

Annexure - XIII

**B.P.S. MAHILA VISHWAVIDYALAYA, KHANPUR KALAN
(SONIPAT)**

**Scheme of Examination
B.A. (Honours) Geography
w.e.f. 2018-19**

B.A. (Hons.) programme in Geography shall be of three years duration spread over six semesters. Each semester shall consist of four theory papers and one practical paper carrying 100 marks each. The theory paper will comprise of 80 marks for end-semester examination and 20 marks for internal assessment. The first two semesters shall contain one theory paper English from other than Geography. All the semesters shall contain one theory paper as subsidiary paper from other than Geography. The end-term examination of all theory and practical papers shall be of three and four hours respectively. A board of two examiners shall conduct the Practical Examination.

Semester I Examination

Paper Code	Nomenclature of Paper	End-Term Exam	Internal Assessment
101	Introduction to Geography	80	20
102	Fundamentals of Physical Geography	80	20
103	English-I	80	20
104	Subsidiary Paper	80	20
105	General Cartography (Practical)	80	20
	Lab Test	40	
	Practical Record	20	
	Viva-Voce	20	

Semester-II Examination

201	Ecology and Environment	80	20
202	Fundamentals of Human Geography	80	20
203	English-II	80	20
204	Subsidiary Paper	80	20
205	Representation of Physical Features (Practical)	80	20
	Lab Test	40	
	Practical Paper	20	
	Viva-Voce	20	

Semester-III Examination

301	Geomorphology and oceanography	80	20
302	Economic Geography	80	20
303	World Regional Geography	80	20
304	Subsidiary Paper	80	20
305	Map Projection (Practical)	80	20
	Lab Test	40	
	Practical Record	20	
	Viva-Voce	20	

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Semester-IV Examination (2011-12 onwards)

401	Climatology	80	20
402	Population Geography	80	20
403	Statistical Techniques in Geography	80	20
404	Subsidiary Paper	80	20
405	Thematic Cartography (Practical)	80	20
	Lab Test	40	
	Practical Record	20	
	Viva-Voce	20	

Semester-V Examination (2012-13 onwards)

501	Modern Geographical Thought	80	20
502	Geography of India	80	20
503	Optional - 1. Agricultural Geography	80	20
	2. Urban Geography	80	20
	3. Geography of Tourism	80	20
504	Subsidiary Paper	80	20
505	Field Techniques (Practical)	80	20
	Lab Test (Unit I & II)	40	
	Practical Record and Field Report	20	
	Viva-Voce	20	

Semester-VI Examination (2012-13 onward)

601	Disaster Management	80	20
602	Regional Geography	80	20
603	Option - 1. Industrial Geography	80	20
	2. Political Geography	80	20
	3. Social and Culture Geography	80	20
604	Subsidiary Paper	80	20
605	Fundamentals of Remote Sensing & GSI (Practical)	80	20
	Lab Test (Interpretation of Aerial Photographs)	40	
	Practical Record	20	
	Viva-Voce	20	

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Paper 101
INTRODUCTION TO GEOGRAPHY

Max. Marks: 100
End Term exam: 80
Internal Assessment: 20

Note:

The question paper will have five units. Each of the first four units of the question will contain two questions from each unit of the syllabus. Candidate is required to attempt one question from each unit. Unit-V shall be compulsory and contain 8 multiple choice/objective type questions covering the entire syllabus. All questions carry equal marks.

Unit-I

Nature of Geography; core Geographic concepts: location, direction, patterns and distance; physical and cultural attributes; the pattern concepts and process concepts; geography and society.

Unit-II

Developments of geography during ancient period; contributions of Greeks and Romans: Herodotus, Eratosthenes, Strabo, Ptolemy; developments of geography in India during Vedic period; contributions of Arab scholars: Ibn Batuta, Ibn Khaldun, Al Baruni.

Unit- III

Age of exploration and discoveries: contribution to expansion of geographic horizons; revival of geography as scientific discipline: contributions of Kant and Varenius.

Unit- IV

Dualisms in geography: systematic and regional geography; physical and human geography; study of the following viewpoints: areal differentiation, landscape school, locational school, spatial organization.

Suggested Reading List:

1. Ali, S. M. (1966), *The Geography of Puranas*, People's Publishing House, Bombay.
2. Allahabad.Kaushik, S.D. (2007), *Prichyatmak Bhugol*, Rastogi Publications, Meerut.
3. Dikshit, R.D. (1997), *Geographical Thought: A Contextual-History of Ideas*, Prentice-Hall of India Pvt Ltd. New Delhi.
4. Hartshorne, R. (1959), *Perspective on Nature of Geography*, Rand McNally, Chicago.
5. Hartshorne, R. (1976), *The Nature of Geography*, Lancaster.
6. Holt-Jensen, (1980), *A Geography: Its History and Concepts*, Longmans.
7. Husain, M. (1990), *Evolution of Geographical Thought*, Rawat Publications, Jaipur.
8. Husain, M. (in Hindi), *Bhugolik Chintan Ka Itihas*, Rawat Publications, Jaipur.
9. James, P. (1972), *All Possible Worlds: A History of Geographical Ideas*, Odessey Press, Indianapolis.
10. Maurya, S.D. (2010 in Hindi), *Bhugolik Chintan Ka Itihas*, Prayag Pustak Bhawan, Allahabad.9.
11. Minshull, R. (1970), *The Changing Nature of Geography*, Hutchinson, London.
12. Prasad, D. (in Hindi), *Bhugolik Chintan Ki Samiksha*, Sharda Pustak Bhawan,

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Paper-102
FUNDAMENTALS OF PHYSICAL GEOGRAPHY

Max. Marks: 100
End Term exam: 80
Internal Assessment: 20

Note:

The question paper will have five units. Each of the first four units of the question will contain two questions from each unit of the syllabus. Candidate is required to attempt one question from each unit. Unit-V shall be compulsory and contain 8 multiple choice/objective type questions covering the entire syllabus. All questions carry equal marks.

Unit-I

Nature and scope of Physical Geography; origin of earth: Binary Star Hypothesis of Russel, Hypothesis of Otto Schimidt, Gaseous hypothesis of Kant, Nebular hypothesis of Laplace.

Unit-II

Distribution of land and water, shape and size of the earth: latitude, longitude, movements, rotation and revolution.

Unit-III

Origin of continent and ocean basin: sliding continents theory of Daly, continental drift theory of Wegner; definition and classification of rocks: igneous, sedimentary and metamorphic; Earth movements: orogenic and epirogenic; weathering and erosion.

Unit-IV

Composition and structure of atmosphere; insolation and temperature: vertical and horizontal distribution; air pressure and winds: planetary, periodic and local.

Suggested Reading List:

1. Bunnett, R.B. (2003), *Physical Geography in Diagrams*, Orient Longman, New Delhi.
2. Conserva H. T. (2004), *Illustrated Dictionary of Physical Geography*, Author House, USA.
3. Goudie, A. (1984), *The Nature of the Environment: An Advanced Physical Geography*, Basil Blackwell Publishers, Oxford.
4. Hamblin, W. K. (1995), *Earth's Dynamic System*, Prentice Hall, N.J.
5. Husain M. (2002), *Fundamentals of Physical Geography*, Rawat Publications, Jaipur.
6. Lake, P. (1979): *Physical Geography*, Cambridge University Press, Cambridge.
7. Monkhouse, F.J. (1979), *Physical Geography*, Methuen, London.
8. Singh, M.B. (2001), *Bhoutik Bhugol*, Tara Book Agency, Varanasi.
9. Singh, S. (2003), *Physical Geography*, Prayag Pustak Bhawan, Allahabad.
10. Singh, S.N. and Singh, V. (2002), *Bhoutik Bhugol*, Mishra Trading Corporation, Varanasi.
11. Strahler A. N. and Strahler A. H. (2008), *Modern Physical Geography*, John Wiley & Sons, New York.
12. Strahler, A.N. and Stahler, A.M. (1992), *Modern Physical Geography*, John Wiley and Sons, New York.
13. Trewartha, G.T., Robinson, A.H., Hammond, E.H., and Horn, A.T. (3rd Ed. 1990): *Fundamentals of Physical Geography*, MacGraw-Hill, New York.
14. Wooldridge, S.W. and Morgan, R.S. (1959), *The Physical Basis of Geography- An Outline of Geomorphology*, Longman, London.

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Paper 105
GENERAL CARTOGRAPHY

Max. Marks: 100
Lab Test: 40
Practical Record: 20
Viva-voce: 20
Internal Assessment: 20

Note:

At least fifteen exercises are to be prepared covering all the topics. In the examination, the lab test shall comprise of six questions in all with at least two questions from each unit. The candidate has to attempt three questions selecting one from each unit.

Unit-I

Basic Concepts of Cartography: Meaning, nature and subject matter of Cartography; Maps—Elements and Classification of maps

Unit-II

Map Scales.

- (i) Methods of expressing a scale
- (ii) Conversion of Statement of Scale into R. F. and R. F. to statement of scale. (iii) Plain Scale (Km and mile)
- (iv) Comparative Scale
- (v) Diagonal Scale

Unit-III

Measurement of distances and areas on Maps; enlargement and reduction of Maps; Latitude and Longitude; Global Time: Indian standard time, World time-zones, International date-line.

Suggested Reading List:

1. Dent B. D. (1999), *Cartography: Thematic Map Design*, (Vol. 1), McGraw Hill.
2. Gupta K. K and Tyagi V. C. (1992), *Working with Maps*, Survey of India, DST, and New Delhi.
3. Mishra R. P. and Ramesh A. (1989), *Fundamentals of Cartography*, Concept Publishing.
4. Monkhouse, F.J. and Wilkinson, F.J. (1985), *Maps and Diagrams*, Methuen, London.
5. Raisz, E. (1962), *General Cartography*, John Wiley and Sons, New York.
6. Robinson A. (1953), *Elements of Cartography*, John Wiley.
7. Sarkar, A. K. (1997), *Practical Geography: A Systematic Approach*, Orient Longman, Kolatta.
8. Sharma J. P. (2010), *Prayogik Bhugol*, Rastogi Publishers.
9. Sharma, J.P. (2001), *Prayogik Bhugol*, Rastogi Publication, Meerut.
10. Singh R. L. (1998), *Prayogik Bhoogol Rooprekha*, Kalyani Publications.
11. Singh, L.R. (2006), *Fundamentals of Practical Geography*, Sharda Pustak Bhawan, Allahabad.
12. Singh, R.L. and Rana P.B. Singh (in English & Hindi 1993), *Elements of Practical Geography*, Kalyani Publishers, New Delhi.
13. Steers J. A. (1965), *An Introduction to the Study of Map Projections*, University of London.

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Paper 201
ECOLOGY AND ENVIRONMENT

Max. Marks: 100
End-term exam: 80
Internal Assessment: 20

Note:

The question paper will have five units. Each of the first four units of the question will contain two questions from each unit of the syllabus. Candidate is required to attempt one question from each unit. Unit-V shall be compulsory and contain 8 multiple choice/objective type questions covering the entire syllabus. All questions carry equal marks.

Unit-I

Meaning and component of environment; geography as- study of environment; man- environment relationship; Ecology and Ecosystem; Components and Function of the ecosystem: abiotic, biotic.

Unit-II

Functional characteristics of ecosystems: Food chains and food webs; ecological pyramids; energy flow; biomes and its types; biodiversity: importance, causes for the loss of biodiversity.

Unit-III

Environmental pollution: meaning, types and causes of pollution: air, water, noise, land- degradation; depletion of ozone layer; greenhouse effect and climate change

Unit-IV

Conservation and management of environment; role of international and national and local policies; role of UNO: RIO summit, Kyoto protocol, Copenhagen summit.

Suggested Reading List:

1. Agarwal K.C. (2001), *Environmental Biology*, Nidhi Publishers Ltd, Bikaner.
2. Anand, Subhash (ed) (2013) *Progress in Environmental Management*, Reseach India Press, New Delhi.
3. Balakrishnan, M. (1998), *Environmental Problems and Prospects in India*, Oxford & IBH Pub., New Delhi.
4. Das, R.C., et. al.,(1998), *The Environmental Divide : The Dilemma of Developing Countries*, A.P.H. Pub., New Delhi.
5. H.M. (1999), *Environmental Geography*, Rawat, Publications, Jaipur.
6. Heywood V.H & Watson R.T. (1995), *Global Biodiversity Assessment*, Oxford University Press.
7. Hussain, M., (ed.) (1996), *Environmental Management in India*, Rawat Pub., Jaipur.
8. Munn, T., (ed.) (2001), *Encyclopedia of Global Environmental Change*, John Wiley & Sons, West Sussex
9. Odum E.P. (1971), *Fundamentals of Ecology*, WB Saunders Co, London. Saxena.
10. Ramakrishnan, P.S., (1998), *Conservation and Management of Biological Resources in Himalaya*, Oxford & IBH Pub., New Delhi.
11. Sapru, R.K., (1987), *Environmental Management in India*, A.P.H. Pub., New Delhi.
12. Saxena, H.M., (1999), *Environmental Geography*, Rawat Pub., Jaipur.
13. Sharma P.D. (1999), *Ecology and Environment*, Rastogi Publications, New Delhi.
14. Singh R.B., (ed.) (2001), *Urban Sustainability in the Context of Global Change*, Science Pub., Inc., Enfield (NH), USA
15. Singh, R.B., (ed.) (1990), *Environmental Geography*, Heritage Pub., New Delhi.
16. Singh, S., (1997), *Environmental Geography*, Prayag Pustak Bhawan, Allahabad.
17. Strahler, A.N. and Stahler, A.M. (1986), *Geography and Man's Environment*, John Wiley and Sons, New York.

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Paper- 202
FUNDAMENTALS OF HUMAN GEOGRAPHY

Max. Marks: 100
End-term exam: 80
Internal Assessment: 20

Note:

The question paper will have five units. Each of the first four units of the question will contain two questions from each unit of the syllabus. Candidate is required to attempt one question from each unit. Unit-V shall be compulsory and contain 8 multiple choice/objective type questions covering the entire syllabus. All questions carry equal marks.

Unit-I

Nature and scope of Human Geography; branches of Human Geography; man- environment relationship; determinism and Possibilism

Unit-II

Evolution of man; classification and Concepts of Settlement; characteristics of races; human adaptation to Environment: Eskimo, Bushman, Pygmy, Naga, Bhil.

Unit-III

Models in Geography: Von-Thunen's model of agricultural location and Edward Ullman's model of spatial interaction

Unit-IV

Human settlements: Nature and Concepts & Settlement; Regional Settlement Hierarchy: Rank-Size Rule Central Place theory, Types and pattern of settlements with reference to India.

Suggested Reading List:

1. Chandna, R.C. (2010), Population Geography, Kalyani Publisher.
2. Chisholm, M. (1985), *Human Geography*, Penguin Books, London.
3. Daniel, P.A. and Hopkinson, M.F. (1989), *The Geography of Settlement*, Oliver & Boyd, London.
4. Ghosh, S. (2015) Introduction to settlement geography. Orient Black Swan Private Ltd., Kolkata
5. Husain, M. (in English & Hindi 1994), *Human Geography*, Rawat Publications, Jaipur.
6. Hussain, Majid (2012), *Manav Bhugol*. Rawat Publications, Jaipur
7. Johnston R; Gregory D, Pratt G. et al. (2008), *The Dictionary of Human Geography*, Blackwell Publication.
8. Jordan-Bychkov et al. (2006), *The Human Mosaic: A Thematic Introduction to Cultural Geography*. W. H. Freeman and Company, New York.
9. Kaushik, S.D. (2010), *Manav Bhugol*, Rastogi Publication, Meerut.
10. Kaushik, S.D. (in Hindi), *Manav Bhugol Ke Saral Sidhant*, Rastogi Publications, Meerut.
11. Maurya, S.D. (2012) *Manav Bhugol*, Sharda Pustak Bhawan. Allahabad.
12. Michael, C.M. (1997), *Process and Change in Human Geography*, Nelson, London.
13. Singh, L.R. (2005), *Fundamentals of Human Geography*, Sharda Pustak Bhawan, Allahabad.

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Paper 205
Topographical Maps

Max. Marks: 100
Lab Test: 40
Practical Record: 20
Viva-voce: 20
Internal Assessment: 20

Note:

At least fifteen exercises are to be prepared from covering all the topics. In the examination, the lab test shall comprise of six questions in all with at least two questions from each unit. The candidate has to attempt three questions selecting one from each unit.

Unit-I

Intervisibility: determination methods; Interpolation of Contours.

Unit-II

Profiles: types of profiles, drawing of profiles and cross sections; representation of relief – methods.

Unit-III

Interpretation of topographical Maps; Height, diagrams, hypsometric curve and altimetric frequency histogram.

Suggested Reading List:

1. Gupta K. K and Tyagi V. C., (1992), *Working with Maps*, Survey of India, DST, New Delhi.
2. Sharma J. P., (2010), *Prayogic Bhugol*, Rastogi Publishers, Meerut
3. Singh R. L. and Singh R. P. B., (1999), *Elements of Practical Geography*, Kalyani Publishers
4. Singh R. L., (1998), *Prayogic Bhoogol Rooprekha*, Kalyani Publications.
5. Singh, L.R. (2006), *Fundamentals of Practical Geography*, Sharda Pustak Bhawan, Allahabad.

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Paper-301
GEOMORPHOLOGY

Max. Marks: 100
End-term exam: 80
Internal Assessment: 20

Note:

The question paper will have five units. Each of the first four units of the question will contain two questions from each unit of the syllabus. Candidate is required to attempt one question from each unit. Unit-V shall be compulsory and contain 8 multiple choice/objective type questions covering the entire syllabus. All questions carry equal-marks.

Unit-I

Nature and scope of Geomorphology; fundamental concepts; Plate tectonics; Theory of Isostasy: Pratt and Airy; geological time scale.

Unit-II

The earth's interior; Endogenetic forces: folds and faults and associated topography; volcanoes and earthquakes.

Unit-III

Ocean Floor Relief: Indian, Atlantic and Pacific, oceanic Salinity and Temperature.

Unit-IV

Circulation of Oceanic water Current; Oceanic resources.

Suggested Reading List:

1. Bloom A L (1992), Geomorphology, Prentice Hall of India,-New Delhi.
2. Conserva H. T., 2004, Illustrated Dictionary of Physical Geography, Author House, USA.
3. Dev,S. (in Hindi), Bhu-akriti Vighan, Vishvabharati Publication, New Delhi.
4. Douglass. W. B. and Robert. S. A. (2001), Tectonic Geomorphology, Blackwell Science. Inc. U.S.A.
5. Enayat A. (1982), Physical Geography, Kalyani Publishers, Ludhiana.
6. Gabler R. E., Petersen J. F. and Trapasso, L. M., (2007), Essentials of Physical Geography (8th Edition), Thompson, Brooks/Cole, USA.
7. Goutam, A. (in Hindi), Bhu-akriti Vighan , Rastogi Publication, Meerut.
8. Husain M., 2002: Fundamentals of Physical Geography, Rawat Publications, Jaipur.
9. Monkhouse, F. J. 2009: Principles of Physical Geography, Platinum Publishers, Kolkata.
10. Parsad, G. (in Hindi), Bhu-akriti Vighan, Sharda Pustak Bhawan, Allahabad.
11. Savindra S. (in Hindi, 2000): Bhuakriti Vighan, Prayag, Pustak Bhavan, Allahabad. Jat,
12. Savindra, S. (2004) Geomorphology, Prayag, Pustak Bhavan, Allahabad.
13. Strahler A. N. and Strahler A. H., (2008), Modern Physical Geography, John Wiley & Sons, New York.
14. Thornbury, W. (1990), Principles of Geomorphology, Willy, New Delhi.
15. Woodlidge, S.W. and Morgan. R.S. (1959), An outline of Geomorphology, Orient Longmans, London.

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Paper-302
Economic Geography

Max. Marks: 100
End term exam: 80
Internal Assessment: 20

Note:

The question paper will have five units. Each of the first four units of the question will contain two questions from each unit of the syllabus. Candidate is required to attempt one question from each unit. Unit-V shall be compulsory and contain 8 multiple choice/objective type questions covering the entire syllabus. All questions carry equal marks.

Unit I

Nature and Scope of economic geography Classification and spatial organization of economic activities.

Unit II

Factors Affecting location of economic Activity with special reference to agriculture, Industry and services, Theory of Industrial Location (Weber).

Unit III

Primary Activities: Agriculture Forestry, Fishing and Mining.

Unit IV

Secondary & Tertiary Activities: Cotton Textile, Iron & Steel, special economic zone Trade, Transport and Services.

Suggested Reading List:

1. Bagchi-Sen S. and Smith H. L., (2006), *Economic Geography: Past, Present and Future*, Taylor and Francis.
2. Chand, M. and Puri, V.K. (2004), *Regional planning in India*; Allied Publishers, New Delhi, reprint.
3. Chandana, R. C. (2009), *Regional Development and Planning*. Kalyani Publishers, New Delhi.
4. Combes P., Mayer T. and Thisse J. F., 2008: *Economic Geography: The Integration of Regions and Nations*, Princeton University Press.
5. Dube, K.K. and Singh, M.B. (1986), Tara Book Agency, -
6. Varanas Chandana, R. C. (2009), *Pradeshik Niyojan and Vikash*, Kalyani Publishers, New Delhi.
7. Mishra, R.P, Sundaram, K.V., and Prakasarao, V.L.S. (1976): *Regional Development Planning in India*, Vikas Publishers., New Delhi.
8. Misra, R.P. (2002), *Regional Planning, Concepts, Techniques, Policies and Case Studies*. Concept Publishing Company, New Delhi.
9. Sharma, P.R. (ed.) (1993), *Regional Policies and Development in the Third World*. Rishi Publication., Varanasi.
10. Shrivastav and Sharma. (1997) *Pradeshik Niyojan and Santulite Vikash*. Vashundhara Publication, Gorakhpur.
11. Sundaram, K.V. (1977), *Urban and Regional Planning in India*, Vikas Publishers. New Delhi.
12. Willington D. E., (2008), *Economic Geography*, Husband Press.

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Paper-303
WORLD REGIONAL GEOGRAPHY

Max. Marks: 100
End term exam: 80
Internal Assessment: 20

Note:

The question paper will have five units. Each of the first four units of the question will contain two questions from each unit of the syllabus. Candidate is required to attempt one question from each unit. Unit-V shall be compulsory and contain 8 multiple choice/objective type questions covering the entire syllabus. All questions carry equal marks.

Unit-I

Geographic realms and regions, criteria for realms and regions, world geographic realms.

Unit-II

Natural regions of the world- location, climate, human life and economic life of- equatorial, monsoon, tropical deserts, Mediterranean & taiga regions.

Unit-III

Economic region – major industrial regions of Japan, U.S.A. and China ; cultural regions of the world on the basis of religion.

Unit-IV

Regional geography of South Asia: physiographic divisions; demographic characteristics; Industrialization and urbanization.

Suggested Reading List:

1. Di Blij, H. and Muller, O. (1993), *Geography: Regions and Concepts*. John Wiley and Sons, New York
2. Gautam, A (in Hindi), *Vishwa Bhugol*, Sharda Pustak Bhawan, Allahabad.
3. Husain .M (2004), *World Geography*, Rawat Publications, Jaipur.
4. Jackson, R. H. and Husman, L. E. (1991): *World Regional Geography: Issues for Today*. John Wiley and Sons, New York.
6. Jonson, B.L.C. (1970), *Geography of South Asia*, Cooke Ceylon.
7. Kulshreshtha, S.H. (1983), *Simple Geography of Nepal*, Educational Enterprises, Katmandu.
8. Rai, Gayatri (in Hindi, 2007): *Vishwa Ka Pradeshik Bhugol*, Mishra Trading Corporation, Varanasi.
9. Ranganath (2009), *Regional Geography of the World Vidyanidhi*, Gadag, Singh, D. A *Regional Geography of the World*, Kalyani Publication, New Delhi.
10. Rashid, R.E. (1977), *Geography of Bangladesh*, University Press Bangladesh,
11. Shakshana, H.S and Rahul and Pooja (in Hindi), *Vishwa Ka Pradeshik Bhugol*, Rastogi Publication, Meerut
12. Singh, R.B. and Pawel, Prokop (2017) *Environmental Geography of South Asia*, Springer
13. Spencer, J. E. (1962), *Asia East by South*, John Wiley and Sons, London.
14. Tikkha, Bali, Sekhon (2002), *World Regional Geography*, New Academic Publishing Company, Jalandhar.
15. Tikkha, Bali, Sekhon (in Hindi, 2002), *Vishwa Ka Pradeshik Bhugol*, New Academic Publishing House.

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Paper 305
MAP PROJECTIONS

Max. Marks: 100

Lab Test 60

Practical Record and Field Report 30

Viva-voce 10

Note:

At least one exercise from each projection is practical score. The candidate has to attempt an there education saluting at least one from each unit.

Unit – I

Map projections: Meaning, concept, classification, Prosperities and Uses.

Unit – II

Construction of map Projection: Zenithal, Gnomonic, Stereographic, Conical Bonne's and Polyconic.

Unit- III

Construction of Map Projection: Cylindrical Mercator, Convectional: Sinusoidal and Mollweide.

Suggested Reading List:

1. Kanetkar, T.P. and S.V. Kulkarni (1985), *Surveying and Levelling*, Vol. 1&2, Pune Vidyarthi griha Prakashan, Pune.
2. Kolatta. Singh, R.L. and Rana P.B. Singh (in English & Hindi 1993), *Elements of Practical Geography*, Kalyani Publishers, New Delhi.
3. Kothari, C.R. (1990), *Research Methodology: Methods and Techniques*, Wishwa Prakashan, New Delhi. Sarkar, A. K. (1997), *Practical Geography: A Systematic Approach*, Orient Longman,
4. Sharma, J.P. (2001), *Prayogik Bhugol*, Rastogi Publication, Meerut.

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Paper- 401
CLIMATOLOGY

Max. Marks: 100
End term exam: 80
Internal Assessment: 20

Note:

The question paper will have five units. Each of the first four units of the question will contain two questions from each unit of the syllabus. Candidate is required to attempt one question from each unit. Unit-V shall be compulsory and contain 8 multiple choice/objective type questions covering the entire syllabus. All questions carry equal marks.

Unit-I

Meaning and scope of Climatology; Climate and Weather; elements of climate; Factors affecting climate; composition and structure of atmosphere; atmospheric temperature: vertical and horizontal distribution.

Unit-II

Atmospheric pressure and wind distribution; Atmospheric moisture: humidity, evaporation and forms of condensation; types of precipitation; world patterns of rainfall.

Unit-III

Air masses: concepts and classification; atmospheric disturbances; tropical and temperate cyclones and anticyclones.

Unit-IV

Climatic regions; Classification of Koppen and Thornthwaite; climate changes and Global warming: evidences, causes, consequences and measure of its control.

Suggested Reading List:

1. Chorley, R.J. (2001), *Atmosphere, weather and Climate*, Methuen, London.
2. Critchfield, H. J. (2002), *General Climatology*, Prentice Hall of India, New Delhi..
3. Lal, D.S. (in English & Hindi, 1986), *Climatology*, Chaitanya Publications, Allahabad.
4. Singh, M.B. (in Hindi, 1998), *Jalwayu Avam Samudra Vigyan*, Tara Book Agency, Varanasi.
5. Singh, S. (in Hindi, 2006), *Jalwayu Vigyan*, Prayag Pustak Bhawan, Allahabad.
6. Tromp, S., (1980), *Biometeorology: The Impact of Weather and Climate on Humans and their Environment*, Heydon and Son.

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Paper-402
POPULATION GEOGRAPHY

Max. Marks: 100
End term exam: 80
Internal Assessment: 20

Note:

The question paper will have five units. Each of the first four units of the question will contain two questions from each unit of the syllabus. Candidate is required to attempt one question from each unit. Unit-V shall be compulsory and contain 8 multiple choice/objective type questions covering the entire syllabus. All questions carry equal marks.

Unit I

Nature and scope of Population Geography; sources and types of population data: census, sample surveys and vital registration system.

Unit II

World population: growth, causes and consequences; factors affecting population distribution; Migration: types and determinants.

Unit III

Population characteristics: fertility and mortality, rural and urban composition, age sex structure, occupational structure.

Unit IV

Population Theories: Malthus and Marx; demographic transition theory; problems and population policy in India.

Suggested Reading List:

1. Agarwala, S.N. (1985), *India's Population Problems*, Tata McGraw hill, New Delhi.
2. Bandarage, Asoka. (1998), *Women, Population and Global Crises: A Political Economic Analysis*, Zed Books, London.
3. Bansal, S.C, *Adhiwas Avam Janskhya Bhugol*, Rastogi Publications, Meerut.
4. Cadwell, John. (1982), *Theory of Fertility Decline*, Academic Press, New York.
5. Chandna RC (2000), *Geogrpahy of Population*, Kalyani Pubications
6. Chandna.R. C. (In English & Hindi, 2006), *Geography of Population*. Kalyani Publishers, New Delhi
7. Crook, Nigel.(1997), *Principles of Population and Development*, Oxford university Press, Oxford
8. Davis, Kinsley. (1949) *Human Society*, Macmillan. Co, New York.
9. Ehrlich and Ehrlich. (1990) *The Population Explosion*, Simon and Schuster, New York.
10. Hassan, M.I. (2005): *Population Geography*, Rawat Publications, New Delhi.
11. Parret, H.R., (1997), *Population Geography*, Oxford and Boyd, Oxford.
12. Peters, G. L. and Larkin, R.P. (1983): *Population Geography: Problems, Concepts and Prospects*, Kendall/Hunt, Dubuque, IA.
13. Trewartha, G.T. (1985): *Geography of Population: World Patterns*. John Wiley

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Paper-403
STATISTICAL TECHNIQUES IN GEOGRAPHY

Max. Marks: 100
End Term exam: 80
Internal Assessment: 20

Note:

The question paper will have five units. Each of the first four units of the question will contain two questions from each unit of the syllabus. Candidate is required to attempt one question from each unit. Unit-V shall be compulsory and contain 8 multiple choice/objective type questions covering the entire syllabus. All questions carry equal marks.

Unit-I

Meaning of statistics; classification and tabulation of statistical data; representation of statistical data: line, bar diagram, histogram ogives; significance of statistical techniques in geography.

Unit-II

Measures of central tendency: mean, median, mode; partition values: quartile, Decile and percentile.

Unit-III

Measures of dispersion: mean deviation, standard deviation; co-efficient of variation, Lorenz's curve.

Unit-IV

Correlation (Karl Pearson and Spearman); significance testing of correlation and co-efficient of determination; Regression, Sampling.

Suggested Reading List:

1. Bart James E and Gerld M.Barber, (1996), Elementary Statistics for Geographers, The Guieford Press, London.
2. Bhagwathi, V. and Pillai, R.S.N. (2003), *Practical Statistics*, Sultan Chand and Company, New Delhi.
3. Cressie, N.A.C., (1991), *Statistics for Spatial Analysis*, Wiley, New York.
4. Eldon, D., (1983), *Statistics in Geography: A Practical Approach*, Blackwell, London.
5. Gupta, S.P. (1998), *Advanced Practical Statistics*, Sultan Chand and Company, New Delhi.
6. Gupta, S.P and Alka *Sankhiki Bhugol: Sarda Pustak Bhawan, Allahabad.*
7. Haining, R.P., (1990), *Spatial Data Analysis in the Social and Environmental Science*, Cambridge University Press, Cambridge.
8. Khan Najma.,(1998), *Quantitative Methods in Geographical Research* , Concept Publishing Company, New Delhi
9. Mahmood, A. (1986), *Statistical Methods in Geographical Studies*, Rajesh Publications, New Delhi
10. Mathews, J.A., (1987), *Quantitative and Statistical Approches to Geography: A Practical Manual*Pergamon, Oxford.
11. Mc Grew, Jr. and Cahrles, B. M., (1993), *An Introduction to Statistical Problem Solving in Geography*, W.C. Brocan Publishers, New Jersey.
12. Pal, S.K., (1998), *Statistics for Geoscientists: Techniques and Applications*, Concept Publishing Company, New Delhi.
13. Zamir, A. (2002). *Statistical Geography: Methods and Applications*, Rawat Publications, Jaipur.

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Paper 405
THEMATIC CARTOGRAPHY

Max. Marks: 100
Lab Test: 40
Practical Record: 20
Viva-voce: 20
Internal Assessment: 20

Note:

At least fifteen exercises are to be prepared from all the units covering all the topics. In the examination, the lab test shall comprise of six questions in all with at least two questions from each unit. The candidate has to attempt three questions selecting one from each unit.

Unit-I

Cartography: an introduction; techniques in thematic data presentation: Bar, Line and Circle diagram, Ergo graph, Hythergraph and Climograph.

Unit-II

Techniques in thematic mapping: selection of class intervals; areal data: choropleth, dot method, proportional circles and spheres; point data: isopleths; linear data: flow line.

Unit-III

Cartographic overlays: point and line and areal data; choropleth maps to be overlain by bar diagrams/ line graphs/ circles, dot map to be overlain by proportional circles/ spheres.

Suggested Reading List:

1. Dent B. D., (1999), *Cartography: Thematic Map Design*, (Vol. 1), McGraw Hill.
2. Gupta K. K and Tyagi V. C., (1992), *Working with Maps*, Survey of India, DST, New Delhi.
3. Misra R. P. and Ramesh A., (1989), *Fundamentals of Cartography*, Concept Publishing.
4. Monkhouse, F.J. and Wilkinson, F.J. (1985), *Maps and Diagrams*, Methuen, London
5. Robinson A., (1953), *Elements of Cartography*, John Wiley.
6. Sharma J. P., (2010), *Prayogic Bhugol*, Rastogi Publishers.
7. Sharma, J.P. (3rd Ed 1989), *Prayogik Bhugol*, Rastogi Publications, Meerut.
8. Singh R. L., (1998), *Prayogic Bhoogol Rooprekha*, Kalyani Publications.
9. Singh, L.R. (2006), *Fundamentals of Practical Geography*, Sharda Pustak Bhawan, Allahabad.
10. Singh, R.L. and Rana P.B. Singh (in English & Hindi 1993), *Elements of Practical Geography*, Kalyani Publishers, New Delhi.
11. Steers J. A. (1965), *An Introduction to the Study of Map Projections*, University of London.

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Paper-501
MODERN GEOGRAPHICAL THOUGHT

Max. Marks: 100
End Term exam: 80
Internal Assessment: 20

Note:

The question paper will have five units. Each of the first four units of the question will contain two questions from each unit of the syllabus. Candidate is required to attempt one question from each unit. Unit-V shall be compulsory and contain 8 multiple choice/objective type questions covering the entire syllabus. All questions carry equal marks.

Unit I

Founders of modern geography: contributions of Alexander von Humboldt, Carl Ritter and Friederich Ratzel.

Unit II

Schools of geographical thought: French, British, German and American.

Unit III

Paradigms in geography; nomothetic and ideographic; concept of region; space and place in geography.

Unit-IV

Contemporary approaches in geography: positivism, behaviouralism, humanism and radicalism; Feminism; Future of Geography.

Suggested Reading List:

1. Amedo, Douglas (1971), An introduction to scientific reasoning in Geography. John Wiley.
2. Dickinson, R.E. (1969), Makers of Modern Geography, Routledge & Kegan Paul, London.
3. Dikshit, R.D. (1997), Geographical Thought: A Contextual History of Ideas, Prentice-Hall of India Pvt Ltd. New Delhi.
4. Dikshit, R.D. (1994), The Art and Science of Geography: Integrated Readings, Prentice Hall of India, New Delhi.
5. Dikshit, R.D. (1994), Bhugolik Chintan ka Vikas, Prentice Hall of India, New Delhi.
6. Hartshorne, R. (1959), Perspective on Nature of Geography, Rand McNally, Chicago.
7. Husain, M. (In English & Hindi, 1990), Evolution of Geographical Thought, Rawat Publications, Jaipur.
8. Johnson, R.J. (1983), Geography and Geographers: Anglo-American Human Geography since 1945. Arnold Heinemann, London.
9. Johnson, R.J. (1983), Philosophy and Human Geography. Edward Arnold, London.
10. Johnston, R.J. (1988), The Future of Geography. Methuen, London.
11. Kaushik, S.D. (2007), Prichyatmak Bhugol, Rastogi Publications, Meerut.
12. Minshull, R. (1970), The Changing Nature of Geography. Hutchinson, London.
13. Prasad, D. (in Hindi), Bhugolik Chintan Ki Samiksha, Sharda Pustak Bhawan, Allahabad
14. Rana, L. (2008), Geographical Thought: A Systematic Record of evolution, Concept Publishing Company, New Delhi.

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Paper-502
GEOGRAPHY OF INDIA

Max. Marks: 100

End Term exam: 80

Internal Assessment: 20

Note:

The question paper will have five units. Each of the first four units of the question will contain two questions from each unit of the syllabus. Candidate is required to attempt one question from each unit. Unit-V shall be compulsory and contain 8 multiple choice/objective type questions covering the entire syllabus. All questions carry equal marks.

Unit-I

Physiographic divisions; drainage system; climate; climatic regions (Koeppen); soil and natural-vegetation.

Unit II

Minerals and power resources (iron ore, coal and petroleum); multipurpose projects; irrigation; major industries: iron and steel, cotton textile, sugar and automobile.

Unit III

Major Crops (rice, wheat, sugarcane, cotton and tea); Green revolution and its consequences; Regionalisation of India (Physiographic, social-cultural, Economic) Distribution of population by race, religion, language, tribes.

Unit IV

Population growth: trends and pattern; sex and age-structure; literacy and urbanization. Distribution of population by race, language.

Suggested Reading List:

1. Deshpande, C.D., India: A Regional Interpretation, Northern Book Centre, New Delhi.
2. Hussain M., (1992), Geography of India, Tata McGraw Hill Education.
3. Johnson, B.L.C. (1980), India: Resources and Development, Arnold-Hinemann, London.
4. Khullar, D.R. (2000), India: A Comprehensive Geography, Kalyani Publishers, New Delhi.
5. Mamoria C. B., (1980), Economic and Commercial Geography of India, Shiva Lal Agarwala.
6. Miller F. P., Vandome A. F. and McBrewster J., (2009), Geography of India: Indo- Gangetic Plain, Thar Desert, Major Rivers of India, Climate of India, Geology of India, Alpha script Publishing.
7. Nag P. and Sengupta S., (1992), Geography of India, Concept Publishing.
8. Pichamuthu C. S., (1967), Physical Geography of India, National Book Trust. Publishing House, New Delhi.
9. Rana, Tejbir Singh, 2015, Diversity of India, R.K. Books, Delhi.
10. Sharma, T.C. & Coutinho 1991), Economic and Commercial Geography of India, Vikas
11. Singh, G. (1995), A Geography of India, Atma Ram & Sons, New Delhi.
12. Singh, J. (2003), India: A Comprehensive Systematic Geography, Gyanodaya Prakashan, Gorakhpur.
13. Singh, R.L. (1971), India: A Regional Geography, National Geographical Society of India, Varanasi.
14. Spate O. H. K. and Learmonth A. T. A., (1967), India and Pakistan: A General and Regional Geography, Methuen.
15. Spate, O.H.K. & Learmonth, India and Pakistan: Land, People and conomy, Methuen, London.
16. Tirtha, R. & Gopal Krishan (1992), Emerging India, Conpub Ann Arbour Publishers,

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Paper 503
Option : 1
AGRICULTURAL GEOGRAPHY

Max. Marks: 100

End Term exam: 80

Internal Assessment: 20

Note:

The question paper will have five units. Each of the first four units of the question will contain two questions from each unit of the syllabus. Candidate is required to attempt one question from each unit. Unit-V shall be compulsory and contain 8 multiple choice/objective type questions covering the entire syllabus. All questions carry equal marks.

Unit- I

Nature and scope of Agricultural Geography; Approaches to agricultural geography; physical, cultural and institutional factors affecting agriculture.

Unit- II

World farming systems: subsistence, commercial, plantation, dairying and mixed farming; crop concentration and crop diversification; delineation of crop combination regions (Weaver's method).

Unit- III

Agriculture in India: land-use and cropping pattern; development of irrigation and agriculture; agricultural efficiency and agricultural productivity.

Unit -IV

Agricultural planning and policies in India; Agro-climatic regions of India, Green revolution in India; Second generation reforms in Indian agriculture: Land and institutional reforms, Sustainable Agriculture.

Suggested Reading List:

1. Gautam, A. (in Hindi) *Krishi Bhugol*, Sharda Pustak Bhawan Allahabad.
2. Gregor, H.P. (1970), *Geography of Agriculture*, Prentice-Hall, New York.
3. Husain, M. (1996), *Systematic Agricultural Geography*, Rawat Publications, Jaipur.
4. Husain, M. (in Hindi, 1996), *Krishi Bhugol*, Rawat Publications, Jaipur.
5. Kumar, P. (in Hindi) *Krishi Bhugol*, Madhya Pradesh Hindi Academy, Bhopal.
6. Mohammad, A. (1978), *Studies in Agricultural Geography*, Rajesh Publications, New Delhi.
7. Mohammad, N. (1981), *Perspectives in Agriculture Geography*, Concept Publishing company, New Delhi.
8. Sen, S. (1975), *Reaping the Green Revolution*, Tata McGraw-Hill, New Delhi.
9. Shafi, M. (2006), *Agricultural Geography*, Pearson Education, New Delhi.
10. Sharma, B.L. (in Hindi) *Krishi Bhugol*, Rastogi Publication, Meerut.
11. Singh, B.B. (in Hindi, 1979), *Krishi Bhugol*, Tara Publications, Varanasi.
12. Singh, J. and Dhillon, S.S. (2000), *Agricultural Geography*, Tata McGraw-Hill, New Delhi.
13. Singh, S. (1994), *Agricultural Development in India: Regional Analysis*, Kaushal Publications, Shillong.

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Paper-503
Option : 2
URBAN GEOGRAPHY

Max. Marks: 100
End term exam: 80
Internal Assessment: 20

Note:

The question paper will have five units. Each of the first four units of the question will contain two questions from each unit of the syllabus. Candidate is required to attempt one question from each unit. Unit-V shall be compulsory and contain 8 multiple choice/objective type questions covering the entire syllabus. All questions carry equal marks.

Unit -I

Nature and scope of Urban Geography; definition of urban places; evolution of city through historical times: ancient, medieval and modern.

Unit -II

Size and spacing of cities; Rank size rule; Primate City concept and Central Place Theory (Christaller); ecological processes: centripetal and centrifugal forces.

Unit- III

Internal structure of cities: concentric zone theory, sector theory, multi nuclei theory; functional classification of towns:

Unit -IV

Definition and measures of urbanization; urbanization processes; geographical approaches to urbanization; salient features of urbanization in developed and developing countries.

Suggested Reading List:

1. Carter, H. (Latest edition), *The Study of Urban Geography*. Edward Arnold Publishers, London.
2. Kanda, A. (1992), *Urban. Development and Urban Research in India*, Khama Publication Mayor, H.M.
3. Kohn C.F. (1955), *Readings in Urban Geography*, University of Chicago Press, Chicago.
4. Nangia, S. (1976), *Delhi Metropolitan Region: A Study in Settlement Geography*, Rajesh Publication.
5. Ramchandran. R. (1988), *Urbanization and Urban system in India*, New Delhi, Oxford Publication.
6. Singh K and Steinberg F (1998), *Urban India in Crisis*, New Age interns, New Delhi.
7. Singh R. B., (2000), *Urban sustainable in the context of Global Change*, oxfors & IBN Publications, New Delhi.

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Paper 503
Option: 3
GEOGRAPHY OF TOURISM

Max. Marks: 100
End term exam: 80
Internal Assessment: 20

Note:

The question paper will have five units. Each of the first four units of the question will contain two questions from each unit of the syllabus. Candidate is required to attempt one question from each unit. Unit-V shall be compulsory and contain 8 multiple choice/objective type questions covering the entire syllabus. All questions carry equal marks.

Unit – I.

Nature, scope and significance of Geography of Tourism; geographical basis of tourism; resources & infrastructure for tourism: transportation, accommodation & basic infrastructure.

Unit – II

Type of tourism: recreational, religious and historical; Impact of tourism: physical, economic and Social cultural; concept of eco-tourism and medico-tourism; new trends in tourism.

Unit – III

Globalization and tourism; growth and development of tourism in India; National Tourism Policy of India.

Unit – IV

Tourism marketing: marketing concepts & marketing in tourism; tourism circuits; tour agencies.

Suggested Reading List:

1. Bhatia A.K. (1978), *Tourism in India*, Sterling Publications, New Delhi.
2. Burkarl, A.J.(1974): *Tourism: Past, present and future*, Heinemann, London.
3. Dhar, P.N. (2006) *International Tourism: Emerging Challenges and Future Prospects*, Kanishka, New Delhi.
4. Douglas Pearce (1981): *Topics in Applied Geography: Tourist Development*, Longman, New York.
5. Hall, M. and Stephen, P. (2006), *Geography of Tourism and Recreation – Environment, Place and Space*, Routledge, London.
6. Kamra, K. K. and Chand, M. (2007), *Basics of Tourism: Theory, Operation and Practise*, Kanishka Publishers, Pune.
7. Ministry of Tourism Government of India (1996): *Report on National Strategy for Development of Tourism*, New Delhi.
8. Ministry of Tourism Govt. of India (1992): *Report on National Action Plan on Tourism*, New Delhi.
9. Ministry of Tourism Govt. of India (1999): *Report on National Tourism* Kapoor, V.K. (in Hindi): *Parytan Bhugole*, Vishvabharti Publication, New Delhi.
10. Robinson H. (1976): *A Geography of Tourism*, Mac Donald and Evans Ltd, London.
11. Singh Jagbir, (2014). "Eco-Tourism" Published by - I.K. International Pvt. Ltd, New Delhi.

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Paper: 505
Field Techniques

Max. Mark:100
Lab Test: 20
Field Report: 40
Viva-voce: 20
Internal Assessment: 20

Unit I

Field Work in Geography: Concept, Role value and Ethics; Studying Rural – Urban; Physical Human.

Unit II

Field Techniques: Merits, Demerits and solution of the Appropriate Technique: Observation, Questionnaire, Interview, and Use of field tool: Collection of Materials for surveys.

Unit III

Field Trip to any area decides by respective College department Assigning the field report for submission examination.

Suggested Reading List:

1. Creswell J., 1994: Research Design: Qualitative and Quantitative Approaches Sage Publications.
2. Dikshit, R. D. 2003. The Art and Science of Geography: Integrated Readings. Prentice-Hall of India, New Delhi.
3. Evans M., 1988: "Participant Observation: The Researcher as Research Tool" in Qualitative Methods in Human Geography, eds. J. Eyles and D. Smith, Polity.
4. Mukherjee, Neela 1993. Participatory Rural Appraisal: Methodology and Application. Concept Pubs. Co., New Delhi.
5. Mukherjee, Neela 2002. Participatory Learning and Action: with 100 Field Methods. Concept Pubs. Co., New Delhi
6. Robinson A., 1998: "Thinking Straight and Writing That Way", in Writing Empirical Research Reports: A Basic Guide for Students of the Social and Behavioural Sciences, eds. by F. Pryczak and R. Bruce Pryczak, Publishing: Los Angeles.
7. Special Issue on "Doing Fieldwork" The Geographical Review 91:1-2 (2001).
8. Stoddard R. H., 1982: Field Techniques and Research Methods in Geography, Kendall/Hunt.
9. Wolcott, H. 1995. The Art of Fieldwork. Alta Mira Press, Walnut Creek, CA.

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Paper - 601
Disaster Management

Max. Marks: 100
End term exam: 80
Internal Assessment: 20

Unit I

Disaster; Hazards, Risk, Vulnerability and Disasters: Definition and Concepts.

Unit II

Disasters in India: Causes Impact, Distribution and Mapping: Flood and Drought. Earthquake and Cyclone.

Unit III

Human induced disasters In India: Causes, Impact, Distribution and Mapping.

Unit IV

Disaster Risk Reduction: Mitigation and Preparedness, NDMA and NIDM; Community-Based Disaster Management; Do's and Don'ts during Disasters

Suggested Reading List:

1. Government of India. (1997) Vulnerability Atlas of India. New Delhi, Building Materials & Technology Promotion Council, Ministry of Urban Development, Government of India.
2. Kapur, A. (2010), Vulnerable India: A Geographical Study of Disasters, Sage Publication, New Delhi.
3. Modh, S. (2010), Managing Natural Disaster: Hydrological, Marine and Geological Disasters, Macmillan, Delhi.
4. Singh, R. B. (ed.), (2006), Natural Hazards and Disaster Management: Vulnerability and Mitigation, Rawat Publications, New Delhi.
5. Sinha, A. (2001). Disaster Management: Lessons Drawn and Strategies for Future, New United Press, New Delhi.
6. Stoltman, J.P. et al. (2004) International Perspectives. on Natural Disasters, Kluwer Academic Publications.
7. Singh Jagbir, (2007), "Disaster Management Future Challenges and Oppurtunities", 2007. Publisher- I.K.

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Paper-602
Regional Geography

Max. Marks: 100
End term exam: 80
Internal Assessment: 20

Note:

The question paper will have five units. Each of the first four units of the question will contain two questions from each unit of the syllabus. Candidate is required to attempt one question from each unit. Unit-V shall be compulsory and contain 8 multiple choice/objective type questions covering the entire syllabus. All questions carry equal marks.

Unit I

Concept of region: types of region; methods of delineation of region; growth and development; concept of regional development.

Unit II

Growth and development theories: growth pole theory; spatial diffusion theory; cumulative-causation model; polarization and trickle down effects; Human Development Index and its indicators.

Unit III

Regional patterns of development and imbalances in India; planning for regional development; role of agriculture, industry and infrastructure in regional development.

Unit IV

Five year planes in India: features, objectives and assessment (a general introduction); programmes on poverty alleviation and unemployment with special reference to the post economic reform period.

Suggested Reading List:

1. Bhat, L.S. (1972), *Regional Planning in India*, Indian Statistical Institute, Calcutta.
2. Chand, M. and Puri, V.K. (2004), *Regional planning in India*; Allied Publishers, New Delhi, reprint.
3. Chandana, R. C. (2009), *Pradeshik Niyojan and Vikash*, Kalyani Publishers, New Delhi.
4. Chandana, R. C. (2009), *Regional Development and Planning*. Kalyani Publishers, New Delhi.
5. Concept Publishing Company, New Delhi.
6. Kuklinski, A.R. (ed.) (1975), *Regional Development and Planning: International Perspectives*, Sijthoff-Leyder
7. Mishra, R.P, Sundaram, K.V., and Prakasarao, V.L.S. (1976), *Regional Development Planning in India*, Vikas Publishers., New Delhi.
8. Mishra, R.P. (1969), *Regional Planning*. University of Mysore, Mysore.
9. Mishra, R.P. (2002), *Regional Planning, Concepts, Techniques, Policies and Case Studies*
10. Sharma, P.R. (ed.) (1993), *Regional Policies and Development in the Third World*. Rishi Publication., Varanasi.
11. Shrivastav and Sharma.(1997), *Pradeshik Niyojan and Santulite Vikash*. Vashundhara, Publication, Gorakhpur.
12. Sundaram, K.V. (1977), *Urban and Regional Planning in India*, Vikas Publishers. New Delhi.

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Paper-603
Option: 1
INDUSTRIAL GEOGRAPHY

Max. Marks: 100
End term exam: 80
Internal Assessment: 20

Note:

The question paper will have five units. Each of the first four units of the question will contain two questions from each unit of the syllabus. Candidate is required to attempt one question from each unit. Unit-V shall be compulsory and contain 8 multiple choice/objective type questions covering the entire syllabus. All questions carry equal marks.

Unit-I

Nature and scope of Industrial Geography; history of industrialization: mercantilism, colonialism and industrial revolution; core-periphery model in world industrialization.

Unit-II

Factors of industrial location; theories of industrial location / Hoover, Losch and Smith.

Unit-III

Distribution, growth, production, and problems of iron and steel, cotton textile and sugar industries in India, industrial policies in India.

Unit-IV

Major industrial regions; Great Lakes region of USA, Ruhr industrial region, Yangtze region of China, Mumbai- Ahmedabad industrial region of India.

Suggested Reading List:

1. Alexanderson, C. (1967), *Geography of Manufacturing*, Prentice-Hall of India, New Delhi.
2. Hoover, E. M. (1948), *Location and Space Economy*, McGraw Hill, New York.
3. Kulkarni, M.R. (1991), *Industrial Development*, National Book Trust, New Delhi.
4. Lodha, R.M.(2005), *Audyogika Bhoogol*, Rajasthan Hindi Granth Academy, Jaipur.
5. Miller, E. (1962), *A Geography of Manufacturing*, Prentice-Hall, Englewood Cliffs, New Jersey.
6. Riley, R. C. (1973), *Industrial Geography*, Chatto and Windus Ltd. London.
7. Singh, M. B. (1990), *New Perspectives in Industrial Geography*, Lotus Publication,
8. Varanasi. Singh, M. B. (1988), *Industrial Geography*, Lotus Publication, Varanasi.

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Paper-603
Option: 2
POLITICAL GEOGRAPHY

Max. Marks: 100
End term exam: 80
Internal Assessment: 20

Note:

The question paper will have five units. Each of the first four units of the question will contain two questions from each unit of the syllabus. Candidate(s) are required to attempt one question from each unit. Unit-V shall be compulsory and contain 8 short answer type questions covering the entire syllabus. All questions carry equal marks.

Unit-I

Nature and scope of Political Geography; approaches to the study of political geography: morphological and functional.

Unit-II

Concept of nation, state and nation-state; geographic characteristics of states: size, shape, location, cores and capitals; frontier and boundaries.

Unit-II

Global geo-strategic views: Mahan, Mackinder, Spykman and Seversky.

Unit-IV

Forms of Government: unitary and federal; electoral abuses; Malapportionment, Gerrymandering.

Suggested Reading List:

1. Cohan, S. (1964), *Geography and Politics in Divided World*, Random House, New York.
2. De Blij, H.J. and Glassner, M. (1968), *Systematic Political Geography*, John Willey and Sons, New York.
3. Dikshit, R.D. (2000), *Political Geography: A Contemporary Perspective*, Prentice Hall, New Delhi.
4. Pounds, N.J.G. (1972), *Political Geography*, McGraw Hill Publications, New York.
5. Singh, T.D. (1988), *Hind Mahasagar Avam Parimandaliya Rashtra: Ek Bhugolik Adhyan*, Tara Book Agency, Varanasi.
6. Sukhwal, B.L. (1987), *Modern Political Geography of India*, Sterling Publication, New Delhi.

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Paper-603.
Option: 3
Social & Cultural Geography

Max. Marks: 100
End term exam: 80
Internal Assessment: 20

Note:

The question paper will have five units. Each of the first four units of the question will contain two questions from each unit of the syllabus. Candidate is required to attempt one question from each unit. Unit-V shall be compulsory and contain 8 multiple choice/objective type questions covering the entire syllabus. All questions carry equal marks.

Unit-I

Nature and development of Social Geography; Social Geography in the realms of social sciences; concept of social space; Social differentiation and stratification; Social segregation.

Unit-II

Elements of Social Geography: Ethnicity, Tribe, Dialect, Language, Class, Caste & Religion, Gender Linguistic regions in India, social well-being.

Unit-III

Nature and scope of Cultural Geography; Origin and dispersal of various culture; Culture: Definition, elements and components; Cultural area and realm.

Unit-IV

Habitats of man and the origin of the civilization in the world; Racial Elements in India's Population; Tribes of India (Santhal, Gond, Todda, Naga and Bhil).

Suggested Reading List:

1. Admed, A. (2004), *Social Geography*, Rawat Publication, New Delhi.
2. Ahmad A (1993) (ed) *Social Structure and regional Development: A Social Geography Perspective*, Rawat Publications, Jaipur.
3. Ahmed A (1999), *Social Geography*, Rawat publications, Jaipur.
4. Crane Robert I (1973), *Regions and Regionalism in South Asian Studies: An Exploratory Study*, Duke University Durham.
5. Jones, E. and Eyles, J. (1977), *An Introduction to Social Geography*, Oxford University Press, Oxford.
6. Maurya, S.D. (in Hindi), *Samajik Bhugol*, Sharda Pustak Bhawan, Allahabad.
7. Pain R, M. Barke, D Fuller, J Gough, R MacFarlane, G-Mowl, (2001), *Introducing Social Geographies*, Arnold Publishers, London.
8. Rubenstein, J.M. and Becon, J.M. (1990), *Cultural Geography*, John Wiley and Sons, New York.
9. Spencer, J.E. and Thomas, W.L. (1969), *Cultural Geography*, John Wiley and Sons, New York.

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Paper - 605
Remote Sensing and GIS.

Max. Mark: 100
Lab Test: 40
Practical Report: 20
Viva-voce: 20
Internal Assessment: 20

Unit I

Remote Sensing: Definition, Development, Platform and type: Aerial Photography: Principle, type and Geometry.

Unit II

Satellite Remote Sensing: Principal, EMR Interaction with Atmosphere and earth Surface, Statelier (Landsat and IRS) and season, Digital Renege Process.

Unit III

Geographical Information System: Definition, Compartment and Signify came GIS Data Steelers: type (Spatial and non-Spatial); Raster and Vector; GIS Data Analysis – Input, Editing and Output – Overlays.

Suggested Reading List:

1. Burrough, P.A., and McDonnell, R.A. (2000), Principles of Geographical Information System- Spatial Information System and Geo-statistics. Oxford University Press
2. Chauniyal, D.D. (2010), Sudur Samvedan evam Bhogolik Suchana Pranali, Sharda Pustak Bhawan, Allahabad
3. Heywoods, I., Cornelius, S and Carver, S. (2006), An Introduction to Geographical Information system. Prentice Hall.
4. Jensen J. R., (2004), *Introductory Digital Image Processing: A Remote Sensing Perspective*, Prentice Hall.
5. Jha, M.M. and Singh, R.B. (2008), Land Use: Reflection on-Spatial Informatics Agriculture and Development, New Delhi: Concept.
6. Joseph, G. (2005), *Fundamentals of Remote Sensing*, United Press India.
7. Nag, P. (2008), Introduction to GIS, Concept India, New Delhi.
8. Rees W. G., (2001), *Physical Principles of Remote Sensing*, Cambridge University Press.
9. Singh, R.B. and Murai, S. (1998), Space Informatics for Sustainable Development, Oxford and IBH, New Delhi.

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