

**BANARAS HINDU UNIVERSITY**  
**Department of Geography, 2013-2014**

**NOTE: The courses for B.Sc. and B.A. are identically the same, except code GRB/ GRA.**

**B. Sc./ B.A. First Year**  
**I SEMESTER**

Paper Code	Explanation	Title of the Paper	Credit
GRB101	Theory	Physical Basis of Geography	4
GRB102	Practical	Map: Reading and Interpretation	2
<b>Total</b>	<b>Semester I</b>		<b>6</b>

**II SEMESTER**

Paper Code	Explanation	Title of the Paper	Credit
GRB 201	Theory	Human Geography	4
GRB 202	Practical	Elementary Statistics	2
GRB 203A*	Theory	Man and Environment ( <b>Ancillary Course</b> )	2
<b>Total</b>	<b>Semester II</b>		<b>8</b>

**B. Sc. Second Year**  
**III SEMESTER**

Paper Code	Explanation	Title of the Paper	Credit
GRB 301	Theory	Economic Geography	4
GRB 302	Practical	Map Projection and Weather Map	2
<b>Total</b>	<b>Semester III</b>		<b>6</b>

**IV SEMESTER**

Paper Code	Explanation	Title of the Paper	Credit
GRB 401	Theory	Regional Study of Developed and Developing Countries: U.S.A. and China	4
GRB 402	Practical	Surveying	2
GRB 403A*	Theory	Basics of Remote Sensing ( <b>Ancillary Course</b> )	2
<b>Total</b>	<b>Semester IV</b>		<b>8</b>

**B. Sc. Third Year**  
**V SEMESTER**

Paper Code	Explanation	Title of the Paper	Credit
GRB 501	Theory	Geomorphology	4
GRB 502	Theory	Geography of India	4
GRB 503	Practical	Representation of Geographical Data	4

GRB 504	Practical	Field Study, Field Trip and Report Writing	4
<b>Students may select any ONE from the following Elective (Theory) Papers</b>			
GRB 505	Theory	Population Geography *	4
GRB 506	Theory	Social Geography	4
GRB 507	Theory	Agricultural Geography	4
GRB 508	Assignment-based Seminar	Paper offered in V semester	2
<b>Total Semester V</b>			<b>22</b>

\* Currently GRB 505 Elective Paper Will Be Offered Only

### VI SEMESTER

Paper Code	Explanation	Title of the Paper	Credit
GRB 601	Theory	Climatology	4
GRB 602	Theory	Evolution of Geographical Thought	4
GRB 603	Practical	Geological Map and Map Projection	4
GRB 604	Practical	Elementary Remote Sensing	4
<b>Students may select any ONE from the following Elective (Theory) Papers</b>			
GRB605	Theory	Regional Development and Planning *	4
GRB606	Theory	Political Geography	4
GRB607	Theory	Industrial Geography	4
GRB 608	Assignment-based Seminar	Paper offered in VI semester	2
<b>Total Semester V I</b>			<b>22</b>

\* Currently GRB 605 Elective Paper will only be offered.

## I Semester

### B. Sc./ B.A. Geography, GRB 101. Theory, Paper: 1. Physical Basis of Geography

CREDITS : 4

Number of Lectures : 52

#### Unit I

Origin of the earth (James and Jeffrey, Russell, Lytleton, Lemaitre); Interior of the earth; Rocks: origin and classification; Earth's movements.

#### Unit II

Major landforms: mountains, plateaus and plains; Gradational processes: weathering and erosion; Works of running water, glacier and wind.

#### Unit III

Composition and structure of the atmosphere; Insolation; Temperature: vertical and horizontal distribution; Pressure and pressure belts; Winds: planetary, periodic and local.

#### Unit IV

Theories of origin of ocean basin (Tetrahedral); Physical properties of sea water: temperature and salinity; Ocean currents; Tides and Coral reefs.

#### Books Recommended

1. Barry, R. G. and Chorley, R. J. (1998): Atmosphere, Weather and Climate. Routledge, London.

2. Bryant, H. Richard (2001): Physical Geography Made Simple, Rupa and Company. New Delhi
3. Bunnnett, R.B. (2003): Physical Geography in Diagrams, Fourth GCSE edition, Pearson Education (Singapore) Private Ltd.
4. Garrison, T. (1998): Oceanography, Wordsworth Company., Belmont.
5. Lake, P. (1979): Physical Geography (English and Hindi editions), Cambridge University Press, Cambridge.
6. Leong Goh Cheng (2003): Certificate Physical and Human Geography, Oxford University Press, New Delhi.
7. Monkhouse, F.J. (1979): Physical Geography. Methuen, London
8. Singh, S. (2003): Physical Geography. (English and Hindi editions.). Prayag Pustak Bhawan, Allahabad;
9. Trewartha, G.T., Robinson, A.H., Hammond, E.H., and Horn, A.T. (1976/1990): Fundamentals of Physical Geography, 3rd edition. MacGraw-Hill, New York.
10. Singh, M.B. (2001): *Bhoutik Bhugol*, Tara Book Agency, Varanasi
11. Strahler, A.N. and Stahler, A.M. (1992): Modern Physical Geography. John Wiley and Sons, New York.
12. Wooldridge, S.W. and Morgan, R.S. (1939): The Physical Basis of Geography- An Outline of Geomorphology. Longman, London. Recent edition and Reprint.

## ***I Semester***

### **B.Sc.**

#### **GRB 102. Practical, Paper: 1. Map: Reading and Interpretation**

CREDITS : 2

Number of Lectures : 52

Construction of scale: simple, diagonal and comparative; Map reading and Interpretation of topographic sheets, Relief features and profiles (serial, superimposed, projected and composite); Reduction and enlargement of maps.

#### **Books Recommended**

1. Monkhouse, F. J. and Wilkinson, F.J. (1985): Maps and Diagrams. Methuen, London
2. Raisz, E. (1962): General Cartography. John Wiley and Sons, New York. 5<sup>th</sup> edition.
3. Sarkar, A. K. (1997): Practical Geography: A Systematic Approach. Orient Longman, Kolkata.
4. Sharma, J. P. (2001): *Prayogik Bhugol.*, Rastogi Publication, Meerut 3<sup>rd</sup>. edition.
5. Singh, R.L. and Singh, Rana P.B. (1993): Elements of Practical Geography. (Hindi and English editions). Kalyani Publishers, New Delhi.,
6. Singh, L.R. (2006): Fundamentals of Practical Geography, Sharda Pustak Bhawan, Allahabad.

## ***II Semester***

### **B.Sc.**

#### **GRB 201. Human Geography**

CREDITS : 4

Number of Lectures : 52

#### **Unit I**

Meaning, nature and scope of human geography; Concepts of human geography; Man-environment relationships: determinism, possibilism and probabilmism, and environmentalism.

#### **Unit II**

Evolution of man; Classification of races; Characteristics of races and their broad distribution; Human adaptation to environment: Eskimo, Masai and Bushman; Primitive people of India: Tharu, Naga and Bhil.

#### **Unit III**

Growth of population; Distribution of population; Major human agglomerations; Types of Migration; Trends of Urbanization.

#### **Unit IV**

Rural settlements: characteristics, types and regional pattern; Urban settlements: evolution and classification; Rural houses in India: types, classification and regional pattern.

#### **Books Recommended**

1. Chisholm, M. (1985): Human Geography, 2nd edition, Penguin Books, London.
2. de Blij, H.J.(1996): Human Geography: Culture, Society and Space,. 2nd edition. John Wiley and Sons, New York,
3. Fellman, J. D., Arthur, G., Judith, G., Hopkins, J. and Dan, S. (2007): Human Geography: Landscapes of Human Activities. McGraw-Hill, New York. 10<sup>th</sup> edition.
4. Haggett, P. (2004): Geography: A Modern Synthesis. 8th edition, Harper and Row, New York.
5. Hussain, M. (1994): Human Geography, Rawat Publications, Jaipur.
6. Johnston, R. J., Gregory, D., Pratt, G. and Watts, M. (2009): The Dictionary of Human Geography. 5th edition, Basil Blackwell Publishers, Oxford.
7. Kaushik, S.D. and Sharma, A.K. (1996): Principles of Human Geography (in Hindi), Rastogi Publication, Meerut.
8. Norton, W. (2008): Human Geography, Oxford University Press, New York. 5<sup>th</sup> ed.
9. Singh, K. N. and Singh, J. (2001): *Manav Bhugol*. Gyanodaya Prakashan, Gorakhpur. 2<sup>nd</sup> edition.
10. Singh, L.R. (2005): Fundamentals of Human Geography, Sharda Pustak Bhawan, Allahabad
11. Smith, D. M.(1977): Human Geography- A Welfare Approach, Edward Arnold (Publishers) Ltd., London
12. Stoddard, R.H., Wishart, D.J. and Blouet, B.W. (1986): Human Geography. Prentice-Hall, Englewood Cliffs, New Jersey.

### ***II Semester***

#### **B. Sc. Part I**

#### **GRB 202 : Practical . Elementary Statistics**

CREDITS : 2

Number of Lectures : 52

Sources of data; classification and Tabulation of data.

Measures of central tendency: mean, median and mode, and quartile.

Measures of dispersion: mean deviation, standard deviation.

Correlation (Karl Pearson and Spearman).

#### **Books Recommended**

1. Bhagwathi, V. and Pillai, R.S.N. (2003): Practical Statistics, Sultan Chand and Company, New Delhi
2. Ebdon, D. (1977): Statistics in Geography: A Practical Approach, Blackwell Publishers Inc., Massachusetts
3. Gregory, S. (1973): Statistical Methods and the Geographer, Longman, London.
4. Gupta, S.P. (1998): Advanced Practical Statistics, Sultan Chand and Company, New Delhi
5. Mahmood, A. (1986): Statistical Methods in Geographical Studies, Rajesh Publications, New Delhi
6. Zamir, A. (2002): Statistical Geography: Methods and Applications, Rawat Publications, Jaipur.

#### **GRB 203 A\***

#### **Ancillary Theory Paper; Man and Environment**

CREDITS: 2

#### **Unit I :**

Evolution of Man; Human Race: Bases and classification; Human Adaptation in different environment: selected tribes.

**Unit II :**

Man's interaction in environment, Biomes: Meaning and types; Major Biomes: Rainforest, Savannah, Tundra.

**Unit III :**

Environment: Meaning and Components; Food Pyramid; Forms and Functions of Ecosystems: Terrestrial, Aquatic; Biodiversity; Climatic Change; Environmental Conservation and Management.

**Books Recommended**

1. Chisholm, M. (1985): Human Geography, 2nd edition, Penguin Books, London.
2. de Blij, H.J.(1996): Human Geography: Culture, Society and Space,. 2nd edition. John Wiley and Sons, New York.
3. Johnston, R. J., Gregory, D., Pratt, G. and Watts, M. (2000): The Dictionary of Human Geography. 4th edition, Basil Blackwell Publishers, Oxford.
4. Kaushik, S.D. and Sharma, A.K. (1996): Principles of Human Geography (in Hindi), Rastogi
5. Odum, P. E. and Barret, W. G. (2005): Fundamentals of Ecology, Thomson Asia Pvt Ltd, Singapur.
6. Huggett, R. J. (1998): Fundamentals of Biogeography, Routledge, London.
7. Saxena, H. M. (2000): Environmental Management. Rawat Publications., Jaipur and New Delhi.

**III Semester**

**B.Sc. Part II**

**GRB 301. Economic Geography**

Credits: 4

Number of Lectures: 52

**Unit I**

Meaning and approaches to economic geography; Main concepts of economic geography; Resource: concept and classification; Resource conservation.

**Unit II**

Natural resources: soil, forest and water; Mineral resources: iron ore and bauxite; Power resources: coal and petroleum; Principal crops: wheat, rice and cotton.

**Unit III**

Agricultural regions of the world (Derwent Whittlesey); Theory of agricultural location (Von Thunen); Theory of industrial location (Weber); Major industries: iron and steel, and cotton textiles.

**Unit IV**

World transportation: major trans-continental railways, and sea routes; WTO and International trade: patterns and trends; Major trade blocs: EEC, ASEAN; Effect of globalization on developing countries.

**Books Recommended**

1. Alexander, J. W. (1988): Economic Geography. Prentice-Hall, New Delhi,.
2. Bryson, J., Henry, N., Keeble, D. and Martin, R. (eds.) (1999): The Economic Geography Reader: Producing and Consuming Global Capitalism. John Wiley and Sons, Inc, New York.

3. Clark, G. L., Gertler, M. S. and Feldman, M. P. (eds.) (2000): The Oxford Handbook of Economic Geography. Oxford University Press, USA.
4. Coe, N. (2007): Economic Geography: A Contemporary Introduction. Blackwell Publishers, Inc., Massachusetts.
5. Gautam, A. (2006): *Aarthik Bhugol Ke Mool Tattava*, Sharda Pustak Bhawan, Allahabad.
6. Guha, J. S. and Chattoraj, P.R. (2002): A New Approach to Economic Geography: A Study of Resources. The World Press Private Limited, Kolkata.
7. Hanink, D. M. (1997): Principles and Applications of Economic Geography: Economy, Policy, Environment. John Wiley and Sons, Inc, New York.
8. Hartshorne, T. A. and Alexander, J. W. (1988): Economic Geography (3rd revised edition) Englewood Cliff, New Jersey, Prentice Hall
9. Hudson, R. (2005): Economic Geographies: Circuits, Flows and Spaces. Sage Publications, London.
10. Knowles, R, Wareing, J. (2000): Economic and Social Geography Made Simple, Rupa and Company, New Delhi.
11. Sokal, Martin 2011. Economic Geographics of Globalisation: A short Introduction. Cheltenham, UK : Edward Elgar

### **B.Sc. III Semester**

#### **GRB 302: Practical. Map Projection and Weather Map**

Credits: 2

Number of Lectures: 52

**Map Projection:** Conical: simple conic with one and two standard parallels, Bonne's; Cylindrical: simple and equal area; Zenithal (Polar case): equidistant and equal area.

**Weather Map:** Weather symbols, Representation of atmospheric features, Interpretation of Indian daily weather maps (July, October and January)

#### **Books Recommended**

1. Monkhouse, F. J. and Wilkinson, F.J. (1985): Maps and Diagrams. Methuen, London.
2. Raisz, E. (1962): General Cartography. John Wiley and Sons, New York. 5<sup>th</sup> edition.
3. Robinson, A., Sale, R. Morrison, J. and Muehrcke, P. C. (1984): Elements of Cartography, John Wiley and Sons, New York
4. Sarkar, A. K. (1997): Practical Geography: A Systematic Approach. Orient Longman, Kolkata.
5. Sharma, J. P. (2001): *Prayogik Bhugol*. Rastogi Publication, Meerut 3<sup>rd</sup> edition.
6. Singh, R.L. and Singh, Rana P.B. (1993): Elements of Practical Geography. (Hindi and English editions). Kalyani Publishers, New Delhi,

### **B.Sc. IV Semester**

#### **GRB 401**

#### **Regional Study of Developed and Developing Countries: USA and China**

Credits: 4

Number of Lectures: 52

#### **Unit I**

Concepts, bases and characteristics of developed and developing countries; Indicators and Levels of development: Developed, Developing, Under-developed, and Least-developed worlds.

#### **Unit II**

Physical resource base: landforms, climate, soils, vegetation, power and mineral resources

#### **Unit III**

Cultural resource base: population, agriculture, industries.

#### **Unit IV**

Agricultural and industrial regions of USA; Agricultural and geographical regions of China.

### **Books Recommended**

1. di Blij, H. and Muller, O. (1993): *Geography: Regions and Concepts*. John Wiley and Sons, New York..
2. Jackson, R. H. and Husman, L. E. (1991): *World Regional Geography: Issues for Today*. John Wiley and Sons, New York.
3. Jones, P. and Bryan, P. (1954): *North America: An Historical, Economic and Regional Geography*, Methuen and Company. Ltd, London.
4. Kolb, A. (1971): *East Asia, China, Japan, Korea, Vietnam*, Methuen, London.
5. Rai, Gayatri (2007): *Vishwa Ka Pradeshik Bhugol*, Mishra Trading Corporation, Varanasi
6. Sharma, P. R. (ed.) (1991): *Perspectives on Third World Development*. Rishi Publication, Varanasi.
7. Stamp, L. D. (1976): *Asia: A Regional and Economic Geography*, Methuen, London.

### **IV Semester**

### **GRB 402 : Practical. Surveying**

Credits: 2

Number of Lectures: 52

Surveying: meaning, classification and significance.

Chain and Tape surveying; Plane Table surveying; Prismatic Compass, Abney Level and Indian Clinometer

### **Books Recommended**

1. Davis, R.E. and Foote, F.S. (1953): *Surveying*, 4<sup>th</sup> edition, McGraw Hill Publication, New York
2. Jones, P.A.(1968): *Fieldwork in Geography*, Longmans, Green and Company Ltd., First Publication, London
3. Kanetker, T.P. and Kulkarni, S.V.(1967): *Surveying and Levelling*, Vol I and II V.G. Prakashan, Poona.
4. Natrajan, V. (1976): *Advanced Surveying*, B.I. Publications., Mumbai.
5. Pugh, J.C. (1975): *Surveying for Field Scientists*, Methuen and Company Ltd., London, First Publication.
6. Punmia, B.C.(1994): *Surveying*, Vol I, Laxmi Publications Private Ltd, New Delhi.
7. Shephard, F.A. (1968): *Surveying Problems and Solutions*, Edward Arnold (Publishers) Ltd, London
8. Singh, R.L. and Singh, Rana P.B. (1993): *Elements of Practical Geography*. (Hindi and English editions), Kalyani Publishers, Ludhiana and New Delhi.
9. Venkatramaiah, C. (1997): *A Text Book of Surveying*, Universities Press, Hyderabad.

### **GRB 403 A\***

### **Ancillary Theory paper. Basics of Remote Sensing**

CREDITS : 2

#### **Unit I**

Remote Sensing: Concept and Scope; Electro-magnetic Radiation: Characteristics, Spectral regions and Bands; Interaction with earth surface features and atmosphere; Spectral Signature

#### **Unit II**

Types of Remote Sensing: Air borne and Space borne; Aerial photos: Types and Characteristics; Remote Sensing satellites: Platforms and sensors

#### **Unit III**

Visual and Digital image processing techniques; Remote Sensing application in resource mapping and environmental monitoring

### **Books Recommended**

1. Curran, P.J. (1985): Principles of Remote Sensing, Longman, London
2. Lillesand, T.M. and Kiefer, R.W. (2000): Remote Sensing and Image Interpretation. 4<sup>th</sup> edition. John Wiley and Sons, New York
3. Campbell, J.B. (2002): Introduction to Remote Sensing. 5<sup>th</sup> edition, Taylor and Francis, London
4. Bhatta, B. (2010): Remote Sensing and GIS, Oxford University Press, New Delhi.
5. Nag Prithvish and Kudrat M. (1998): Digital Remote Sensing, Concept Publishing Company, New Delhi

## **B. Sc. Part III. V Semester GRB 501. Geomorphology**

Credits: 4  
Number of Lectures: 52

### **Unit I**

Nature and scope of geomorphology; Principles and basis of geological time scale; Fundamental concepts: uniformitarianism and dynamic equilibrium, relief and differential rates of geomorphic processes.

### **Unit II**

Cycle of erosion and slope evolution: contributions of Davis, Penck and King; Isostasy, Plate tectonics, Earthquakes; Folded structure and topography; Faulted structure and topography.

### **Unit III**

Mass wasting and different geomorphic agents and processes— fluvial water, Aeolian, glacial, marine and karst.

### **Unit IV**

Evolution and development of river valleys; Drainage patterns and their significance; concept of graded stream; river channels — form, pattern and dynamics; Regional geomorphology of Uttarakhand Himalaya and Middle Ganga Plain.

### **Books Recommended**

1. Bloom, A. L. (1992): Geomorphology—A Systematic Analysis. Prentice-Hall India, New Delhi.
2. Chorley, R. J., Schumm, S. A. and Sugden D.E.(1984): Geomorphology. Methuen, London
3. Holmes, A. (1987): Principles of Physical Geology. Nelson, New York, 3<sup>rd</sup> edition.
4. Sparks, B.W.(1969) : Geomorphology. Longman, London.
5. Stoddard, D. R. (ed.)(1996): Process and Form in Geomorphology. Routledge, London,.
6. Kale, V. and Gupta, A. (2001): Elements of Geomorphology. Oxford University Press, Delhi.
7. Thornbury, W. D. (1990): Principles of Geomorphology. Wiley Eastern Edition, New York,.
8. Singh, S. (2000): Geomorphology. (in Hindi). Vasundhra Prakashan, Gorakhpur.
9. Singh, S. (2004): Geomorphology, Prayag Pustak Bhawan, Allahabad
10. Skinner, B. J. and Porter, S.C. (1996): The Dynamic Earth. John Wiley and Sons, New York,.
11. Wooldridge, S.W. and Morgan, R.S. (1959): The Physical Basis of Geography: An Outline of Geomorphology. Longman, London, several reprints.

## **B. Sc. Part III. V Semester GRB 502. Geography of India**

Credits: 4  
Number of Lectures: 52

### **Unit I**

Geology; Physiographic divisions; Drainage systems; Climate and climatic regions; Soil and vegetation.



## Unit II

Minerals and power resources (iron ore, and coal); Multipurpose projects: Damodar Valley, and Bhakhra Nangal; Irrigation; Major industries (iron and steel, cotton textile, and sugar).

## Unit III

Crops (rice, wheat, cotton, sugarcane, and tea); Agricultural regions; Green revolution and its consequences

## Unit IV

Meso-regions of India (Karnataka plateau, and Uttarakhand) and their characteristics; Transport and communication; Trade: composition and recent changes.

## Books Recommended

1. Chauhan, P.R. and Prasad, M. (2003): *Bharat Ka Vrihad Bhugol*, Vasundhara Prakashan, Gorakhpur.
2. Farmer, B.H. (1983): *An Introduction to South Asia*. Methuen, London
3. Gautam, A. (2006): *Advanced Geography of India*, Sharda Pustak Bhawan, Allahabad
4. Johnson, B.L.C. (1963): *Development in South Asia*. Penguin Books, Harmondsworth
5. Krishnan, M.S. (1982): *Geology of India and Burma*, CAS Publishers and Distributors, Delhi.
6. Khullar, D.R. (2007): *India: A Comprehensive Geography*, Kalyani Publishers, New Delhi
7. Nag, P. and Gupta, S. S. (1992): *Geography of India*, Concept Publishing Company, New Delhi.
8. Rao, B.P. (2007): *Bharat ke Bhaugolik Sameeksha*, Vasundhara Prakashan, Gorakhpur.
9. Sharma, T.C. and Coutinho, O. (2003): *Economic and Commercial Geography of India*, Vikas Publishing House Private Ltd. New Delhi.
10. Singh, J. (2003): *India: A Comprehensive Systematic Geography*. Gyanodaya Prakashan, Gorakhpur
11. Singh, J. (2001): *Bharat: Bhougolik Aadhar Avam Ayam*, Gyanodaya Prakashan, Gorakhpur.
12. Singh, R.L. (ed.) (1971): *India: A Regional Geography*. National Geographical Society of India, Varanasi.
13. Spate, O.H. K., Learmonth A. T. A. and Farmer, B. H. (1996): *India, Pakistan and Sri Lanka*. Methuen, London, 7<sup>th</sup> edition.
14. Sukhwai, B.L. (1987): *India: Economic Resource Base and Contemporary Political Patterns*. Sterling Publication, New Delhi
15. Tiwari, R.C. (2007): *Geography of India*, Prayag Pustak Bhawan, Allahabad.
16. Wadia, D. N. (1959): *Geology of India*. Mac-Millan and Company, London and student edition, Madras.

## B.Sc. Semester V

### GRB 503: Practical. Representation of Geographical Data

Credits: 4

Number of Lectures: 52

#### Graphical Representation

Bar diagram, Frequency polygon, Frequency curve. Rainfall dispersion diagram, Water balance graph, Climograph.

#### Cartographic Representation

Distribution maps: Dot, Isopleth, Choropleth; Pie diagram. Cartogram: Traffic flow diagram, Isochronic cartogram.

## Books Recommended

1. Monkhouse, F. J. (1985): *Maps and Diagrams*. Methuen, London.
2. Raisz, E. (1962): *Principles of Cartography*, McGraw Hill, New York.
3. Robinson, A. H., Sale. R. D., Morrison, J. L. and Muehrcke, P. C. (1984): *Elements of Cartography*. 5th edition, John Wiley and Sons, Inc. New York.

4. Sarkar, A. K. (1997): *Practical Geography: A Systematic Approach*. Orient Longman, Kolkata.
5. Sharma, J. P. (2001): *Prayogik Bhugol.*, Rastogi Publication, Meerut 3<sup>rd</sup>. edition.
6. Singh, R.L. and Singh Rana P.B. (1993): *Elements of Practical Geography*. (Hindi and English editions). Kalyani Publishers, New Delhi.

## **GRB 504: Practical Field Study, Field Trip and Report Writing**

Credits: 4

Number of Lectures: 52

**Fieldwork:** Meaning, types and objectives of fieldwork; Fieldwork methods and techniques; Importance of fieldwork in geography, Field work-based report writing.

**Field Trip:** Uttarakhand, Vindhyan Plateau, Thar Desert.

### **Books Recommended**

1. Archer, J.E. and Dalton, T.H. (1968): *Field Work in Geography*. William Clowes and Sons Ltd. London and Beccles.
2. Bolton, T. and Newbury, P.A. (1968): *Geography through Fieldwork*. Blandford Press, London.
3. Jones, P. A. (1968): *Field Work in Geography*. Longmans, Green and Company Ltd., London and Harlow.
4. Lousenbury, J. F. and Aldrich, F.T. (1986): *Introduction to Geographic Field Methods and Techniques*. Charles E. Merrill Publishing. Company, Columbus.
5. Pugh, J.C. (1975): *Surveying for Field Scientists*. Methuen and Company Ltd. London.
6. Knight, Peter G. and Parsons, Tony (2003): *How to do your Essays Exams & Coursework in Geography and Related Disciplines*. Nelson Thornes, Cheltenham U.K.
7. Parsons, Tony and Knight, Peter G. (2005): *How to do your Dissertation in Geography and Related Disciplines*. Routledge, London. 2<sup>nd</sup> Ed.
8. Kitchen, Rob and Tate, Nicholas J. (2009): *Conducting Research into Human Geography: Theory, Methodology & Practice*. Prentice Hall-Pearson, Harlow U.K. 2<sup>nd</sup> Ed.
9. Kitchen, Rob and Fuller, Duncan (2005): *The Academic's Guide to Publishing*. Vistaar Pubs. (Sage), New Delhi.
10. Hay, Iain (ed.) (2005): *Qualitative Research Methods in Human Geography*. Oxford University Press, Melbourne. 2<sup>nd</sup> Ed.
11. Hay, Iain (ed.) (2004): *Communicating in Geography and the Environmental Sciences*. Oxford University Press, Melbourne. 2<sup>nd</sup> Ed.
12. Stoddard, Robert H. (1982): *Field Techniques and Research Methods in Geography*. Kendall/Hunt Pub. Dubuque IO.

## **B.Sc. Semester V. Optional Paper GRB 505: Elective Theory Paper Population Geography**

Credits: 4

Number of Lectures: 52

### **Unit I**

Nature and scope of population geography; Sources and types of population data: census, sample survey and vital registration system.

### **Unit II**

World population: growth, causes and consequences; Factors affecting population distribution; Migration: types and determinants; Urbanization: trends and pattern

### **Unit III**

Population dynamics: fertility and mortality, age and sex structure; Occupational structure; Demographic transition theory; human resource development: indicators and patterns.

#### **Unit IV**

**INDIA:-** Population growth; Distribution of population; Density types; Population problems; Population Policy.

#### **Books Recommended**

1. Chandna, R. C. (2006): Geography of Population. Kalyani Publishers, New Delhi.
2. Clarke, J.I. (1972): Population Geography. Pergamon Press, Oxford.
3. Demko, G.J., Rose, H.M., and Schnell, G.A. (1970): Population Geography: A Reader. McGraw-Hill, New York.
4. Dube, K.K. and Singh, M.B.(1994): *Jansankhya Bhoogol*, Rawat Publications, Jaipur.
5. Garnier, B.J. (1993): Geography of Population. 3rd edition. Longman, London.
6. Jones, H. R. (1981): A Population Geography. Harper and Row, New York.
7. Peters, G. L. and Larkin, R.P. (1983): Population Geography: Problems, Concepts and Prospects. Kendall/Hunt, Dubuque, IA.
8. Trewartha, G.T. (1985): A Geography of Population: World Patterns. John Wiley and Sons, New York.
9. Zelinsky, W. (1966): A Prologue to Population Geography. Prentice Hall, New Jersey.

### **B.Sc. Semester V. Optional Paper GRB 506: Elective Theory Paper Social Geography**

Credits: 4  
Number of Lectures: 52

#### **Unit I**

Meaning and scope of social geography; Concept of social space; Social differentiation and stratification; Social morphology.

#### **Unit II**

Social differentiation and region formation: Bases of social region formation; Evolution of socio-cultural regions of India; Role of race, caste, tribe, religion and languages; India — unity in diversity

#### **Unit III**

Concept of social wellbeing; Physical quality of life; Human development: concept and measurements; Rural-urban interfaces in India: health care, education and shelter; Gender issues in India

#### **Unit IV**

Public policy and social planning in India; Appraisal of Five-Year Plans and social policies in India; Social policy and planning for drought and flood prone areas; Social impact assessment of development projects

#### **Books Recommended**

1. Ahmad, A. (1999): Social Geography. Rawat Publications, Jaipur and New Delhi.
2. Anderson, K. (2006): Race and Crises of Human Development. Routledge, London and New Delhi.
3. Betizlle, A.(1983): Equality and Inequality, Oxford University Press, New Delhi
4. Brewer, J.D. (2000): Ethnography, Open University Press, Buckingham, Philadelphia, First Edition.
5. Coates, B.E., Johnston, R.J. and Knox, P.L. (1977): Geography and Inequality, Oxford University Press, Oxford, London.
6. Eyles, J. (ed.) (1986): Social Geography in International Perspective. Rowman and Littlefield, New Jersey and Los Angeles.
7. Dubey. S.C. (1991): Indian Society. National Book Trust, New Delhi.

8. Forde, C. D. (1934): *Habitat, Economy and Society*, Methuen and Company London
9. Gregory, D. and Larry, J. (eds.) (1985): *Social Relations and Spatial Structures*. McMillan, London
10. Gore, M.S. (1985): *Social Aspects of Development*, Rawat Publications, Jaipur
11. Jackson, P. and Susan, J. S. (1984): *Exploring Social Geography*, George Allan Unwin, Boston and Sydney.
12. Jones, E. (ed.) (1975) : *Readings in Social Geography*, Oxford University Press, London.
13. Haq, M. (2000): *Reflections on Human Development*. Oxford University Press, New Delhi.
14. Maloney, C. (1974): *People of South Asia*. Winston Norton, New York.
15. Moseley, W. G., Lanegran, D. A. and Pandit, K. (eds.) (2007): *The Introductory Reader in Human Geography. Contemporary Debates and Classic Writings*. Blackwell Publishers., Oxford.
16. Norton, W. (2006): *Cultural Geography. Environments. Landscapes. Identities. Inequalities*. Oxford University Press, Toronto. 2<sup>nd</sup> edition.
17. Planning Commission, Government of India (1981): *Report on Development of Tribal Areas*. New Delhi.
18. Sahlins, M. D. (1968): *Tribesmen*, Prentice Hall, New York.
19. Sharma, K.L. (1980): *Essays on Social Stratification*, Rawat Publications, Jaipur and New Delhi, first edition.
20. Smith, D. (1977): *Geography: A Welfare Approach*. Edward Arnold, London.
21. Sopher, D. (1980): *An Exploration of India: Geographical Perspectives on Society and Culture*, Cornell University Press, Ithaca, New York, first edition.
22. Subba, R. B. (1958): *Personality of India: Pre- and Proto- Historic Foundation of India and Pakistan*. 2<sup>nd</sup> edition. M.S. University Baroda, Vadodara.
23. Stump, Roger W. (2008): *The Geography of Religion: Faith, Place, and Space*. Rowman & Littlefield Publs., Lanham USA.
24. Valentine, G. (2001): *Social Geographies: Space and Society*. Prentice Hall, Harlow, UK.

**B.Sc. Semester V. Optional Paper**  
**GRB 507: Elective Theory Paper**  
**Agricultural Geography**

Credits: 4  
Number of Lectures: 52

**Unit I**

Meaning and scope of agricultural geography; Approaches to agricultural geography; Physical, cultural and institutional factors affecting agriculture.

**Unit II**

Crop concentration and crop diversification; Delineation of crop combination regions; Agricultural regions of the world; Detailed study of subsistence, plantation, commercial and mixed farming.

**Unit III**

Agricultural land-use and carrying capacity; Land use pattern with special reference to India; Measures of agricultural efficiency and agricultural productivity.

**Unit IV**

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

**Books Recommended**

1. Dumont, R.(1970): *Types of Rural Economy: Studies in World Agriculture*, Douglas Manin, London Methuen
2. Gregor, H. P. (1970): *Geography of Agriculture*. Prentice-Hall, New York.

3. Husain, M. (1996): Systematic Agricultural Geography, Rawat Publications, Jaipur.
4. Misra, R. P. (1967): Diffusion of Agricultural Innovations, University of Mysore, Mysore.
5. Mohammad, A.(1978): Studies in Agricultural Geography, Rajesh Publications, New Delhi
6. Morgan, W. B. and Norton, R.J.C. (1971): Agricultural Geography. Methuen, London.
7. Sauer, O. C. (1969): Agricultural Origins and Dispersals. MIT Press, Cambridge.
8. Shafi, M. (2006): Agricultural Geography, Pearson Education, New Delhi.
9. Sen, Sudhir (1975): Reaping the Green Revolution. Tata McGraw-Hill, New Delhi
10. Shafi, M.(2000): Agricultural Geography of South Asia, McMillan, Delhi
11. Singh, B.B. (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: A Regional Analysis, Kaushal Publications, Shillong.
14. Symons, L. (1967): Agricultural Geography. George Bell and Sons, London.
15. Tarrant J. R. (1974): Agricultural Geography. John Wiley and Sons, New York.

**B.Sc. Semester V**  
**GRB 508: Assignment-based Seminar**

Credits: 2

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**B. Sc. Part III. Semester VI**  
**GRB 601. Climatology**

Credits: 4  
 Number of Lectures: 52

**Unit I**

Meaning and scope of climatology; Atmosphere: Composition and structure; Insolation: determinants and distribution; Temperature: Controlling factors and Distribution; Processes of heating and cooling of the atmosphere.

**Unit II**

Heat budget of earth and atmosphere; Temperature change; Air stability and its importance; Laws of Horizontal Motion and general Atmospheric Circulation, Monsoon, Jet Stream and their significance with reference to India

**Unit III**

Precipitation: Theories of Precipitation Formation, forms and types; Air Masses: classification and modification; Fronts: source regions, types and associated weather

**Unit IV**

Cyclones: tropical and temperate; Climatic classification: Köppen and Thornthwaite; Climatic change: evidences and theories; Global Warming: causes and consequences.

**Books Recommended**

1. Barry, R.G. and Carleton, M. (2001): Synoptic and Dynamic Climatology, Routledge, London.
2. Chorley, R.J. (2001): Atmosphere, Weather and Climate. Methuen, London.
3. Critchfield, H.J. (2002): General Climatology. Prentice-Hall of India, New Delhi..
4. Finch, J. C. and Trewartha, G. T.: Elements of Weather and Climate. Prentice-Hall, London.
5. Kendrew, W.C. (1998): Climatology. Edward Arnold, London. 5<sup>th</sup> edition.
6. Lal, D.S.(1986): Climatology. Chaitanya Publications, Allahabad.
7. Oliver, J.E. and Hidore, J.J. (2003): Climatology: An Atmospheric Science, Pearson Education Private Ltd, Patparganj, Delhi.
8. Robinson, P. J. and Henderson, S. (1999): Contemporary Climatology, 2nd edition, Pearson Education Ltd., Harlow, UK.
9. Singh, M.B. (1998): *Jalvayu Avam Samudra Vigyan*. Tara Book Agency, Varanasi.
10. Singh, M.B. (1999): *Jalvayu Avam Jal Vigyan*. Tara Book Agency, Varanasi,.

11. Singh, S. (2005): *Climatology*. Prayag Pustak Bhawan, Allahabad.
12. Singh, S. (2006): *Jalvayu Vigyan*. Prayag Pustak Bhawan, Allahabad.

## B. Sc. Part III. Semester VI

### GRB 602. Evolution of Geographical Thought

Credits: 4  
Number of Lectures: 52

#### Unit I

The field of geography; Geography as a discipline: natural science vs. social science; Approaches to geography; Relevance of geography

#### Unit II

Classical contributions to geographical thought: Greek, Roman, Indian, Arab; Geography rethought: Varenus and Immanuel Kant.

#### Unit III

Foundations of geography: major contributions of Alexander von Humboldt, Carl Ritter, and Frederick Ratzel; Dualism and Unity in geography

#### Unit IV

Schools of geographical thought: French, British and American; Recent trends in geography; Evolution of geography in India: formative periods, establishments and emerging scenario.

#### Books Recommended

1. Ali, S.M. (1960): *Arab Geography*, Institute of Islamic Studies, Aligarh Muslim University, Aligarh, First Edition.
2. Daniel, P., Bradshaw, M., Shaw, D. and Sidaway, J. (2000): *Human Geography. Issues for the 21st Century*. Prentice Hall, London.
3. Diddee, J. (ed.) (1990): *Indian Geography*, Institute of Indian Geographers, Pune, first edition.
4. Dikshit, R. D. (2003): *Geographical Thought. A Critical History of Ideas*. Prentice-Hall of India, New Delhi. (in English and Hindi).
5. Dube, B. (1967): *Geographical Concepts in Ancient India*, National Geographical Society of India, Varanasi
6. Getice, A., Getis, J. and Fellman, J. D. (2007): *Introduction to Geography*. 10<sup>th</sup> edition. McGraw Hill, New York.
7. Hartshorne, R. (1959): *Perspective on the Nature of Geography*, John Murray, London
8. Harvey, D. (1969): *Explanations in Geography*. Arnold, London.
9. Holt-Jensen, A. (1980): *Geography: Its History and Concepts*. Harper and Row Publishers, London.
10. Husain, Majid. (2002): *Evolution of Geographical Thought*, Rawat Publications, Jaipur.
11. Johnston, R., Gregory, D., Pratt, G., Watts, M. and Whatmore, S. (2003): *The Dictionary of Human Geography*. Blackwell Publishers, Oxford. 5th edition.
12. Johnston, R. and Sidaway, J.D. (2004): *Geography and Geographers: Anglo-American Human Geography Since 1945*, Arnold Publishers, London.
13. Rawling, E. and Daugherty, R. (eds.) (2005): *Geography into the Twenty-first Century*. 2<sup>nd</sup> edition. John Wiley and Sons, Chichester.
14. Singh, Rana P.B. 2009: *Uprooting Geographic Thoughts in India: Toward Ecology and Culture in 21<sup>st</sup> Century*. Planet Earth & Cultural Understanding Series, Pub. 1. Cambridge Scholars Publishing, New Castle upon Tyne (UK).
15. Singh, Rana P.B. 2009: *Geographical Thoughts in India: Snapshots and Vision for the 21<sup>st</sup> Century*. Planet Earth & Cultural Understanding Series, Pub. 2. Cambridge Scholars Publishing, Newcastle upon Tyne (UK).
16. Singh, Ravi S. (ed.) 2009: *Indian Geography in the 21<sup>st</sup> Century: The Young Geographers Agenda*. Cambridge Scholars Publishing, New Castle upon Tyne (UK).
17. Singh, Ravi S. (ed.) 2009: *Indian Geography: Perspectives, Concerns and Issues*. Rawat

Publications, Jaipur/New Delhi.

18. Taylor, G. (ed.) (1953): Geography in the Twentieth Century. Methuen and Company, London.

## B. Sc. Part III. Semester VI

### GRB 603: Practical. Geological Map and Map Projection

Credits: 4

Number of Lectures: 52

**Geological Map:** Conformable and folded geological structure and their description.

**Map Projection:** Conical: Polyconic, and Sinusoidal; Cylindrical: Gall's and Mercator's;  
Zenithal: Gnomonic; International Map Projection

#### Books Recommended

1. Hinks, A. R. (1921): Map Projection, Cambridge University Press, London.
2. Misra, R.P. and Ramesh A. (1989): Fundamentals of Cartography, Concept Publishing Company, New Delhi.
3. Raisz, E. (1962): Principles of Cartography, McGraw Hill, New York..
4. Robinson, A. H., Sale, R., Morrison, J. and Muehrcke, P. C (1984): Elements of Cartography. 5th edition, John Wiley and Sons, New York,
5. Singh, R.L. and Singh, Rana P.B. (1993): Elements of Practical Geography. (Hindi and English editions), Kalyani Publishers, New Delhi.
6. Steers, J. A. (1965): An Introduction to the Study of Map Projection. University of London Press, London.

## B. Sc. Part III. Semester VI

### GRB 604: Practical. Elementary Remote Sensing

Credits: 4

Number of Lectures: 52

Fundamentals of remote sensing; Interpretation of aerial photographs and satellite imageries; Determination of scale, Basic principles of photogrammetry; Elements of photo/image interpretation; Identification of geomorphic features from stereogram; Application of remote sensing in natural resource studies and monitoring environmental changes.

#### Books Recommended

1. Campell, J. B. (2003): Introduction to Remote Sensing. 4<sup>th</sup> edition. Taylor and Francis, London.
2. Chaunial, D. D. (2004): Remote Sensing and Geographical Information System(in Hindi), Sharda Pustak Bhawan, Allahabad
3. Cracknell, A. and Ladson, H. (1990): Remote Sensing Year Book. Taylor and Francis, London.
4. Curran, P.J. (1985): Principles of Remote Sensing. Longman, London.
5. Deekshatulu, B.L. and Rajan, Y.S. (ed.) (1984): Remote Sensing. Indian Academy of Science, Bangalore.
6. Floyd, F. and Sabins, Jr. (1986): Remote Sensing: Principles and Interpretation. W.H. Freeman, New York.
7. Gautam, N.C. and Raghavswamy, V. (2004). Land Use/ Land Cover and Management Practices in India. B.S. Publication., Hyderabad.
8. Jensen, J.R. (2004): Remote Sensing of the Environment: An Earth Resource Perspective. Prentice-Hall, Englewood Cliffs, New Jersey. Indian reprint available.
9. Lillesand, T.M. and Kiefer, R.W. (2000): Remote Sensing and Image Interpretation. John Wiley and Sons, New York.
10. Nag, P. (ed.) (1992): Thematic Cartography and Remote Sensing. Concept Publishing Company, New Delhi.

11. Rampal, K.K. (1999): Handbook of Aerial Photography and Interpretation. Concept Publishing Company, New Delhi.

**B.Sc. Part III. Semester VI. Elective Theory Paper**  
**GRB 605: Regional Development and Planning**

Credits: 4  
Number of Lectures: 52

**Unit I.**

Meaning, concepts and scope of regional development and planning; Approaches to Regional Development; Approaches to Regional Planning; Theories of regional development (Myrdal and Perroux).

**Unit II**

Evolution of Regional Planning in India; Concepts and types of regions; Schemes of regionalization; Macro micro planning regions of India; Multi-level planning; Participatory planning.

**Unit III**

Regional development in India: patterns and imbalances; Planning for regional development; Role of agriculture, industry and infrastructure (transport and power) in regional development.

**Unit IV**

Area development and planning: National Capital Region; Local-level planning and Panchayati Raj; Planning for Eastern Uttar Pradesh and North-East India.

**Books Recommended**

1. Bhat, L.S. (1972): Regional Planning in India, Indian Statistical Institute, Calcutta.
2. Bhat, L.S. (2003): Micro Planning: A Case Study of Karnal Area, KB Publications, New Delhi.
3. Chand, M. and Puri, V.K. (2004): Regional planning in India; Allied Publishers, New Delhi, reprint.
4. Chandana, R. C. (2005): Regional Development and Planning. Kalyani Publishers, New Delhi.
5. Dube, K.K. and Singh, M.B. (1986): *Pradeshik Niyojan*. Tara Book Agency, Varanasi.
6. Friedman, J. and Alonse, W. (eds.) (1968): Regional Development and Planning, M.I.T. Press, Cambridge-Massachusetts.
7. Gopalakrishnan, R. 1991. *North-East India: Land, Economy and People*. New Delhi: Har-Anand Publication.
8. Gopalakrishnan, R. 1990. *Political Geography of North-East India*. New Delhi: Har-Anand Publication.
9. Kuklinski, A.R. (ed.) (1975): Regional Development and Planning: International Perspectives, Sijthoff-Leyder.
10. Kuklinski, A.R. (1972): Growth Centres in Regional Planning. Mouton and Company, Paris.
11. Misra, R.P, Sundaram, K.V., and Prakasrao, V.L.S. (1976): Regional Development Planning in India, Vikas Publishers., New Delhi.
12. Misra, R.P. (1969): Regional Planning. University of Mysore, Mysore.
13. Misra, R.P. (2002): Regional Planning, Concepts, Techniques, Policies and Case Studies. Concept Publishing Company, New Delhi.
14. Sharma, P.R. (ed.) (1993): Regional Policies and Development in the Third World. Rishi Publication., Varanasi.
15. Singh, Ravi S. 2005. Paths of Development in Arunachal Pradesh. New Delhi: Northern Book Centre.
16. Sundaram, K.V. (1977): Urban and Regional Planning in India, Vikas Publishers. New Delhi.
17. Sundaram, K.V. (1997): Decentralized Multilevel Planning: Principles and Practice. Asian and African Experience. Concept Publishing Company, New Delhi



**B.Sc. Part III. Semester VI. Elective Theory Paper**  
**GRB 606: Political Geography**

Credits: 4  
Number of Lectures: 52

**Unit I**

Meaning, approaches, historical development, recent trends in political geography; geopolitics.

**Unit II**

Nations, states and nation states; Frontiers and boundaries; Capital cities, core and periphery regions.

**Unit III**

Geographical basis of international relations; Conflict resolution; Strategic locations, routes and raw material; Geostrategic regions of the world; Theories of Heartland and Rimland

**Unit IV**

Geopolitical and geo-economic significance of:- Indian Ocean, West Asia and Central Asia; Problems of nation building in India; Geopolitics of energy and resources.

**Books Recommended**

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

**B.Sc. Part III. Semester VI. Elective Theory Paper**  
**GRB 607: Industrial Geography**

Credits: 4  
Number of Lectures: 52

**Unit I**

Meaning and scope of industrial geography; Industrialization; Concept of industrial revolution with reference to Britain and India.

**Unit II**

Factors of industrial location; Theories of industrial location: Weber, Hoover, Lösch and Smith.

**Unit III**

Distribution, growth, production trends and problems of: iron and steel, cotton textile, and sugar industries; Industrial policies in India; Role of industries in regional development.

**Unit IV**

Concept and methods of industrial regionalization; Major industrial regions of the world; Structure of major industrial complexes: Mid -Atlantic coastal region of USA, Ruhr Industrial region, Mumbai -Ahmedabad industrial region.

**Books Recommended**

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. Lodha, R.M.(2005): *Audyogika Bhoogol*, Rajasthan Hindi Granth Academy, Jaipur
4. Miller, E. (1962): A Geography of Manufacturing. Prentice-Hall, Englewood Cliffs, New Jersey.
5. Riley, R. C. (1973): Industrial Geography, Chatto and Windus Ltd. London.
6. Singh, M. B. (1990): New Perspectives in Industrial Geography. Lotus Publication, Varanasi.
7. Singh, M. B. (1988): Industrial Geography. Lotus Publication, Varanasi.

**B.Sc. Part III. Semester VI.**  
**GRB 608. Assignment-based Seminar**  
**(Papers offered in VI Semester)**

Credits: 2