ANNEXURE-I

B.A. Geography (Pass Course)

Paper No.	Title	Internal Assessment	External Assessment	Maximum Marks	Total Marks	Time
Semester-I						
101	Geography of India	20	50	70	70	3 Hours
Semester-II						
103	Physical Geography-I	20	50	70	70	3 Hours
102 & 104	Maps, Scales and Representation of Physical Features (Practical)			60	60	3 Hours
Semester-III						
201	Physical Geography –II	20	50	70	70	3 Hours
Semester-IV						
203	Human Geography	20	50	70	70	3 Hours
202 & 204	Representation of Climatic Data & Map Projections (Practical)			60	60	3 Hours
Semester-V						
301	Economic Geography	20	50	70	70	3 Hours
Semester-VI						
303	Introduction to Remote Sensing, GIS and Quantitative methods	20	50	70	70	3 Hours
302 & 304	Distribution Maps, Diagrams, Remote Sensing and Field Survey Report (Practical)			60	60	3 Hours

Paper 101 Geography of India

Maximum Marks : 70
External Assessment: 50
Internal Assessment: 20
Time : 3 Hours

Note: Question 1 is compulsory and comprises of ten 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. India: Location, relief structure and drainage systems.
2. Climate, soils, natural vegetation, and natural disasters in India.

SECTION – B

3. Population: distribution, density, growth and composition.
4. Migration, human settlement types and levels of urbanization.

SECTION-C

5. Land resources, irrigation, regional variations in cropping pattern, Green revolution and problems of Indian agriculture.
6. Energy and mineral resources: coal, petroleum, hydroelectricity and nuclear energy, iron ore, manganese and mica.

SECTION-D

7. Industries- iron and steel, cotton textile, sugar and petrochemical industries; and industrial regions of India.
8. Modes of transport and communication, international trade changing pattern of export and import.

Suggested Readings

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

Paper 103 Physical Geography – I

Maximum Marks : 70
External Assessment: 50
Internal Assessment: 20
Time : 3 Hours

Note: Question 1 is compulsory and comprises of Ten 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, scope and fields of Physical Geography.
2. Interior of the earth, Geological time scale and rocks.

SECTION- B

3. Earth movements; organic, eperogenic, earth quakes and volcanoes.
4. Theory of Isostasy ; Wegner's theory of continental drift and Plate tectonic theory.

SECTION- C

5. Weathering; causes and its types.
6. Mass-movements; causes, its types and impacts.

SECTION- D

7. Concept of cycle of erosion; cycle of erosion by W.M.Davis and
8. Process of Wind, River, Underground water, Glaciers and Sea waves.

References

1. Sharma H.S. Perspective in Geomorphology, Concept, New Delhi 1980.
2. Singh Savinder, Geomorphology, Prayag Publication, Allahabad 1998.
3. Singh Savinder, Physical Geography Prayag Publication, Allahabad, 1998.
4. Sparks B.W. Geomorphology, Jojngman, London, 1960.
5. Thornbury W.D. 1969 Principles of Geomorphology, New York, John Wiley & Sons.

Paper 102 & 104
Maps, Scales and Representation of Physical Features (Practical)

Maximum Marks: 60
Time : 3 Hours

Distribution of Marks
Exercises = 36
Record File = 12
Viva-voce = 12

Note: There will be four questions in all and candidate has to attempt three exercises selecting at least from each unit.

UNIT-I.

	Exercises
1. Introduction to Cartography.	
2. Maps and their types.	
3. Map Scales.	
(i) Methods of Expressing a scale	2
(ii) Conversion of Statement of Scale into R.F. and vice-versa.	1
(iii) Plain Scale (Km and mile)	1
(iv) Comparative Scale	2
(v) Diagonal Scale	2
4 Measurement of Distances and Areas on Maps	2
5 Enlargement and Reduction of Maps	2

UNIT-II

		Exercises
1.	Introduction to Topographical Sheets India and adjacent countries Degree Sheet Half Degree Sheet Quarter Degree Sheet Conventional Signs	3
2.	Methods of representing relief	1
3.	Representation of Topographical features by contours. Slopes (Concave, convex, undulating and terraced) Valleys (V Shaped, U shaped, Gorge, Re-entrant) Ridges (Conical hill, Volcanic hill, Plateau, Escarpment) Complex features (waterfall, sea cliff, overhanging cliff, Fiord coast)	4
4.	Drawing of Profiles	5
(a)	Cross Profiles: Serial, superimposed, projected and composite profiles.	
(b)	Longitudinal profiles	

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 Physical Geography-II

Maximum Marks : 70
External Assessment: 50
Internal Assessment: 20
Time : 3 Hours

Note: *Question 1 is compulsory and comprises of Ten short answer type 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. Weather and Climate; Origin, composition and structure of atmosphere.
2. Insolation, Global heat budget, Horizontal and vertical distribution of temperature, inversion of temperature.

SECTION-B

3. Atmospheric pressure- measurement and distribution, pressure belts, planetary winds, Monsoon, Jet Streams EL NINO- La Nina Phenomenon and Local winds.
4. Humidity- measurement and variables, evaporation, condensation, precipitation forms and types and distribution, hydrological cycle.

SECTION-C

5. Air masses- concept and classification; Fronts- type and characteristics, Weather disturbances- tropical and extra-tropical cyclones.
6. Climate classification by Koppen; climatic change and global warming.

SECTION-D

7. Configuration of oceanic floors and surface relief of Pacific, Atlantic and Indian Oceans; temperature and salinity of oceans.
8. Tides, waves and oceanic currents; circulation in Pacific, Atlantic and Indian Oceans; Oceanic resources.

Suggested Readings:

1. Barry, RG and Chorley R.J., Atmosphere, Weather and Climate, Routledge, 1998.
2. Critchfield, H., General Climatology, Prentice-Hall of India, 2002.
3. King, C. Oceanography for Geographers, Edward Arnold, London, 1975.
4. Trewartha, GT: An Introduction to Climate, Mc-Graw Hill, New York, 1981.
5. Trewartha, G.T., The Earth's Problems Climates, University of Wisconsin Press, USA.

Paper 203 Human Geography

Maximum Marks : 70
External Assessment: 50
Internal Assessment: 20
Time : 3 Hours

Note: *Question 1 is compulsory and comprises of Ten short answer type 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 -I

1. Nature and scope of Human Geography, Branches of Human Geography, Approaches to the study of Human Geography.
2. Division of Mankind: Spatial distribution of race and tribes of India; concept of men-environment relation : A historical approach.

Section - II

3. Human adaptation to the environment (i) Cold region – Eskimo (ii) Hot region- Bushman (iii) Plateau – Gonds (iv) Mountains – Gujjars
4. Meaning, nature and components of resources; Classification of resources – renewal and non- renewable ; biotic and aboitic, recyclable and non recyclable.
   Distribution, utilization and conservation of biotic (flora and fauna) and aboitic (water, minerals and energy) resources.

Section - III

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

Section-IV

7. Rural settlements: Meaning, classification and types. Urban settlements: Origin, classification and functions of towns.
8. Population pressure, resource use and environment degradation; sustainable development, concept of deforestation, soil erosion, air and water pollution.

Suggested Readings:-

1. Agarwal, A etal : The Citizen's Fifth Citizen's Report, Centre for Science & Environment, New Delhi, 1999.
2. Alexander, John. W. : Economic Geography, Prentice Hall of India Ltd., New Delhi, 1988.

3. Bergwan, Edward E: Human Geography: Culture Connections and Landscape, Prentice-Hall, New Jersey, 1985.
4. Carr, M. Patterns: Process and Change in Human Geography, McMillan Education, London, 1987.
5. Chandna, R.C. : A Geography of Population : Concepts, Determinants and Patterns, Kalyani Publishers, New Delhi, 1986.
6. DeBlij, H. J. : Human Geography, Culture, Society and Space, John Wiley, New York, 1996.
7. Fellman, J.L. : Human Geography-Landscapes of Human Activities, Brown and Benchman Pub., USA, 1997.
8. Global Environment Outlook: Earthscan, London, 2000.
9. McBride, P.J. Human Geography; Systems Patterns and Change, Nelson, UK and Canada, 1996.
10. Michael, Can: New Patterns : Process and Change in Human Geography, Nelson, 1996.

Paper – 202 & 204 Representation of Climatic Data & Map Projections (Practical)

Maximum Marks: 60
Time : 3 Hours

Distribution of Marks
Exercises = 36
Record File = 12
Viva-voce = 12

Note: There will be four questions in all and candidate has to attempt three exercises selecting at least from each unit.

UNIT-I.

1. Measurement of temperature, rainfall, pressure and humidity.
2. Representation of temperature and rainfall.
   (i) Line and Bar Graph – 1 Exercise.
   (ii) Distribution of temperature (180 therms) – 1 Exercise.
   (iii) Distribution of rainfall (180 hytes) – 1 Exercise.
   (iv) Hythergraph - 1 Exercise.
   (v) Rainfall deviation diagram - 1 Exercise.
3. Climograph (wet and dry places) - 2 Exercise.
4. Distribution of pressure (180 bars) - 2 Exercise.
5. Weather map Interpretation (January & July) - 2 Exercise.
6. Change and tape survey – 2 Exercise.

UNIT-II

1. Introduction to Map Projection: Meaning, Classification and importance; Characteristics of latitudes and longitudes lines.
2. Cylindrical projections: Characteristics, applications and drawing; (3)
   (i) Simple cylindrical projection
   (ii) Cylindrical equal area projection.
   (iii) True shape or orthomorphic or Mercator's Projection. (5)
3. Conical Projections: Characteristics, applications and drawing.
   (i) Simple conical projections with one standard parallel
   (ii) Simple conical projection with two standard parallel
   (iii) Bonne's Projection
   (iv) Polyconic projection.
   (v) International Map Projection.
4. Zenithal Projections: Characteristics, applications and drawing. (5)
   (i) Polar Zenithal Equidistant Projection.
   (ii) Polar Zenithal Equal Area Projection
   (iii) Polar Zenithal Gnomonic Projection

(iv) Polar Zenithal Stereographic Projection.
(v) Polar Zenithal Orthographic Projection

5. Characteristics, applications and drawings of (i) Sinosoidal and (ii) Mollweide Projections. (2)
6. Plane Table Survey. (2)

Suggested Readings:

1. Mishra R.P. and Ramesh A. 1999. Fundamentals of Cartography, Concept Publishing Company, New Delhi.
2. Robinson, A.H. et.al. Elements of Cartography, John Wiley & Sons, 1995.
3. Singh, R.L., 1979. Elements of Practical Geography, Kalyani Publisher, New Delhi.
4. Gregory S. 1963. Statistical Methods and the Geography, Longman, London.
5. Khan, A.A. 1996. Text Book of Practical Geography, Concept, New Delhi,.
6. Lawarence, GRP1968. Cartographic Methods, Methuen, London,.
7. Monkhouse, F.J. and Wilkinson, H.R1994. Maps and Diagrams, Methuen, London,
8. Pal. S.K. 1998: Statistics for Geoscientist- Techniques and Applications, Concept Publication, New Delhi,.
9. Sarkar, A.K 1997: Practical Geography-A Systematic Approach, Orient Longman, Calcutta,.
10. Steers, J.B. Map Projections; University of London Press, London.

Paper 301 Economic Geography

Maximum Marks : 70
External Assessment: 50
Internal Assessment: 20
Time : 3 Hours

Note: *Question 1 is compulsory and comprises of Ten short answer type 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 relationship of economic geography with economics and other branches of social sciences.
2. Classification of economic activities and their impact on environment.

Section B

3. World natural resources: Types, bases and classification.
4. Conservation and utilization of natural resources.

Section C

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

Section D

7. Classification of industries, world distribution and production of iron and steel and textile industry, major industrial complexes of the world.
8. Transport, communication and trade: geographical factors in their development, major modes of water, land and air transport, recent trends in international trade

Suggested Readings:

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

Paper-303-Introduction to Remote Sensing, GIS & Quantitative Methods

Maximum Marks : 70
External Assessment: 50
Internal Assessment: 20
Time : 3 Hours

Note: *Question 1 is compulsory and comprises of Ten short answer type 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 Aerial Photographs: their advantages and types.
2. Elements of aerial Photo interpretation.

Section-B

3. Introduction to Remote Sensing; Electromagnetic spectrum, stages in remote sensing, type of satellites.
4. Types of Imageries and their application in various fields such as agriculture, environment and resource mapping.

Section-C

5. Introduction to Geographical Information System: Definition, purpose, advantages and software and hardware requirements.
6. Application of GIS in various fields of geography.

Section-D

7. Measure of Central Tendency: Mean, Median and Mode.
8. Measure of Dispersion: Range, Quartile deviation and Mean deviation, Standard deviation, Coefficient of variation.

Suggested Readings:

1. Aslam Mahmood 1993. Statistical Methods in Geographical Studies, Rajesh Publications, New Delhi,.
2. John R. Jensen 2009. Remote Sensing of the Environment;, An Earth Resource Perspective, Pearson Education, (India Edition) New Delhi,
3. Kumar Meenakshi 2001. Remote Sensing, NCERT, New Delhi,
4. Lillesand and R.W.Kiefer,2005. Remote Sensing and Image Interpretation, John Wiley and Sons.

Pritvish Nag, and M.Kudrat 1998. Digital Remote Sensing, Concept Publishing Company, New Delhi,

Paper 302 & 304 Distribution Maps, Diagrams, Remote Sensing and Field Survey Report (Practical)

Maximum Marks: 60
Time : 3 Hours

Distribution of Marks
Exercises = 27
Record File = 9
Viva-voce = 9

Note: There will be four questions in all and candidate has to attempt three exercises selecting at least from unit I and II, while unit III is compulsory.

UNIT-I

1. Principal of map design and layout
2. Symbolization: point, line and area symbol
3. Lettering and toponomy
4. Mechanics of map construction
5. Distribution maps
   (i) Qualitative distribution maps
   - Choroschematic maps- 1 Exercise
   - Chorochromatic maps- 2 Exercise

   (ii) Quantitative distribution Maps
   - Isopleth maps-3 Exercises
   - Choropleth maps-3 Exercises
   - Dot maps-3 Exercises
   - Diagrammatic maps- 3 Exercises.
6. Prismatic Compass Survey – 2 Exercises.

UNIT-II

1. Demarcation of Principal Point, Conjugate Principal point and Flight line on Aerial Photographs – 1 Exercise
2. Determination of Scale of Aerial Photographs – 1 Exercise.
3. Interpretation of Single Vertical Photographs – 1 Exercise.
4. Use of Stereoscope and Identification of Features – 1 Exercise.
5. Identification of Features on IRSID, LISS III imagery (Mark copy of FCC) -1 Exercise.

UNIT-III

Socio-economic Survey and Report Writing -15 marks.

Field Survey Report = 10 marks
Viva-voce = 5 marks

Suggested readings:

1. Mishra RP and Ramesh A. 1999. Fundamentals of Cartography, Concept Publishing Company, New Delhi.
2. Monkhouse FJ and Wilkinson HR. 1972. Maps and Diagrams, Methuen Press, London
3. Singh Gopal. 2004. Map Work and Practical Geography, Vikas Publication House, New Delhi.
4. Singh RL. 1979. Elements of Practical Geography, Kalyani Publishers, New Delhi
5. John R. Jensen, Remote Sensing of the Environment; An Earth Resource Perspective, Pearson Education, (India Edition) New Delhi, 2009.
6. Lillesand and R.W.Kiefer, Remote Sensing and Image Interpretation, John Wiley and Sons, 1994.