Develop strategies for ongoing personal and professional development as a recreation and leisure services professional. To facilitate the assessment of the tourism potential of a destination and prepare tourism development plan as well as marketing techniques. It also enables the students to understand by geographic template and patterns along with biodiversity gradients across the globe. The individuals will be able to identify, describe, create, construct different map projections.

Credit-I:

- 1) Definition and Scope of Tourism Geography
- 2) Components of Tourism
- 3) The use of Geographical Resources for Tourism
- 4) Butlers Theory of Tourism Development

Credit-II:

- 1) Types and Forms of Tourism
- 2) Concept of Carrying Capacity
- 3) Sustainable Tourism
- 4) Environmental Impacts of Tourism

Credit-III:

- 1) Tourism Planning
- 2) Infrastructure and Support System
- 3) Accommodation Scenario
- 4) Social and Cultural Impacts of Tourism

Credit-IV:

- 1) Characteristics Indian Tourism
- 2) National Tourism Policy
- 3) Regional Dimension of Tourist Attraction
- 4) Problems and Prospects of Indian Tourism

Suggested Readings:

1. S. N. Singh, "Geography of Tourism and Recreation", New Delhi, 1954.
2. S. C. Chandra, "Geography of Tourism". Rawat Publications, New Delhi 2002.
3. P.C. Sinha, "Eco-tourism and Mass tourism".Allahabad 2005.
4. M. Simith and Nichola Macleod, "Key Concepts in Tourist studies". 2010
5. B.s.Badan, "Tourism in India", Mumbai,1998.
6. A.C Singh & P.S. Rana, "Tourism Geography",Patna 2006.

Credit I

- 1) Map projection and its significance
- 2) Classification of Map Projection
- 3) Simple Cylindrical Projection (4 exercises)
- 4) Cylindrical equal area projection (4 exercises)

Credit II

- 1) Conical Projection (4 exercises)
- 2) Polyconic Projection(4 exercises)
- 3) Zenithal map Projection(4 exercises)
- 4) Bonnes Projection (4 exercises)

Suggested Readings

1. Robinson, A.H et al., Elements of Cartography, John Wiley & Sons, U.S.A., 1995.
2. Sarkar, A.K., Practical Geography: A Systematic Approach, Oriental Longman, Calcutta, 1997.
3. Singh, R.L and Dutt, P.K., Elements of Practical Geography, KalyaniPublishers New Delhi, 1979.
4. Gopal Singh, Map World and Practical Geography, Vikas Publishing House, 2000.
5. Khullar,D.R., Essentials of Practical Geography, New Academic Publishing Co., Jalandhar, 2013.

B.A./B.Sc. 6th Semester

DSE 4 Credits

Marks 60

GG-DSE-17601

Title: Fundamentals of Disaster Management

Course Outcome: This course focuses on the basics of disaster management. The students are expected to gain comprehensive knowledge about the early warning systems, various preparedness and mitigation strategies

Credit-I:

- 1) Hazard and Disaster -concept
- 2) Disaster Management -concept
- 3) Principles of Disaster Management
- 4) Significance of Disaster Management

Credit-II:

- 1) Geo-Physical Disasters (Earthquakes, landslides and tsunami)
- 2) Hydro-meteorological Disasters -Floods (flash floods and droughts)
- 3) Man-made Disasters (Nuclear, Chemical and biological disasters)
- 4) Impact of disaster on man and environment

Credit-III:

- 1) Concept of Disaster Risk and Vulnerability
- 2) Perception of vulnerability
- 3) Vulnerability Analysis
- 4) Indicators of vulnerability

Credit-IV:

- 1) Disaster Management Cycle
- 2) Mitigation and preparedness phase
- 3) Response phase and Recovery Phase
- 4) Reconstruction and Rehabilitation Phase

Suggested Readings

1. Bryant Edwards (2005): Natural Hazards, Cambridge University Press, U.K
2. Carter, W. Nick, 1991: Disaster Management, Asian Development Bank, Manila
3. Firefly Guide to Global Hazards, Robert Louis Kovach, Bill McGuire, Firefly Books, 2004
4. H.K. Gupta (2003) Disaster management
5. David Etkin (2014) Disaster Theory, Elsevier

The main objective of the fieldwork is to conduct an extensive survey of a contiguous wider region and identify salient landforms; their genesis and their impact on human life, flora and fauna. It also provide the students with the understanding of ground reality of a chosen village/town by observation; mapping of land quality, land use and cropping pattern and conducting Socio-economic survey of the households with the help of a specially prepared questionnaire. This course also provides the necessary skills, aptitude and training to the students in various geospatial technologies. It prepares the students adequately in different techniques of image interpretation and analysis. The practical course provides hands on exposure to our students in various remote sensing and GIS softwares. The student is professionally well equipped to work independently or in team for providing solutions to problems in a GIS environment

Credit – I

- 1) Relevance of Geomorphic Field-studies in Geography
- 2) Relevance of Socio-Economic Field-studies in Geography
- 3) Selection of Study-area
- 4) Selection of Geomorphic aspects and Socio-Economic Variables

Credit – II

- 1) Preparation of Questionnaire
- 2) Customization of Questionnaire
- 3) Conducting of Socio-Economic Field survey of sample Households with the Structured Questionnaire
- 4) Identification and Interpretation of Geomorphic Features in the field

Credit – III

- 1) Data: Types and Sources
- 2) Methods of Data Collection
- 3) Tabulation of Data for Preparation of Master-sheets
- 4) Analysis of Data.

Credit – IV

- 1) Report writing based on results of Geomorphic and Socio-Economic Field-survey, supplemented with Photographs, Maps and Diagrams

Suggested Readings:

1. Pal, S.K., Statistics for Geographers- Techniques and Applications, Concept, New Delhi, 1998.
2. Robinson, A.H et al., Elements of Cartography, John Wiley and 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. Gopal Singh, Map World and Practical Geography; Vikas Publishing House 200. .

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Title: GIS Application

Credit I.

- 1) Components of GIS
- 2) Spatial and Non-spatial Data
- 3) Geo-referencing of maps and Satellite data (GCP and RMS Error)
- 4) Subset (6 exercises)

Credit II

- 1) Map digitization and attributes
- 2) Topology
- 3) Creation of thematic maps
- 4) Ground validation (one day field visit) & Field report

Suggested Readings:

1. Peter A. Burrough and Rachael A. Mc Donnell, Principles of GIS, Oxford University Press, 1998.
2. Pang C., Concepts And Techniques Of Geographic Information System, Pearson, 2000.