Kurukshetra University, Kurukshetra

B.A/B.Sc. (Hons.) Course Outline and Scheme w.e.f. 2011-12

B.A/B.Sc. (Hons.) Semester-I

Paper No.	Nomenclature of Paper	Max Marks	Internal Assessment	Total Marks	Time
101	Geomorphology	80	20	100	3 Hours
102	Population Geography	80	20	100	3 Hours
103 (A)	Maps and Scales (Theory)	40	20	60	3 Hours
103(B)	Maps and Scales (Practical)	40	-	40	3 Hours
Subsidiary Papers					
104	English	80	20	100	3 Hours
105	Any one of the following **Social Sciences** (i) Economics (ii) History (iii) Tourism (iv) Political Science (v) Defence Studies (vi) Psychology (vii) Sociology (viii) Social work (ix) Mathematics (x) Public Administration (xi) Computer Science **Science** (i) Mathematics (ii) Geology (iii) Environmental Science (iv) Physics (v) Chemistry (vi) Botany (vii) Zoology (viii) Computer Science.	80	20	100	3 Hours
	Environmental Studies (Qualifying)	80	20	100	3 Hours

B.A/B.Sc. (Hons.) Semester-II

Paper No.	Nomenclature of Paper	Max Marks	Internal Assessment	Total Marks	Time
201	Climatology	80	20	100	3 Hours
202	Agricultural Geography	80	20	100	3 Hours
203 (A)	Map Projection (Theory)	40	20	60	3 Hours
203(B)	Map Projection (Practical)	40	-	40	3 Hours
Subsidiary Papers					
204	English	80	20	100	3 Hours
205	Any one of papers selected in Semester-I	80	20	100	3 Hours

B.A/B.Sc. (Hons.) Semester-III

Paper No.	Nomenclature of Paper	Max Marks	Internal Assessment	Total Marks	Time
301	Hydrology & Oceanography	80	20	100	3 Hours
302	Regional Geography of World	80	20	100	3 Hours
303 (A)	General Cartography (Theory)	40	20	60	3 Hours
303 (B)	General Cartography (Practical)	40	-	40	3 Hours
Subsidiary Papers					
304	English	80	20	100	3 Hours
305	Any one of papers selected in Semester-I	80	20	100	3 Hours

B.A/B.Sc. (Hons.) Semester-IV

Paper No.	Nomenclature of Paper	Max Marks	Internal Assessment	Total Marks	Time
401	Geography of Disasters	80	20	100	3 Hours
402	Economic Geography	80	20	100	3 Hours
403 (A)	Morphometric Analysis (Theory)	40	20	60	3 Hours
403 (B)	Morphometric Analysis (Practical)	40	-	40	3 Hours
Subsidiary Papers					
404	English	80	20	100	3 Hours
405	Any one of papers selected in Semester-I	80	20	100	3 Hours

B.A/B.Sc. (Hons.) Semester-V

Paper No.	Nomenclature of Paper	Max Marks	Internal Assessment	Total Marks	Time
501	Evolution of Geographic Thought	80	20	100	3 Hours
502	Geography and Ecosystems	80	20	100	3 Hours
503 (A)	Remote sensing and GIS (Theory)	40	20	60	3 Hours
503 (B)	Remote sensing and GIS (Practical)	40	-	40	3 Hours
504	Geography of India	80	20	100	3 Hours
505	Any one of the followings: (i) Social Geography (ii) Cultural Geography (iii) Political Geography (iv) Geography of Haryana	80	20	100	3 Hours

B.A/B.Sc. (Hons.) Semester-VI

Paper No.	Nomenclature of Paper	Max. Marks	Internal Assessment	Total Marks	Time
601	Statistical Methods in Geography	80	20	100	3 Hours
602	Regional Development and Planning	80	20	100	3 Hours
603 (A)	Field Survey in Geography (Theory)	40	20	60	3 Hours
603 (B)	Field Survey in Geography (Practical)	40	-	40	3 Hours
604	Geography of Settlements	80	20	100	3 Hours
605	Any one of the followings: (i) Geography of Transport (ii) Geography of Tourism (iii) Geography of Health (v) Soil Geography	80	20	100	3 Hours

<center>**Paper-101 Geomorphology**</center>

<center>**Maximum Marks:80**
Time   : 3 Hours</center>

Note: Question 1 is compulsory and comprises of eight short questions to be answered in 15-20 words. There will be eight long questions, two from each section. The candidate has to answer one question from each section. All five questions carry equal marks.

<center>**Section - A**</center>

1. Definition nature, scope of Geomorphology and its relation with geology.
2. Earth movements- Eperogenic, Orogenic and Cymatogenic earth movements.
3. Wegner's Theory of continental drift and plate tectonic theory.

<center>**Section - B**</center>

4. Weathering; Physical, Chemical and Biological, and importance of weathering.
5. Mass movement; classification, description and Geomorphic significance of mass movement.

<center>**Section – C**</center>

6. Concept of cycle of erosion; Cycle of erosion by W.M. Davis, W. Penck and L.C. King.
7. Fluvial Processes and its land forms.

<center>**Section - D**</center>

8.   Aeolian Process and land forms.
9.   Karstgrophic/Underground water and its and land forms.
10. Glacial and Periglacial processes and their land forms.

Suggested Readings:

1. Dayal, P; A Text book of Geomorphology. Shukla Book depot, Patna, 1996.
2. Kale V. and Gupta, A: Element of Geomorphology, Oxford University Press, Calcutta, 2001.
3. Monkhouse, F.J.: Principles of Physical Geography. Hodder and Stoughton, London. 1960.
4. Pitty. A: Introduction to Geomorphology, Methuen, London, 1974.
5. Sharma, H.S: Tropical Geomorphology, Concept, New Delhi 1987.
6. Singh, S.: Geomorphology, Prayag Pustakalaya, Allahabad, 1998.
7. Sparks, B.W. : Geomorphology, Longmans, London, 1960.
8. Strahler, A.N: Environmental Geo-Science, Hamilton Publishing, Santa Barbara, 1973.
9. Thornbury, W.D.: Principles of Geomorphology, Longman, 1991.
10. Wooldridge, S.W. and Morgan, R.S.: The Physical Basis of Geography-An Outline of Geomorphology, Longman Green & Co., London, 1959.

B.A/B.Sc. (Hons.)
Paper 102 Population Geography

Maximum Marks:80
Time   : 3 Hours

Note: Question 1 is compulsory and comprises of eight short questions to be answered in 15-20 words. There will be eight long questions, two from each section. The candidate has to answer one question from each section. All five questions carry equal marks

Section - A

1. Nature, Scope and Contents of Population Geography.
2. Sources of Data; Census, Sample Surveys and Civil Registration System.

Section - B

3. Concepts, Determinants and World Regional Pattern of following attributes;
    (a) Distribution and Density.
    (b) Vital Events: Fertility and Mortality
    (c) Migration
    (d) Growth

Section - C

4. Composition of Population; Determinants and World Regional Patterns of the followings.

    (a) Age and Sex Composition
    (b) Rural-Urban Composition
    (c) Economic Composition

Section – D

5. Population Problems and Policies in developed and developing countries.
6. Population Problems and Policies in India since independence.
7. Population and Environment Interface: Cause-effect syndrome; Global and Indian profile.

Suggested Readings:

1. Beaujeu, Garnier, J. (1966) Geography of Population, Longman, London.
2. Brooks, S. (1977): The World Population Today (Ethnodemographic Process),
    USSR Academy of Sciences, Moscow.
3. Cassen, Robert & Bates, Lisa M. (1994) : Population Policy : A New
   Consensus Overseas Development Council, Washington, D.C.
4. Chandna, R. C. (1997) : Jansankhya Bhugol, Kalyani Publishers, New Delhi.
5. Chandna, R. C. (1998) : Population, Publishers, New Delhi.
6. Chandna, R. C. (1998) : Environmental awareness, Publishers, New Delhi.
7. Chandna, R. C. (1998) : a Geography of Population : Concepts, Determinants
    and Patterns, Publishers, New Delhi.
8. Clarks, John, I. (1971) : Population Geography and the Developing Countries,
     Pergamon Press, New York.
9. Demko, G. J. and others (Eds.) (1971) : Population Geography, Reader, McGraw-Hill Books
     Co., New York
10. Jones, Huw, R. (1981) : A Population Geography, Harper and Row Publishers, London.
11. Petrov, V. (1985) : India: Spotlight of Population, Progress Publishers, Moscow.
12. Trewartha, G. T. (1972) : The Less Developed Realm-A Geography of its Population, John
     Wiley & Sons, Inc., New York.
13. Trewartha, G. T. (1978) : The More Developed Realm-A Geography of its Population
     Pergamon Press, New York.
14. Woods, R. (1979) : Population Analysis in Geography, Longman, London.

Paper-103 (A) Maps and Scales (Theory)

Maximum Marks: 40
Time   : 3 Hours

Note: Question 1 is compulsory and comprises of eight short questions to be answered in 15-20 words. There will be eight long questions, two from each section. The candidate has to answer one question from each section. All five questions carry equal marks

Section - A

1. Introduction to Cartography.

2. Maps, their types and uses.

Section - B

3. Interpretation of topographical maps, degree sheets, half degree sheets and one forth degree sheets and index reading of topographical maps.

Section - C

4. Maps scale, types of scale and uses of scales.

5. Conversion of statement of scale into R.F and vice-versa.

Section - D

6. Scales and their functions.

(i)   Notation scale

(ii)   Representative scale

(iii)   Graphic scales and its construction

(iv)   Plane scale, (K.M. and Mile), comparative scales

(v)   Diagonal scale

(vi)   Vernier scale

(vii)   Determining the scale of a map

(viii)   Reduction and Enlargement of maps

Suggested Readings:

1. F.J Monkhouse and H.R. Wilkinson (1972) Maps and Diagrams, Mothuen and Co. Ltd., London
2. L.R. Singh and Raghuvander Singh (1973), Map Work and Practical Geography, Central Book Depot, Allahabad.
3. R.I. Singh and P.K. Dutt (1968), Elements of Practical Geography, Students Friends, Allahabad.
4. Singh Gopal (2004) 4th edition, Map work and Practical Geography, Viksa Publication House.

Paper-103 (B) Maps and Scales (Practical)

Maximum Marks: 40   Distribution of Marks:

Time: 3 Hours   Exercise: 24

                                                    Record File: 8

                                                    Viva Voce: 8

Note: There will be four questions and candidate has to attempt three questions

Suggested Readings:

1. F.J Monkhouse and H.R. Wilkinson (1972) Maps and Diagrams, Mothuen and Co. Ltd., London
2. L.R. Singh and Raghuvander Singh (1973), Map Work and Practical Geography, Central Book Depot, Allahabad.
3. R.I. Singh and P.K. Dutt (1968), Elements of Practical Geography, Students Friends, Allahabad.
4. Singh Gopal (2004) 4th edition, Map work and Practical Geography, Viksa Publication House.

Paper-201 Climatology

Maximum Marks: 80
Time   : 3 Hours

Note: Question 1 is compulsory and comprises of eight short questions to be answered in 15-20 words. There will be eight long questions, two from each section. The candidate has to answer one question from each section. All five questions carry equal marks

Section - A

1. Atmosphere composition and structure

2. Insolation and Temperature: Factors and distribution

Section - B

3. Atmospheric Pressure: Measurement, horizontal and vertical distribution.

4. Atmospheric circulation: Planetary wind systems, jet streams, monsoons, El Nino and southern oscillations.

Section - C

5. Atmospheric Moisture: Humidity, evaporation, condensation and precipitation-types and distribution.

6. Cyclones: Tropical and extra tropical, air masses and fronts.

Section - D

7. Climatic Classifications: Koeppen and Thornthwaite Systems of classification.

8. Climate Change: Past climates-evidences and theories, global warming.

Suggested Readings:

1. Chritch field, H.J. 1974 General Climatology, Prentice Hall, Englewood Cliffs, NJ.

2. Das, PK (1998).The Monsoons, National Book Trust, New Delhi.

3. Pant GB and Kumar KR (1997) Climates of South Asia, John Wiley and Sons, New York.

4. Subrahmanyam V.P. (1983) General Climatology, Heritage Publishers, New Delhi.

5. Trewartha, GT (1981) An Introduction to Climates, Mc-Graw Hill, New York.

Paper- 202 Agricultural Geography

Maximum Marks:80
Time : 3 Hours

Note: Question 1 is compulsory and comprises of eight short questions to be answered in 15-20 words. There will be eight long questions, two from each section. The candidate has to answer one question from each section. All five questions carry equal marks

Section - A

1. Definition, nature and scope of agricultural geography; its relation with agricultural economics.

2. Various approaches to the study of agricultural geography with special reference to commodity, systematic and regional approaches.

Section - B

3. Physical factors as determinants of land use and cropping pattern.

4. Technological and institutional factors as determinants of agricultural pattern.

Section - C

5. Significance of surveys in agricultural geography-land use and land capability surveys.

6. Von Thunen Model of agricultural land use.

Section - D

7. Basis of regionalization of agriculture- crop combinations, concentration and diversification indices.

8. World agricultural regions-Whitlesey's Criteria of classification of agricultural systems.

9. Green revolution in India – its impacts and consequences.

Suggested Readings:

1. Singh Jasbir and Dhillon SS (1994), Agricultural Geography, Tata Mc.Graw Hill, New Delhi.
2. Husain, Majid (1996), Systemic Agricultural Geography, Rawat Publication, Jaipur.
3. Safi, Mohammad, (2007) Agricultural Geography.
4. Tarrant JR (1974) Agricultural Geography, Wiley, New York.

Paper- 203 (A) Map Projections (Theory)

Maximum Marks: 40
Time   : 3 Hours

Note: Question 1 is compulsory and comprises of eight short questions to be answered in 15-20 words. There will be eight long questions, two from each section. The candidate has to answer one question from each section. All five questions carry equal marks

Section - A

1. Introduction of map Projection: Definition and necessity
2. Properties, classification and importance of map projections.
3. Cylindrical Projections: Construction, characteristics and applications of followings projections.
    (a) Simple cylindrical projection
    (b) Cylindrical equal area projection
    (c) Mercator's

Section - B

4. Conical projections: Construction, characteristics and applications of following projections.
    (a) Simple conical projection with one standard parallel
    (b) Simple conical projection with two standard parallel
    (c) Bonn's conical projection
    (d) Polyconic Projection

Section - C

5. Zenithal Projections: Construction, characteristics and applications of following projections.
    (a) Polar Gnomonic Zenithal Projection
    (b) Polar Stereographic Zenithal Projection
    (c) Polar Orthographic Zenithal Projection
    (d) Polar Zenithal equidistant projection
    (e) Polar Zenithal equal area projection

Section - D

6. Construction, characteristics and applications of
    (a) Sinusoidal (Normal and interrupted) Projection
    (b) Mollweide's (normal and interrupted) projection

Suggested Readings:

1. Goyal K.K.1981.. Practical Geography, Manthan Publication, Rohtak.
2. Khan, A.A. 1996. Text Book of Practical Geography, Concept, New Delhi,.
3. Lawarence, GRP1968. Cartographic Methods, Methuen, London,.
4. Monkhouse, F.J. and Wilkinson, H.R1994. Maps and Diagrams, Methuen, London,
5. Singh, R.L. 1972. Elements of Practical Geography, Kalyani Publications, New Delhi
6. Steers, J.B. Map Projections; University of London Press, London.

Paper –203 (B) Map Projections (Practical)

Note: There will be four questions and candidate has to attempt three questions (Exercises)

Maximum Marks: 40

Time : 3 Hours

Distribution of Marks:

Exercise: 24

Record File: 8

Viva Voce: 8

Distribution of classroom practicals:

Cylindrical projections:	3 Exercise
Conical projections :	4 Exercise
Zenithal projections :	5 Exercise
Conventional projections:	4 Exercise
Conventional signs :	2 Exercise
Pattern of Indian Topographical maps:	4 Exercise

Suggested Readings:

7. Goyal K.K.1981.. Practical Geography, Manthan Publication, Rohtak.
8. Khan, A.A. 1996. Text Book of Practical Geography, Concept, New Delhi,.
9. Lawarence, GRP1968. Cartographic Methods, Methuen, London,.
10. Monkhouse, F.J. and Wilkinson, H.R1994. Maps and Diagrams, Methuen, London,
11. Singh, R.L. 1972. Elements of Practical Geography, Kalyani Publications, New Delhi
12. Steers, J.B. Map Projections; University of London Press, London.

Paper 301 Hydrology and Oceanography

Maximum Marks:80
Time   : 3 Hours

Note: Question 1 is compulsory and comprises of eight short questions to be answered in 15-20 words. There will be eight long questions, two from each section. The candidate has to answer one question from each section. All five questions carry equal marks

Section - A

1. The world hydrological cycle and its sub cycles, human impact on hydrological cycle.
2. Precipitation types, intensity and duration of rainfall, geographic and seasonal distribution of rainfall.

Section - B

3. Measurement of stream flow, hydrograph and its properties, rainfall- runoff relationship.
4. Ground water: origin and types, aquifer parameters, assessment, development and depletion of groundwater.

Section - C

5. Nature of ocean floor: continental shelf, continental slope deep ocean basin and trenches, bottom topography of the Atlantic, Pacific and Indian Oceans.
6. Salinity: sources, controlling factors and distribution of salinity.

Section - D

7. Temperature of oceans: Process of heating and cooling, heat budget of oceans, distribution of temperature on oceans.
8. Ocean currents : Meaning, concept and types, origin and factors affecting ocean currents, currents of Atlantic, Pacific and Indian ocean.

Suggested Readings:
1. Chorley, R.J. 1969. Introduction to Physical Hydrology. Methuen, London.
2. Lal, D.S.2007. Oceanography. Sharda Pustak Bhawan, Allahabad.
3. Sharma, R.C. and Vatal, M.1993. Oceanography for Geographers. Chaitanya Publishing House. Allhabad.
4. Todd. D.K.1980, Groundwater Hydrology. John Wiley, New York
5. Tideman, E.M.1996. Watershed Management: Guidelines for Indian Conditions. Omega, New Delhi.
6. Ward, R.C. 1967.Principles of Hydrology. McGraw Hill, New York.

Paper 302 Regional Geography of World

Maximum Marks:80
Time   : 3 Hours

Note: Question 1 is compulsory and comprises of eight short questions to be answered in 15-20 words. There will be eight long questions, two from each section. The candidate has to answer one question from each section. All five questions carry equal marks

Section - A

1.   World major physiographic divisions: Mountains, Plains and Plateaus.

Section - B

2.   Major river systems of the world and their drainage basins.
3.   World Climate and major climatic regions.

Section - C

4.   Regional Geography of selected countries:
    (i)   USA
    (ii) Brazil
    (iii)   South Africa.
    (iv)France
    (v) China
    (vi)Australia

Section - D

5.   Classification of countries on the basis of development: Developed and developing countries and their characteristics.

Suggested Readings:

1. Hussain, Majid (2006). World Geography. Rawat Publishers, New Delhi.
2. Pounds and Taylor 1974. World Geography (8th edition), South Western Publishing Company, Ohio.
3. Brown, L.(ed) 1994. State of the World, W.W. Norton and Co., New York.
4. Clavel, Paul (ed) 1998. Introduction to Regional Geography, Blackwell.
5. Buchanan, K.et.al. 1981. China: The land and people, Crown Publishers, New York.
6. Bambrick, S.1994. The Cambridge Encyclopedia of Australia, Cambridge Univesity Press, New York.

Paper 303(A) General Cartography (Theory)

Maximum Marks: 40
Time: 3 Hours

Note: Question 1 is compulsory and comprises of eight short questions to be answered in 15-20 words. There will be eight long questions, two from each section. The candidate has to answer one question from each section. All five questions carry equal marks

Section - A

1. Representation of Climatic data: graphs and diagrams.
    Line and bar graph, Rainfall deviation diagram, Climograph (Taylor),Hythergraph, Ergo-   graph, Isometric and isopleths

Section - B

2. Representation of Socio-economic Data by diagrams. Types and properties of diagrams:
    One dimensional diagram : Bar diagram: Simple bar, multiple bar and comparative bar.
    Two dimensional diagram : pie diagram proportional circle.
    Three dimensional diagram: Sphere, cube.

Section - C

3. Distribution maps and diagrams: Choropleth and Dot method

Section - D

4. Miscellaneous diagrams and graphs: Age and Sex pyramid, Flow diagram and cartogram

Suggested Readings:

1. Monkhouse, F.J. and Wikinson, H.R.: Maps and diagrams. B. I Publications Ltd.
2. Singh, R. L. Elements of Practical Geography. Kalyani Publishers, New Delhi.
3. R.L. Singh and P.K. Dutt 1968, Elements of Practical Geography, Students Friends, Allahabad.
4. Singh Gopal 2004. 4th edition, Map work and Practical Geography, Vikas Publication House.
5. J.P. Sharma Practical Geography, Rastogi Publication, Meerut.

Maximum Marks: 40

Time: 3 Hours

Distribution of Marks:

Exercise: 24

Record File: 8

Viva-voce: 8

Note: There will be four questions and candidate has to attempt three questions

Suggested Readings:

1. Monkhouse, F.J. and Wikinson, H.R.: Maps and diagrams. B. I Publications Ltd.
2. Singh, R. L. Elements of Practical Geography. Kalyani Publishers, New Delhi.
3. R.L. Singh and P.K. Dutt 1968, Elements of Practical Geography, Students Friends, Allahabad.
4. Singh Gopal 2004. 4th edition, Map work and Practical Geography, Vikas Publication House.
5. J.P. Sharma Practical Geography, Rastogi Publication, Meerut.

Paper 401 Geography of Disasters

Maximum Marks: 80
Time: 3 Hours

Note: Question 1 is compulsory and comprises of eight short questions to be answered in 15-20 words. There will be eight long questions, two from each section. The candidate has to answer one question from each section. All five questions carry equal marks

Section - A

1. Meaning, concept and classification of Hazards and Disasters.

2. Major disasters of the world and disaster profile of India.

3. Tectonic disasters: Occurrence, geographical distribution and impacts of Earthquakes, Tsunamis, Volcanic eruption and Landslides.

Section - B

4. Hydrological disasters: Occurrence and impact of floods and droughts in India.

5. Climatic disasters: Tropical cyclones, Heavy Precipitation Events-Cloud Burst, Heat and cold waves.

6. Human induced disasters: Epidemics, Industrial Disasters, Nuclear Disasters, wars and terrorism.

Section - C

7. Preparedness for disasters : Case Study of Cyclones and floods in India

8. Mitigation of disasters: Case study of droughts and earthquakes in India.

Section - D

9. Post disaster Rehabilitation-Case Study of Tsunami in India.

10. Impacts of disasters on economy and society in India.

Suggested Readings:

1. Gupta, H.K.2003. Disaster Management. University Press, India.

2. Hewitt, K.1977. Regions of Risk: A Geographical Introduction to Disasters. Longman,   Harlow.

3. Singh, R.B.2000. Disaster Management. Rawat Publications, New Delhi.

4. Gupta, M.C.2001. Manual of Natural Disaster Management in India. 11PA, New Delhi.

5. Smith, K.C.1996.Environmental Hazards: Assessing Risk and Reducing Disasters. Routledge, London.

Paper 402 Economic Geography

Maximum Marks: 80
Time: 3 Hours

Note: Question 1 is compulsory and comprises of eight short questions to be answered in 15-20 words. There will be eight long questions, two from each section. The candidate has to answer one question from each section. All five questions carry equal marks

Section - A

1. Nature, scope and relationships of economic geography with economics and other branches of social sciences.
2. Classification of economic activities and their impact on environment

Section - B

3. Types, basis and classification of world natural resources.
4. Conservation and utilization of natural resources.

Section - C

5. Basis and classification of world agricultural types with special reference to Intensive Subsistence Agriculture, Mediterranean agriculture, Dairy farming and Plantation Agriculture.
6. World production and distribution of energy resources: coal, petroleum and natural gas.

Section - D

7. Classification of industries and basis of location and development of iron and steel industry and cotton textile industry, major industrial complexes of the world.
8. Geographical factors in the development of trade, Major Ocean trade routes of world.

Suggested Readings:

1. Owen, S. and Owens, P.L. 1991. Environment, Resources and Conservation. Cambridge University Press, New York
2. James, D. W. and Muller, P.O.1988. Economic Geography. John Wiley and Sons, New York.
3. Hartshorne, T. N. and Alexander, J. W. 2009, Economic Geography. New Delhi, Prentice Hall of India.
4. Jones, C.F. and Daockenwald G.G. 1975. Economic Geography. McMillan Company, New York
5. Gautam, A. 2010. Advanced Economic Geography. Sharda Pustak Bhawan, Allahabad.

Paper 403(A) Morphometric Analysis (Theory)

Maximum Marks: 40
Time: 3 Hours

Note: Question 1 is compulsory and comprises of eight short questions to be answered in 15-20 words. There will be eight long questions, two from each section. The candidate has to answer one question from each section. All five questions carry equal marks

Section - A

1. Methods of relief representation:
    (i)   Hachure (ii) Hill Shading (iii)Morphographic Method
    (iv)   Spot Height (v) Bench Mark (vi) Form Lines
    (vii)Contours

Section - B

2. Representation of topographic features by contours
    (i)   Conical hill (ii)   Plateau (iii) Convex slope (iv) Concave Slope
    (v)   Escarpment (vi) Cliff (vii) Valley (viii) Water Fall
    (ix)   Gorge (x)   U-shaped valley

Section - C

3. Profiles: Serial, Superimposed, Projected, Composite, Longitudinal.

Section - D

4. Delineation of drainage basin.
5. Basin parameters: stream number and order, drainage density and frequency.

Suggested Readings:

1.   Monkhouse, F.J. and Wikinson, H.R.: Maps and diagrams. B. I Publications Ltd.
2.   Singh, R. L. Elements of Practical Geography. Kalyani Publishers, New Delhi.
3.   Singh, R.L. and Dutt, P.K. 1968, Elements of Practical Geography, Students Friends, Allahabad.
4.   Singh, G. 2004. 4th edition, Map work and Practical Geography, Vikas Publication House.
5.   Sharma, J.P. Practical Geography, Rastogi Publication, Meerut.

Note: There will be four questions and candidate has to attempt three questions.

Suggested Readings:

1. Monkhouse, F.J. and Wikinson, H.R.: Maps and diagrams. B. I Publications Ltd.
2. Singh, R. L. Elements of Practical Geography. Kalyani Publishers, New Delhi.
3. Singh, R.L. and Dutt, P.K. 1968, Elements of Practical Geography, Students Friends, Allahabad.
4. Singh, G. 2004. 4th edition, Map work and Practical Geography, Vikas Publication House.
5. Sharma, J.P. Practical Geography, Rastogi Publication, Meerut.