

KUMAUN UNIVERSITY, NAINITAL
UNDER GRADUATE (B.A./ B.Sc.) SEMESTER COURSE FRAMEWORK OF GEOGRAPHY
(Revised Course Framework w.e.f. from July,2019)

SEMESTER I							
Explanation	Code*	Title of the Paper	Marks allotted				
			Total BA/BSc	Term end examination (TEE) BA/BSc	Internal Assessment (Written Test + Attendance) BA/BSc		
Theory I st Paper	GUGP-101	Physical Geography	50	35	15 (10+05)		
Theory II nd Paper	GUGP-102	Geography of Asia (Excluding India)	50	35	15 (10+05)		
			Total	Lab. Work	Survey Camp**	Viva Voce	Record File
Practical	GUGP-P-103	Basic Cartographic Techniques	50	30	NA	10	10

SEMESTER II							
Explanation	Code*	Title of the Paper	Marks allotted				
			Total BA/BSc	Term end examination (TEE) BA/BSc	Internal Assessment (Written Test + Attendance) BA/BSc		
Theory I st Paper	GUGP-201	Geomorphology	50	35	15 (10+05)		
Theory II nd Paper	GUGP-202	Geography of India	50	35	15 (10+05)		
			Total	Lab. Work	Survey Camp**	Viva Voce	Record File
Practical	GUGP-P-203	Map Reading and Interpretation	50	30	NA	10	10

SEMESTER III							
Explanation	Code*	Title of the Paper	Marks allotted				
			Total BA/BSc	Term end examination (TEE) BA/BSc	Internal Assessment (Written Test + Attendance) BA/BSc		
Theory I st Paper	GUGP-301	Climatology and Biogeography	50	35	15 (10+05)		
Theory II nd Paper	GUGP-302	Human Geography	50	35	15 (10+05)		
			Total	Lab. Work	Survey Camp**	Viva Voce	Record File
Practical	GUGP-P-303	Thematic Cartography	50	30	NA	10	10

SEMESTER IV							
Explanation	Code*	Title of the Paper	Marks allotted				
			Total BA/BSc	Term end examination (TEE) BA/BSc	Internal Assessment (Written Test + Attendance) BA/BSc		
Theory I st Paper	GUGP-401	Urban Geography	50	35	15 (10+05)		
Theory II nd Paper	GUGP-402 (a) & (b)	Environmental Geography OR World Regional	50	35	15 (10+05)		
			Total	Lab. Work	Survey Camp**	Viva Voce	Record File

SEMESTER I
Code: GUGP-101
PHYSICAL GEOGRAPHY
First Paper

Term End Exam. Marks	BA/BSc 35	Time: 03 hours
Internal Assessment Marks	BA/BSc 15	
(Written Test + Attendance)	BA/BSc (10+5)	

Unit - I	Meaning, Scope and Branches of Physical Geography, Origin of the earth, Interior of the earth, Rocks: origin and classification.
Unit - II	Origin of continents and ocean basins: Wegener's Theory and Plate Tectonics, Major landforms: Mountains, Plateau and Plains, Gradational processes, Weathering and Erosion.
Unit - III	Composition and structure of atmosphere, Insolation, Vertical and Horizontal Distribution of atmospheric temperature, Pressure and pressure belts, Winds: Planetary, Periodic and Local.
Unit - IV	Ocean bottom topography, Ocean deposits, Salinity, Temperature, Ocean currents, Tides and Coral reefs.

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Books Recommended:

- Barry, R G and Chorley, R.J. (1998) Atmosphere, Weather and Climate. Routledge, London.
- Bryant, H Richard (2001) Physical Geography Made Simple. Rupa and Co., New Delhi.
- Bunnett, R.B. (2003) Physical Geography in Diagrams, Fourth GCSE edition, Pearson Education (Singapore) Pvt Ltd.
- Garrison T (1998) Oceanography. Wordsworth Cp, Bedmont.
- Lake, P (1979) Physical Geography (English & Hindi Edition) Cambridge Univ. Press, Cambridge.
- Monkhouse, F I (1979) Physical Geography, Methuen, London
- Singh, S (2003) Physical Geography (English and Hindi Editions) Prayag Putak Bhawan, Allahabad
- Singh, M.B. (2001) Bhoutik Bhoogol, Tara Book Agency, Varanasi
- Strahler, A.N. and Strahler A.M. (1992) Modern Physical Geography, John Wiley and Sons, New York
- Wooldridge, S.W. and Morgan, R.S. (1959) The Physical Basis of Geography: An Outline of Geomorphology. Longman, London.

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SEMESTER I
Code: GUGP - 102
GEOGRAPHY OF ASIA (Excluding India)
Second Paper

Term End Exam. Marks	BA/BSc 35	Time: 03 hours
Internal Assessment Marks	BA/BSc 15	
(Written Test + Attendance)	BA/BSc (10+5)	

Unit - I	Asia in the context of the world (geo-political significance, location and extent), Structure and relief, Drainage, Climate, Natural vegetation, Soils, Natural regions of Asia.
Unit - II	Population distribution , Agriculture and agriculture regions, Principal minerals
Unit - III	Industries and industrial regions, Transport, Major cities, Sources of power
Unit - IV	Regions and countries : Japan, China, Pakistan, Indonesia, Iran and Israel

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Books Recommended:

Stamp L D (1976) Asia: A Regional and Economic Geography. Methuen, London

Cressey G B () Asia's Land & People.

Kolb, A (1971) East Asia: China, Japan, Korea, Vietnam. Methuen, London

Chauhan, B S () *Asia ka Pradeshik Bhoogol*. S Chand & Co. New Delhi

Tirtha, R (2001) Geography of Asia, Rawat Pub, New Delhi

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SEMESTER I
Code: GUGP - P - 103
PRACTICAL
(BASIC CARTOGRAPHIC TECHNIQUES)

Term End Exam. Marks	BA/BSc 50	Time: 04 hours
1 Lab. work	BA/BSc 30	
2 Record work	BA/BSc 10	
3 Viva voce	BA/BSc 10	

Unit - I	Meaning and types of Scale, Construction of Plain, Diagonal, Comparative and Vernier Scale.
Unit - II	Methods of enlargement and reduction of maps.
Unit - III	Definition, nature and scope of cartography, Globe and maps, Essentials of maps, History of map making, Types and uses of maps, Elements of map reading.
Unit - IV	Cartographic representation of relief: Hachures, Contours, Formline, Spot height, Bench mark, Trig point, Layer tint; Intrpolation of contours.

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Note: Out of the total questions (lab. exercises) to be asked (six or seven) in the Term End Examination, four questions (exercises) will have to be attempted by the students; and atleast one question (exercise) from each unit must be asked.

Books Recommended:

- Monkhouse, F.J. & Wilkinson, F.J. (1985) Maps and Diagrams. Methues, London.
 Raisz, E (1962) General Cartography. John Wiley & Sons, New York.
 Sharma, J.P. (2001) Prayogik Bhoogaolk. Rastogi Pub, Meerut.
 Singh R.L. & Singh, Rana P B (1993) Elements of Practical Geography (Hindi & English Editions), Kalyani Publishers, New Delhi.
 Singh, L R (2006) Fundamentals of Practical Geography. Sharda Pustak Bhawan, Allahabad.

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SEMESTER II
Code: GUGP - 201
GEOMORPHOLOGY
First Paper

Term End Exam. Marks	BA/BSc 35	Time: 03 hours
Internal Assessment Marks	BA/BSc 15	
(Written Test + Attendance)	BA/BSc (10+5)	

Unit - I	Nature and scope of Geomorphology, Dominant contemporary methodologies, The role and nature of time in Geomorphology, Space in Geomorphology.
Unit - II	Models of Landscape Evolution: Davis, Penck, King and A time-independent model of Heck, Deterministic modeling of process-response.
Unit - III	Isostasy, Seismicity, Vulcanicity, Tectonic and neo-tectonic landforms.
Unit - IV	Mass wasting and associated landforms, Landforms associated with geomorphic agents : surface water, underground water, glaciers, sea waves and winds.

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Books Recommended:

Bloom, A.L. (1992) Geomorphology - A Systematic Analysis. PHI, New Delhi

Chorley R J (1972) Spatial Analysis in Geomorphology. Methuen London

Cooke R U & Doornkamp, J C (1974) Geomorphology and Environmental Management: An Introduction, Clarendon Press, Oxford.

Fairbridge, R W (1968) Encyclopedia of Geomorphology, Reinholdts, New York

Pitty, A F (1971) Introduction to Geomorphology. Methuen, London

Sparks, B.W. (1960) Geomorphology. Longman, London

Singh, S (1998) Geomorphology (Hindin & English editions), Prayag Pub, Allahabad

Thornbury, W.D. (1960) Principles of Geomorphology, John Wiley, New York

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SEMESTER II
Code: GUGP – 202
GEOGRAPHY OF INDIA
Second Paper

Term End Exam. Marks	BA/BSc 35	Time: 03 hours
Internal Assessment Marks	BA/BSc 15	
(Written Test + Attendance)	BA/BSc (10+5)	

Unit - I	India- A subcontinent, Physical features, Geologic structure, Drainage system, Climate, Natural vegetation, Soils, Natural regions.
Unit - II	Agriculture, Crops (Food, plantation and commercial), Agriculture production, Agriculture regions, Irrigation, Livestock raising and Fishery.
Unit - III	Industries (Metallurgical, Textile, Engineering, Chemical, Food, Leather, Forest based) Industrial regions, Minerals and Power resources
Unit - IV	Population (density, distribution and urbanization), Transport, Multipurpose projects, Foreign trade, Regional development and planning.

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Books Recommended:

Chauhan B.S.& Gautam Alka (2011) *Bharat* (Geography of India), Rastogi Publication, Meerut.

Chauhan B.S.& Gautam Alka (2013) *Bharatvarsh ka Vistrat Bhogool*, Rastogi Publication, Meerut

Hussain, Majid (2015) *Geography of India*, McGraw Hill Education, New Delhi

Mamoria, C.B. (2007) *Bharat Ka Bhoogol*. Sahitya Bahwan, Agra

Sharma, Y.K. (2009) *Geography of India*, Lakshmi Narayan, Agra

Sharma, M L & Sharma H S (2011) *Bharat ka Bhogool*, Rastogi Publication, Meerut.

Sharma, J K & Kalwar, S C (2011) *Bharat ka Bhogool*, Rastogi Publication, Meerut.

Singh R L (1993) *Regional Geography of India*, National Geographic Society of India, Varanasi

SEMESTER II
Code: GUGP - P - 203
PRACTICAL
(MAP READINGS AND INTERPRETATION)

Term End Exam. Marks	BA/BSc 50	Time: 04 hours
1 Lab. Work	BA/BSc 30	
2 Record work	BA/BSc 10	
3 Viva voce	BA/BSc 10	

Unit - I	Indian topographical map system: Their classification and types.
Unit - II	Interpretation of topographical maps and preparation of base map, index map, drainage map, orographic map
Unit - III	Interpretation of topographical maps and preparation of landuse map, settlement map and transport network map.
Unit - IV	Indian weather maps: Their interpretation and preparation of weather report

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***Note:** Out of the total questions (lab. exercises) to be asked (six or seven) in the Term End Examination, four questions (exercises) will have to be attempted by the students; and atleast one question (exercise) from each unit must be asked.*

Books Recommended:

Monkhouse, F.J. & Wilkinson, F.J. (1985) Maps and Diagrams. Methues, London.

Raisz, E (1962) General Cartography. John Wiley & Sons, New York.

Sharma, J.P. (2001) Prayogik Bhoogaolk. Rastogi Pub, Meerut.

Singh R.L. & Singh, Rana P B (1993) Elements of Practical Geography (Hindi & English Editions), Kalyani Publishers, New Delhi.

Singh, L R (2006) Fundamentals of Practical Geography. Sharda Pustak Bhawan, Allahabad.

SEMESTER III
Code: GUGP – 301
CLIMATOLOGY AND BIOGEOGRAPHY
First Paper

Term End Exam. Marks	BA/BSc 35	Time: 03 hours
Internal Assessment Marks	BA/BSc 15	
(Written Test + Attendance)	BA/BSc (10+5)	

Unit - I	Nature and scope of climatology, General circulation of the atmosphere, The monsoon, Local winds, Humidity, Fog and clouds, Precipitation, Air Masses, Cyclones and anti-cyclones.
Unit - II	Classification of climate: Koeppen classification and Thornthwaite classification, Climate type and their distribution, Climate change.
Unit - III	Biosphere & bio-geography-concept, scope and components, Ecosystem_ concept, component and functioning, Ecology- some conceptual aspects
Unit - IV	Distribution of plants in different ecosystem and ecological conditions, Distribution of animals in different ecosystem and ecological conditions, Environmental degradation.

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Books Recommended:

1. Cole, F.W. (1975) Introduction to meteorology. Wiley
2. Crowe, P R (1971) Concepts of climatology. Longman
3. Lal, D S (2001) Climatology. Chaitanya Pub House, Allahabad
4. Lamb, H H (1972) Climate: Present, Past and Future, Methuen
5. Singh, S (2012) Climatology (English and Hindi Editions). Prayag Pustak Bhawan, Allahabad
6. Singh, S (2012) Biogeography (English and Hindi Editions). Prayag Pustak Bhawan, Allahabad

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SEMESTER III

Code: GUGP – 302

HUMAN GEOGRAPHY

Second Paper

Term End Exam. Marks	BA/BSc 35	Time: 03 hours
Internal Assessment Marks	BA/BSc 15	
(Written Test + Attendance)	BA/BSc (10+5)	

Unit - I	Nature and scope of Human Geography, Branches of Human Geography, Concept of man-environment relationship: Determinism, Possibilism and Neo- determinism.
Unit - II	Evolution of man: Classification of races, Characteristics of races and their broad distribution, Human adaptation to the environment: Eskimo, Bushman, Masai, Naga and Tharus
Unit - III	Growth and distribution of population, World pattern: Physical, economic and social factors, Major human agglomerations, Migration: Internal and international.
Unit = IV	Rural settlements: Types and pattern, Urban settlement: Evolution and classification, Rural houses in India, Cultural regions of the world.

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Books Recommended:

1. De Blij, H J Human Geography: Culture, Society and Space. John Wiley, New York
2. Haggett, P (2004) Geography: A Modern Synthesis. Harper & Row, New York
3. Hussain, M (1994) Human Geography. Rawat Pub, Jaipur
4. Kaushik, S D & Sharma, A K (1996) Principles of Human Geography (in Hindi), Rastogi Pub, Meerut
5. Norton W. (1995) Human Geography. Oxford University Press, New York
6. Singh, K N & Singh J (2001) Manv Bhoogol. Gyanodaya Prakashan, Gorakhpur
7. Singh L R (2005) Fundamentals of Human Geography. Sharda Putak Bhawan, Allahabad

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SEMESTER III
CODE: GUGP - P – 303
PRACTICAL
(CARTOGRAPHIC REPRESENTATION OF GEOGRAPHICAL DATA)

Term End Exam. Marks	BA/BSc 50	Time: 04 hours
1 Lab. work	BA/BSc 30	
2 Record work	BA/BSc 10	
3 Viva voce BA/BSc 10		

Unit - I	Cartographic representation of geographical data by (a) dot method (b) proportional sphere method and circle method.
Unit - II	Representation of climatic data: Climatograph, Climograph and Hythergraph.
Unit - III	Representation of economic data: Agriculture landuse and production and industrial data, Representation of population data: Growth, distribution and employment
Unit - IV	Drainage ordering, Slope analysis: Wentworth's and Smith's methods.

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***Note:** Out of the total questions (lab. exercises) to be asked (six or seven) in the Term End Examination, four questions (exercises) will have to be attempted by the students; and at least one question (exercise) from each unit must be asked.*

Books Recommended:

1. Monkhouse, F.J. & Wilkinson, F.J. (1985) Maps and Diagrams. Methues, London
2. Raisz, E (1962) General Cartography. John Wiley & Sons, New York
3. Sharma, J.P. (2001) Prayogik Bhoogaolk. Rastogi Pub, Meerut
4. Singh R.L. & Singh, Rana P B (1993) Elements of Practical Geography (Hindi & English Editions), Kalyani Publishers, New Delhi
5. Singh, L R (2006) Fundamentals of Practical Geography. Sharda Pustak Bhawan, Allahabad.

SEMESTER IV
Code: GUGP - 401
URBAN GEOGRAPHY
First Paper

Term End Exam. Marks	BA/BSc 35	Time: 03 hours
Internal Assessment Marks	BA/BSc 15	
(Written Test + Attendance)	BA/BSc (10+5)	

Unit - I	Evolution and concept of Urban Geography, Urbanism and urbanization: Meaning and characteristics, Trends of urbanization in the world.
Unit - II	Towns and culture, Origin and growth of ancient towns, Modern towns and their problems, Site and situation of towns, Urban morphology: Meaning and principles
Unit - III	Urban areas and conurbation, Rural-urban fringe, Umland.
Unit - IV	Functional classification of towns, Hierarchy of urban settlement, Town planning: Meaning and principles.

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Books Recommended:

1. Abercombie, P (1953) Town and Country Planning, London
2. Anal, A K Singh (1980) Origin and Growth of Towns. Concept Publishing Co., New Delhi
3. Bansal, S C (2007) *Nagriye Bhugol*. Meenakshi Publication, Meerut.
4. Bose, Ashish (1978) Bibliography on Urbanization in India. Tata Mc Graw Hill, New Delhi
5. Carter, Harold (1973) The Study of Urban Geography. Edward Arnold, London
6. Singh, O P (1979) *Nagriya Bhugol*. Tara Publications, Varanasi

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SEMESTER IV
Code: GUGP - 402 (a)
ENVIRONMENTAL GEOGRAPHY
Second Paper

Term End Exam. Marks	BA/BSc 35	Time: 03 hours
Internal Assessment Marks	BA/BSc 15	
(Written Test + Attendance)	BA/BSc (10+5)	

Unit - I	Definition, Scope and evolution of Environmental Geography, Concepts of Environmental Geography, Environment, Man and environmental processes.
Unit - II	Ecosystem: Food chains, Trophic levels and Productivity, Energy flow, Circulation of element and Geobiochemical cycle.
Unit - III	Ecosystem services, Biomes, Bio-diversity, Soil system, Man and climate.
Unit - IV	Environmental degradation, Environmental events and hazards, Environmental pollution, Environmental conservation and planning.

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Books Recommended:

1. Botkin, D B and Keller E A (1982) Environmental Studies. Bell & Howell Co, London
2. Chanlett, E T (1979) Environmental Protection. McGraw Hill, New York
3. Garrels T A (1975) Chemical Cycle and the Global Environment. William Kaufmann, California
4. Singh, S (1997) Paryavaran Bhugol. Prayag Putak Bhawan Allahabad
5. Prasad, G & Nautiyal R (2006) Paryavarn Bhugol. Sharda Putak Bhawan, Allahabad

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SEMESTER IV
Code: GUGP - 402 (b)
WORLD REGIONAL GEOGRAPHY (EXCEPT ASIA)
Second Paper

Term End Exam. Marks	BA/BSc 35	Time: 03 hours
Internal Assessment Marks	BA/BSc 15	
(Written Test + Attendance)	BA/BSc (10+5)	

Unit - I	Meaning and scope of Regional Geography, Regions and regionalism, Globalization and WTO, Population-environment and sustainable development.
Unit - II	Europe: A geographical introduction, Physical structure, Economic and demographic pattern, Regional study of United Kingdom.
Unit - III	North America: A geographical introduction, Physical structure, Economic and demographic pattern, Regional study of United States of America.
Unit - IV	Latin America: A geographical introduction, Physical structure, Economic and demographic pattern, Regional study of Brazil.

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Books Recommended:

Hobbs, J J (2007) World Regional Geography. Wadsworth Publishing Con Inc

Hobbs, J J (2012) Fundamentals of World Regional Geography. Brooks Cole

Fouberg, E H & Moseley W G (2016) Unserstanding World Regional Geagrophy. Wiley

Johnson, D L, Haarmann & Johnson M L (2015) World Regional Geography: A Development Approach. Pearson

Saksena, H M, Saksena, R & Saksena, Pooja (2010) *Vishwa ka Pradeshik Bhugol*. Rastogi Publication, Meerut.

SEMESTER IV
Code: GUGP - P - 403
PRACTICAL (SURVEYING)

Term End Exam. Marks	BA/BSc 50	Time: 04 hours
1 Lab. work	BA/BSc 30	
2 Record work	BA/BSc 10	
3 Viva voce	BA/BSc 10	

Unit - I	Fundamentals of Surveying: Objects, Primary divisions of survey, Classification.
Unit - II	Surveying by Prismatic Compass: Radiation, Intesection, Close Traverse, Open Traverse, and Correction of bearing.
Unit - III	Plane Table Surveying: Radiation, Intesection, Close Traverse, Open Traverse, Resection by two point and three point problems.
Unit - IV	Measurement of height/depth by Indian Pattern Clinometer.

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***Note:** Out of the total questions (field and lab. exercises) to be asked (six or seven) in the Term End Examination, four questions (exercises) will have to be attempted by the students; and atleast one question (exercise) from each unit must be asked.*

Books Recommended:

1. Punamia, B C (1978) Surveying. Standard Book House, Delhi
2. Sharma, J.P. (2001) Prayogik Bhoogaolk. Rastogi Pub, Meerut
3. Singh R.L. & Singh, Rana P B (1993) Elements of Practical Geography (Hindi & English Editions), Kalyani Publishers, New Delhi
4. Singh, L R (2006) Fundamentals of Practical Geography. Sharda Pustak Bhawan, Allahabad.

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SEMESTER V
Code: GUGP – 501
EVOLUTION OF GEOGRAPHICAL THOUGHTS
First Paper

Term End Exam. Marks	BA/BSc 35	Time: 03 hours
Internal Assessment Marks	BA/BSc 15	
(Written Test + Attendance)	BA/BSc (10+5)	

Unit - I	Definition and purpose of Geography, Science and philosophy of Geography, The basic concepts of Geography, Techniques and tools in Geography, Different branches of Geography, Aspects of study and Relationship with other Sciences.
Unit - II	Geography in classical times: Greek and Roman Geographers, Contribution by Arab Geographers, Renaissance, Eighteenth century Geography, Classical period of Geography.
Unit - III	Formulation of scientific Geography, Schools of thought ; German, French, Environmental determinism, possibilism, Neo-determinism and probabilism, British, American and former Soviet Union.
Unit - IV	Dualism in Geography, Dichotomism of scientific and regional Geography; Unity in Geography, Recent Trends in Geography.

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Books Recommended:

1. Abler, Ronald; Adams John S. Gould, Peter (1971) Spatical Organization : The Geographer's View of the world. Prentice Hall. N.I.
2. Ali. S.M : The Geogrpahy of Puranas (1996) People of Publishing House , Delhi
3. Amedeo, Douglas (1971) An Introduction to scientific Reasoning in Geography, John Wiley , USA.
4. Dikshit , R.D. (ed) : The Arts and science of Geography integrated readings, P. H.I, New Delhi,
5. Hartshone , R. (1959) Perspectives on Nature of Geography , Rand McNally & co..
6. Husain , M. (1984) Evaluation of Geographical thought , Rawat Publication , Jaipur,.
7. Johnston, R.J. (1983) Philosophy and Human Geography , Edward Arnold London,.
8. R.H.(1988)The future of Geography , Methuen, London
9. Mishull, R.(1970) The Changing Nature of Geography , Hutchinson University library, London,
10. Adhikari S. (1992): Geographical Thought , Chiatanya Pub. House, Allahabad
11. Chorley , R. J. & Hagget. P. (1965) Frontier in Geographical Teaching, Oxford University Press.

12. Contemporary American Geography (1992) Routledge New Jersey.
13. Dikshit R.D. (2000) Geographical Thought- A contextual History of Ideas. Prentice Hall of India Pvt. Ltd.
14. Dohrs. F.E. and Sommers, L.W. (eds.) (1959) Introduction to Geography, Thomas Y. Crowell Co. Chicago.
15. Harvey. David (1972) Explanation in Geography Edward-Amold, London.
16. Holt-Jensen, A (1980) Geography: Its History and Concepts, Longmans.
17. Husain, Majid (1984) Evolution of Geographical Thought, Rawat Publications, Jaipur,
18. Matthews J.A. and Herbert D.T. (2009) Geography: A very short introduction, oxford university press, New York .
19. Wooldridge S.W. (1956) The Geographer As Scientist, Thomas Nelson and Sons Ltd. London.
20. Fundamentals of physical geography, Class XI, N.C.E.R.T, New Delhi.
21. A text book of Geography, Class VI to VIII, ICSE, New Delhi.

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SEMESTER V
Code: GUGP - 502 (a)
OCEANOGRAPHY
Second Paper

Term End Exam. Marks BA/BSc 35
Internal Assessment Marks BA/BSc 15
(Written Test + Attendance) BA/BSc (10+5)

Time: 03 hours

Unit - I	Definition, scope and development of Oceanography, Distribution of water over the globe.
Unit - II	Relief of the ocean floor, Continental drift and ocean floor spreading, Composition of sea water.
Unit - III	Temperature in oceans, Salinity, density and water masses in oceans, Marine deposits.
Unit - IV	Coral landforms, Waves and tides, Ocean currents, Marine life.

GUGP - Geography Undergraduate Programme Books Recommended:

1. Davis Richard J.A. (1986) "Oceanography - An Introduction to the Marine Environment" Wm. C. Brown Iowa.
2. Duxbury C.A. and Duxbury B. (1996) An Introduction to the World's Oceans. C. Brown Iowa 2nd ed.
3. Garrison, T. (2001) "Oceanography - An Introduction to Marine Science. Books/ Cole, Pacific Grove, USA,
4. Gross, M. Grant (1987) Oceanography, A View of the Earth, Prentice Hall Inc. New Jersey, 1987.
5. King, C.A.M. (1962) Oceanography for Geographers,.
6. Sharma, R.C. (1985) The Oceans" Rajesh New Delhi,.
7. Ummerkuty, A.N.P. (1985) Science of the Oceans and Human Life, NBT, New Delhi.

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SEMESTER V
Code: GUGP - 502 (b)
AGRICULTURAL GEOGRAPHY
Second Paper

Term End Exam. Marks	BA/BSc 35	Time: 03 hours
Internal Assessment Marks	BA/BSc 15	
(Written Test + Attendance)	BA/BSc (10+5)	

Unit - I	Nature, scope, significance and development of Agriculture Geography, Approaches to the study of Agricultural Geography: Commodity, systematic, regional, behavioural and recent approaches etc., Origin and dispersal of agriculture.
Unit - II	Determinants of agricultural land use: Physical, economic, social, and technological, Land holding and land tenure systems, Agricultural efficiency Concepts, Techniques and Methods of measurements; Methods of delimiting crop combination, cropping pattern, crop concentration, intensity of cropping, degree of commercialization, diversification and specialization.
Unit - III	Theories of Agriculture Geography, von Thunen's theory (model) of agricultural location and its recent modifications, Demarcation of Agricultural regions, Whittlesey's classification of agricultural regions; Land use and land capability.
Unit - IV	Regional pattern of productivity in India, Green Revolution, White Revolution, Food deficit and food surplus regions; World pattern of Agriculture: Subsistence agriculture, Commercial farming, Plantation agriculture, Mixed agriculture, State, collective and cooperative farming.

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Books Recommended:

1. Bhalla, G.S. and Alagh, Y.K. (1979) Performance of Indian Agriculture: A District-wise Study, Sterling, New Delhi.
2. Das, M.M. (1982) Peasant Agriculture in Assam, Inter India, New Delhi.
3. Gobind, N. (1986) Regional perspective in agriculture, concept, New Delhi.
4. Hussain, M. (1979) Agricultural Geography, Inter India, New Delhi.
5. Mergra, W.B. & Munton, R.J.C. (1971) Agricultural Geography, methuen, London.
6. Mitchel, P. (1979) Agro-ecosystem, Inter India Publication, New Delhi
7. Shafi, M. (1984) Agricultural productivity and regional imbalance, concept, New Delhi.
8. Singh J. and Dhillon, S.S. (1985) Agricultural Geography, Tata McGraw Hill, New Delhi.
9. Singh, J. (1974) Agricultural Atlas of India: A Geographical perspective, Vishal Publications, Kurukshetra.
10. Kumar, Pramila, Krishi Bhoogol, Madhya Pradesh Hindi Granth Academi, Bhopal, MP.

SEMESTER V

Code: GUGP - 502(c)

POPULATION GEOGRAPHY

Second Paper

Term End Exam. Marks BA/BSc 35 Time: 03 hours Internal Assessment Marks BA/BSc 15 (Written Test + Attendance) BA/BSc (10+5)

Unit - I	Nature, Scope and Development of Population Geography; Source and Types of Population Data: Census, Sample Survey and Vital Registration System; Theories of Population: Classical and Modern.
Unit - II	World Population: Growth, Causes and Consequences; Factors Affecting Population Distribution; Demographic Transition Theory; Migration Types and Determinants.
Unit - III	Population Characteristics: fertility and Mortality; Age and Sex Structure; Occupational Structure; Human Resource Development and Human Development Index; Urbanization.
Unit - IV	Population Resource Region of India; Population Growth and Distribution in India; Density Types; Population Problems and Population Policy in India.

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Books Recommended:

- Builasborrow, Richard F. and Daniel Hogan, Population and Deforestation in the Humid Tropics International Union for the Scientific Study of Population , Begium , 1999.
- Bogue, D.J. Principles in Demography, John wiley, New York, 1969.
- Bose , Ashish et. al.; Population India's Development (1947-2000); vikash Publication House, New Delhi, 1974.
- Census of India . India : A state Profile , 1999.
- Chandna, R.C. Geography of population Concepts . Determinants and patterns , Kalyani publishers, New York . 2000.
- Clark, John I.,; Population geography, pergamon press, Oxford, 1973.
- Crook, Nigel: Principal of Population and Development, Permon Press , New York ,1997.
- Garnier, B. J. Geography of Population , Longman , London, 1970.
- Kochhar, Rajesh . The vedic People : Their History and Geography Orient Longman Ltd. New Delhi. 2000.
- Mamoria , C.B. India's Population Problems, Kitab Mahai New York, 1981.
- Mitra Ashok ,India's population problems, Kitab Mahal and Control Vol.I & II, Abhinav Publications, New Delhi, 1978.
- Premi, M.K. India's Population : heading Towards a Billion , B.R Publishing Corporation, 1991.
13. Srinivasan, K. and M. Vlassoff, Population Development Nexus in India , Challenges for the new Millennium, Tata McGraaw Hill, New Delhi , 2001.

SEMESTER V
Code: GUGP - P - 503
PRACTICAL
(PROJECTIONS)

Term End Exam. Marks	BA/BSc 50	Time: 04 hours
1 Lab. Work	BA/BSc 30	
2 Record work	BA/BSc 10	
3 Viva voce	BA/BSc 10	

Unit - I	Definition of map projection, Necessity of map projections, Mathematical method of drawing projection, Classification of map-projections.
Unit - II	Construction of map projections: Simple conical projection with one and two standard parallels, Bonne's projection, Polyconic projection.
Unit - III	Cylindrical projections: Equidistant and Equal area cylindrical projections, Mercator's, Gall's stereographic projection.
Unit - IV	Zenithal Projections: Polar zenithal equidistant, Equatorial zenithal equidistant, Polar zenithal equal-area, Equatorial zenithal equal area.

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Note: Out of the total questions (lab. exercises) to be asked (six or seven) in the Term End Examination, four questions (exercises) will have to be attempted by the students; and at least one question (exercise) from each unit must be asked.

Books Recommended:

1. Sharma, J.P. (2001) Prayogik Bhoogaol. Rastogi Pub, Meerut
2. Singh R.L. & Singh, Rana P B (1993) Elements of Practical Geography (Hindi & English Editions), Kalyani Publishers, New Delhi
3. Singh, L R (2006) Fundamentals of Practical Geography. Sharda Pustak Bhawan, Allahabad.

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SEMESTER VI
Code: GUGP – 601
ECONOMIC GEOGRAPHY
First Paper

Term End Exam. Marks	BA/BSc 35	Time: 03 hours
Internal Assessment Marks (Written Test + Attendance)	BA/BSc 15 BA/BSc (10+5)	

Unit - I	Meaning, aim and scope of economic geography, Resources: Meaning, classification, conservation and concepts, Economic landscapes.
Unit - II	Primary production, Vegetation & forest economy, Soil resources, Mineral resources (Iron ore and bauxite), Power resources (Coal, Petroleum and Hydro- electricity, Resource conservation
Unit - III	Agricultural regions (Derwent Whittlesey), Principle crops: Wheat, paddy, sugarcane and tea, Theory of agriculture location (Von thunen), Theory of industrial location (Weber) and industrial regions, Major industries: Iron & steel, textiles, petro-chemical and sugar
Unit - IV	World transportation,: Major trans-continental railways, sea and air routes, International trade, patterns and trends, Major trade blocks: NAFTA, EEC, ASEAN, Globalization and developing countries.

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Books Recommended:

1. Alexander, I W (1988) Economic Geography. Prentice Hall, New Delhi
2. Boesch, H (1964) A Geography of World Economy. Von Nostrand, New York
3. Gautam, A (2006) Arthik Bhugol ke Mool Tatve. Sharda Pustak Bhawan, Allahabad
4. Hartshorne, T A & Alaxender I W (1988) Economic Geograohy. Englewood Cliff, New Jersey
5. Singh, K N and Singh I (2003) Arthik Bhugol ke Mool Tatve. Gyanodaya Prakashan, Gorakhpur

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SEMESTER VI
Code: GUGP - 602 (a)
REGIONAL PLANNING AND DEVELOPMENT
Second Paper

Term End Exam. Marks BA/BSc 35 Time: 03 hours Internal Assessment Marks BA/BSc 15(Written Test + Attendance) BA/BSc (10+5)

Unit - I	Regional concept in geography: Concept, Scope & purpose of Regional planning, Types of regions: Formal and functional; uniform and nodal, single purpose and composite region.
Unit - II	Regional Planning: Planning process - sectoral, temporal and spatial dimensions; short-term and long term perspective planning, Indicators of development and their data sources, measuring levels of regional development and disparities, Planning for a region's development and multi-regional planning in a national context
Unit - III	Regional development strategies: Concentration vs. dispersal, Case studies for plans of developed and developing countries, Regional planning in India, Regional development in India: problems and prospects, Regional disparities: causes and consequences.
Unit - IV	Concept of Multi-level planning: Decentralized planning; peoples participation in the planning process, Concept and approaches of urban development, Landscape ecology and sustainable urban development, Application of remote sensing and Geographic Information System in Development Planning.

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Books Recommended:

1. Chitambar, J.B. (1993) *Introductory Rural Sociology*, Wiley Eastern, New Delhi
2. Goomen, M.A. and Datta, A. (1995) *Panchayats and their Finance*, Rawat Pub. Co., New Delhi:
3. Matthews G. (editor) (1995) *Status of Panchayati Raj: 1994*, Institute of Social Sciences / Rawat
4. Matthews A. (1994) *Panchayati Raj: From Legislation to Movements*, Rawat Pub. Co., New Delhi:
5. Misra, H.M. (ed) (1987) *Contributions to Indian Geography*, Volume 9:New Delhi.
6. De Blij, H.J. and Muller, P.O. (1997) *Geography: R.R.C*, 8th edition, J. W. & S. Ltd.,NewYork.
7. Dickinson, J., Gould, B., Clarke, C., Mather, S., Prothero, M., Siddle, D., Smith, C. and Thomas-Hope, E. (1996) *A Geography of the Third World*, 2nd edition, Routledge, London
8. Bhat, L.S. (1972) *Regional Planning in India*, Indian Statistical Institute, Calcutta.
9. Bhat, L.S. (2003) *Micro Planning: A Case Study of Karnal Area*, KB Publications, New Delhi.
10. Chand, M. and Puri, V.K. (2004) *Regional planning in India*; Allied Publishers, New Delhi.
11. Chandana, R. C. (2005) *Regional Development and Planning*. Kalyani Publishers, New Delhi.

12. Dube, K.K. and Singh, M.B. (1986): *Pradeshik Niyojan*. Tara Book Agency, Varanasi.
13. Friedman, J.& Alonse, W. (1968) *Regional Development & Planning*, M.I.T.Press, Cambridge-Massachusetts.
14. Kuklinski, A.R. (ed.) (1975) *Regional Development & Planning: International Perspectives*.
15. Kuklinski, A.R. (1972) *Growth Centres in Regional Planning*. Mounon and Company, Paris.
16. Mishra, R.P, Sundaram, K.V., and Prakasarao, V.L.S. (1976) *Regional Development*
17. *Planning in India*, Vikas Publishers., New Delhi.
18. Mishra, R.P. (1969) *Regional Planning*. University of Mysore, Mysore.
19. Mishra, R.P. (2002) *Regional Planning, Concepts, Techniques, Policies and Case*
20. *Studies*, Concept Publishing Company, New Delhi.
21. Pandey,D.C. and P.C. Tiwari (1989) *Dimensions of Development Planning, Volumes I and II*, New Delhi.
22. Singh O.P. and D.C. Pandey (1986) *Development Planning: Theory and Practice*, Nainital.
23. Sharma, P.R. (ed.) (1993) *Regional Policies and Development in the Third World*. Rishi Publication., Varanasi.
24. Sundaram, K.V. (1977) *Urban and Regional Planning in India*, Vikas Publishers. New Delhi.
25. Sundaram, K.V. (1997) *Decentralized Multilevel Planning: Principles and Practice*. Asian and African Experience. Concept Publishing Company, New Delhi

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SEMESTER VI
Code: GUGP- 602 (b)
POLITICAL GEOGRAPHY
Second Paper

Term End Exam. Marks	BA/BSc 35	Time: 03 hours
Internal Assessment Marks	BA/BSc 15	
(Written Test + Attendance)	BA/BSc (10+5)	

Unit - I	Definition, Nature and Scope; Geography, Politics, Geopolitics & Political Geography; History and Development of Political Geography; Approaches to the Study of Political Geography; Evolution of the Modern State; Organization & Structure of State or National Political System.
Unit - II	Concept of Nation, State and Nation-State; Geographic Characteristics of States: Size, Shape, Location, Cores and Capitals; Nation Building/Nationalism; Definition of Frontier and Boundaries; Distinction Between Frontier and Boundaries; Genetic, Functional & Morphological Classification of Boundaries with their Role and Importance in States Functioning.
Unit - III	Global Geo-Strategic Views: Mahan, Mackinder, Spykman & Seversky with Other Views Related to Heartland and Rimland; Cohen's Views; Unitary and Federal Forms of Governance.
Unit - IV	Political Geography of India; Resource Development & Power Politics; India's Neighbours & Geopolitical Study of Indian Ocean; Political Geography of SAARC Region; Electoral Geography; Changing Political Map of India and Inter-state Disputes Related to Language and Others; Problems of Border States of India and Emergence of New States & their Demands.

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Books Recommended:

1. Cohen, Samuel (1964) Geography and Politics in Divided World. Random House, New York.
2. De Blij, H. J. and Glassner, M. (1968) Syst. Political Geography. J. W. and Sons, New York.
3. Dikshit, R.D. (1987) Political Geography and Geopolitics. Tata McGraw Hill, New Delhi.
4. Dikshit, R.D. (2000) Political Geography: A Contemporary Perspective. P.-Hall, New Delhi.
5. Siddiq, M. (1997) Indian in the Indian Ocean: A Geopolitical Study, Rawat Publications, Jaipur
6. Moddie, A.E. (1961): Geography behind Politics. Hutchinson, London.
7. Pannikar, K.M. (1959) Geographical Factors in Indian History. 2 vols. Asia. P. House Bombay.
8. Percy, G. E. and Fifield, R. (1948) World Political Geography, Thomas Y Crowell, New York.
9. Pounds, N.J.G. (1972) Political Geography. McGraw Hill Publication., New York.
10. Short, John R. (1982) An Introduction to Political Geography. Routledge, London.
11. Singh, T. D. (1988) Hind Mahasagar Avam Parimandaliya Rashtra: Ek Bhougolik Adhyayan, Tara Book Agency, Varanasi.

SEMESTER VI
Code: GUGP-602 (c)
GEOGRAPHY OF TOURISM
Second Paper

Term End Exam. Marks	BA/BSc 35	Time: 03 hours
Internal Assessment Marks	BA/BSc 15	
(Written Test + Attendance)	BA/BSc (10+5)	

Unit - I	Concept of Leisure and Tourism; Types of Tourism; Definition, Scope and Significance of Geography of Tourism; Geographical Basis of Tourism; Resources and Infrastructure for Tourism: Transportation, Accommodation and Basic Infrastructure.
Unit - II	Impact of Tourism: Physical, Economical and Social Cultural Impacts; Concept of Ecotourism; New Emerging Trends in Tourism.
Unit - III	Tourism Marketing: Marketing Concepts and Marketing in Tourism; The Tourist Product; Segmentation- A Priori Segmentation; Tourism Circuits; Tour Agencies.
Unit - IV	Globalization and Tourism; Tourism in India; Resource and Growth; National Tourism Policy in India; Tourism Organizations. Tourism in Uttarakhand: Policies and Planning.

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Books Recommended:

1. Bhatia A.K.(1978) Tourism in India. Sterling pub. New Delhi.
2. Burkarl, A.J.(1974) Tourism, Past, present and future Heineman London.
3. Gearing Charles, E (1976) Planning for Tourism development Praeger Pub, New York
4. Lawbon, F & Bauet B.(1977) Tourism and recreation Development mass, CBI pub.
5. Lundberg, D.E.)1996) The Tourist Business cehners Books. Internationa, Boston.
6. Robinson H.(1976) A Geography of Tourism. Mac Donald and Evans Ltd; London.
7. Douglas Pearce (1981) Topics in Applied Geography, Tourist Development. Longman london New York.
8. Stephen L.J. smoth(1989) Tourism Analysis : A Handbook- Longman Scientific of Telchnical.
9. Minstry of Tourism Govt. of India (1999): Report on National Tourism.
10. Pande, G.C. and D.C.Pandey (1999) Environmental Development and Management: Strategies and Policies, New Delhi.

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SEMESTER VI
Code: GUGP- P - 603
PRACTICAL
(STATISTICAL TECHNIQUES AND GEOINFORMATICS)

Term End Exam. Marks	BA/BSc 50	Time: 04 hours
1 Lab. work	BA/BSc 30	
2 Survey Camp	BA/BSc 10	
2 Record work	BA/BSc 05	
3 Viva voce	BA/BSc 05	

Unit - I	Types of data, Collection of data, Methods of sampling, Measures of central tendency.
Unit - II	Measures of dispersion, Correlation Coefficient.
Unit - III	Remote sensing: Components of remote sensing, Remote sensing systems , Platform and sensors ; optical mechanical sensors, Thermal imaging system, Radar imagery, Ground truth, Elements of image interpretation; Image processing techniques: Visual and digital, Geometric & Radiometric corrections, Restoration; Enhancement and Classification: supervised and unsupervised.
Unit - IV	Datum and Georeferencing, Geographic Data Types; Spatial and Non-spatial data; Raster and Vector models for geographic data representation, Linkages and Matching, Principal Functions of GIS; Data Capture; Geographic Analysis; Scanning System; Data Conversion, Data based management system (DBMS), Data Base and Spatial Data Management; Geo-Relational Data Model; Topological Data Structure; Attribute Data Management; Relational Database - Concepts & Model, Digital Elevation Model (DEM): process, derivatives and applications.

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**** Survey Camp denotes 'field survey' which will be carried out by the students of B.A./ B.Sc. VIth Semester. The area of field survey must be selected by the Department and conducted in any geographical region.**

Note: Out of the total questions (lab. exercises) to be asked (six or seven) in the Term End Examination, four questions (exercises) will have to be attempted by the students; and atleast one question (exercise) from each unit must be asked.

Books Recommended:

1. Sharma, J.P. (2001) Prayogik Bhoogaol. Rastogi Pub, Meerut.
2. Singh R.L. and Singh, Rana P B (1993) Elements of Practical Geography (Hindi & English Editions), Kalyani Publishers, New Delhi
3. Singh, L R (2006) Fundamentals of Practical Geography. Sharda Pustak Bhawan, Allahabad.