DEPARTMENT OF GEOGRAPHY

COURSE CURRICULUM & MARKING SCHEME

B.A. I, II, III, IV Semester
GEOGRAPHY

(Based on Choice Based Credit System)

SESSION : 2023-24

ESTD : 1958

GOVT. V.Y.T. PG AUTONOMOUS COLLEGE, DURG, 491001 (C.G.)

(Former Name – Govt. Arts & Science College, Durg)

NAAC Accredited Grade A+, College with CPE - Phase III (UGC), STAR COLLEGE (DBT)

Phone : 0788-2212030

Website - www.govtsciencecollegedurg.ac.in, Email – autonomousdurg2013@gmail.com

GOVT. V.Y.T. P.G. AUTONOMOUS COLLEGE
DURG (C.G.)

SYLLABUS

U.G. GEOGRAPHY

SEMESTER EXAMINATION

B. A. SEM. EXAM. : I/III (2023-24)

B. A. SEM. EXAM. : II/IV(2024-25)

APPROVED BY BOARD OF STUDIES
DEPTT. OF GEOGRAPHY

GOVT. V.Y.T. PG. AUTONOMOUS COLLEGE DURG
DEPARTMENT – GEOGRAPHY

Approved syllabus for B.A. GEOGRAPHY by the members of Board of Studies for the Sessions 2023-24 & 2024-25

The syllabus with the paper combinations is as under

Semester I:

Paper I: Geomorphology (CORE & GEC)	Practical Geography
Skill Enhancement : (Credit : 02 each) 1. BGESE01 : Field Techniques Surveying And Research Methods 2. BGESE02 : Fundamentals of Remote Sensing. 3. BGESE03 : Thematic Atlas	

Semester II:

Paper II: Human Geography. (CORE & GEC)	Practical Geography
Skill Enhancement : (Credit : 02 each) 1. BGESE01 : Field Techniques Surveying And Research Methods 2. BGESE02 : Fundamentals of Remote Sensing. 3. BGESE03 : Thematic Atlas	

Semester III:

Paper III: Climatology & Oceanography (CORE & GEC)	Practical Geography
Skill Enhancement : (Credit : 02 each) 1. BGESE01 : Field Techniques Surveying And Research Methods 2. BGESE02 : Fundamentals of Remote Sensing. 3. BGESE03 : Thematic Atlas	

Semester IV:

Paper IV : Geography of India and chhattisgarh (CORE & GEC)	Practical Geography
Skill Enhancement : (Credit : 02 each) 1. BGESE01 : Field Techniques Surveying And Research Methods 2. BGESE02 : Fundamentals of Remote Sensing. 3. BGESE03 : Thematic Atlas	

B - A

The syllabus for ~~M.A.~~ GEOGRAPHY is hereby approved for the sessions 2023-24

Name and Signatures

Chairperson/H.O.D. ..... 21.3.2023 Subject Expert (UniversityNominee)..... Subject Expert (CollegeNominee)..... Subject Expert (CollegeNominee)..... Industrial Area (Representative)..... Meritorious Alumni of Postgraduate..... Professors of other department of the same Faculty	Departmental members 1..... 2..... 3..... 4..... 5..... 6.....

GOVT. V.Y.T.P.G. AUTONOMOUS COLLEGE DURG

Dept. of Geography

Session – 2023-24

B.A/B.Sc I,II,III & IV SEM.

(CORE)

Theory Papers	-	**75**
Practical	-	**25**
Total Marks	-	**100**

(GEC)

Theory Papers	-	**75**
Practical	-	**25**
Total Marks	-	**100**

Skill Enhancement : (Credit : 02 each) MARKS -50

Theory Papers	-	**25**
Practical	-	**25**

The syllabus for B.A. GEOGRAPHY is hereby approved for the sessions 2023-24

Name and Signatures

Chairperson/H.O.D.	Departmental members 1..... 2..... 3..... 4..... 5..... 6.....
Subject Expert (UniversityNominee)..... Subject Expert (CollegeNominee)..... Subject Expert (CollegeNominee)..... Industrial Area (Representative)..... Meritorious Alumni of Postgraduate..... Professors of other department of the same Faculty	

GOVT. V.Y.T. PG. AUTONOMOUS COLLEGE DURG

Dept. of Geography

Session – 2023-24

Approved syllabus for B.A by the members of Board of Studies for the session 2023-24
The syllabus with the paper combinations is as under

B.A / B.Sc. I & II SEM.

B.A / B.Sc. I SEM Core papers **Geography (Credit: 04 Each)**	**B.A / B.Sc. II SEM Core papers** **Geography (Credit: 04 Each)**
BGE101 : Geomorphology (3)	**BGE201 : Human Geography (3)**
PaperII: Practical Geography (1)	PaperII: Practical Geography(1)
GEC (Credit: 04 Each) **Geomorphology (3)** Practical Geography (1)	
Skill Enhancement : (Credit : 02 each) 1. BGESE01 : Field Techniques Surveying And Research Methods **OR** 2. BGESE02 : Fundamentals of Remote Sensing. **OR** 3. BGESE03 : Thematic Atlas	

GOVT. V.Y.T. PG. AUTONOMOUS COLLEGE, DURG
B.A. I Semester (Geography)
Session – 2023-24

BGE 101 : GEOMORPHOLOGY (CORE & GEC)

Learning Outcomes:

After the completion of course, the students will have ability to:

1. Understand the functioning of Earth systems in real time and analyze how the natural and anthropogenic operating factors affects the development of landforms
2. Distinguish between the mechanisms that control these processes
3. Assess the roles of structure, stage and time in shaping the landforms, interpret geomorphological maps and apply the knowledge in geographical research.

Course Content:

UNIT - I

Geomorphology: Meaning, Nature, Scope and Earth: Interior Structure, and land forms: Igneous, Sedimentary and Metamorphic Rocks, Geological time scale.

UNIT – II

Earth Movements: Isostasy. Plate Tectonics, Types of Folds and Faults, Earthquakes and Volcanoes.

UNIT – III

Geomorphic Processes: Weathering, Mass Wasting,Cycle of Erosion (Davis and Penck)

UNIT – IV

Evolution of Landforms (Erosional and Depositional): Fluvial, Karst, Aeolian, Glacial, and Coastal.

UNIT - V

Applied geomorphology: Definition & scope of applied Geomorphology, Hydro-Geomorphology, Urban-Geomorphology, Geomorphic Hazards & Management.

Suggested Readings

1. Ahnned, E.: Coastal Geomorphology of India.

2. Chorley, R. J.: Spatial Analysis in Geomorphology, Methuen, London, 1972.

2. Cooke R.IJ.and Doornkamp, J.C. : Geomorphology in

3. Environmental Management. An Introduction, Clarendon press, Oxford, 1974.

4. Dury, G.H.: The Face of the Earth, Penguin Hormondsworth 1959.

5. Fairbridge, R.W. Encyclopedia of Geomorphology, Reinholdts, New York, 1968.

6. Goudie, A.: The Nature of the Environment Oxford & Blackwell, London, 1993.

7. Garner, H.F. : The Origin of landscape- A Synthesis of Geomorphology, Oxford University Press. London, 1974.

8. Holms, A.: Principles of Physical Geology, Thomas Nelson, London.

9. Mitchell, C.W.: '1'erra. Evaluation. Longman, London, 1973.

10. Oilier, C.D. : Weathering, Longman, London, 1979.

11. Pitty, A.F.: Introduction to Geomorphology, Methuen, London, 1971.

12. Stoddart, D.R. (ed.) : Process and Form in Geomorphology, Roullcdge, New York, 1996.

13. Skinner, B.J. & Porter, S.C.: The Dynamic Earth John Wilely. New York, 1995.

14. Sparks, B.W. Geomorphology, Longman, London, 1960.

15. Sharma, H.S. (cd.): Perspective in Geomorphology, Concept, New Delhi, 1980.

16. Singh, S : Geomorphology, Prayag Publication, Allahabad, 1998.

17. Steers, J.A. : The Unstable Earth Methuen, London.

18. Thornbury, W.I.). Principles of Geomorphology, John Wiloy, New York, 1960.

19. Strahler, A.N.: Physical Geography, Willey, New York.
20. कौशिक एस डी भू आकृति विज्ञान
21. नेगी बी.एस. भू आकृति विज्ञान
22. दयाल परमेश्वर भू आकृति विज्ञान
23. यादव तथा राम सुरेश भू आकृति विज्ञान
24. सविंद्र सिंह भू आकृति विज्ञान शारदा पुस्तक भवन इलाहाबाद

The syllabus for B.A. GEOGRAPHY is hereby approved for the sessions 2023-24

Name and Signatures

Chairperson/H.O.D. ..... Subject Expert (UniversityNominee)..... Subject Expert (CollegeNominee)..... Subject Expert (CollegeNominee)..... Industrial Area (Representative)..... Meritorious Alumni of Postgraduate..... Professors of other department of the same Faculty	Departmental members 1..... 2..... 3..... 4..... 5..... 6.....

GOVT. V.Y.T. PG. AUTONOMOUS COLLEGE, DURG
B.A. I Semester (Geography)
Session – 2023-24

BGE102 : Cartographic Techniques (Practical) - (1) (CORE & GEC)

Learning Outcome:

After the completion of course, the students will have ability to:

1. Read and prepare maps.
2. Comprehend locational and spatial aspects of the earth surface.
3. Use and importance of maps for regional development and decision making.

Course Content:

Scale: Statement Scale , Representative Fraction (R.F.),

Linear scale – Simple, Diagonal, Comparative, and Time Scales.

Contour: Methods of showing relief; Hachures, Contours; Representation of different landforms by contours.

Graph and Diagram: Line graph, Bar Diagram (Simple and Compound), Circle Diagram, Pie Diagram

PRACTICAL RECORD AND VIVA VOCE

Books Recommended:

1. Davis, R.E. and Foote, F.S. (1953): Surveying, 4th edition, McGraw Hill Publication, New York

2. Jones, P.A.(1968): Fieldwork in Geography, Longmans, Green and Company Ltd., First Publication, London

3. Natrajan, V. (1976): Advanced Surveying, B.I. Publications., Mumbai 5. Pugh, J.C.

4.. Raisz, E. (1962): General Cartography. John Wiley and Sons, New York. 5 th edition.

5. Sarkar, A. K. (1997): Practical Geography: A Systematic Approach. Orient Longman, Kolkata.

6. Sharma, J. P. (2001): Prayogik Bhugol., Rastogi Publication, Meerut 3rd. edition.

7. Singh, R.L. and Singh, Rana P.B. (1993): Elements of Practical Geography. (Hindi and English editions). Kalyani Publishers, New Delhi,.

The syllabus for B.A. GEOGRAPHY is hereby approved for the sessions 2023-24

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• Skill Enhancement : (Credit : 02 each)

1. BGESE01 : Field Techniques Surveying And Research Methods (1)

Learning Outcomes:

After the completion of the course, the students will have the ability to:

1. Conduct field work in physical and human geography, besides investigating socio-economic and environmental issues;

2. Develop tools to collect primary data from the field and interpret them meaningfully;

3. Prepare field report with suitable tables, maps and diagrams based on the data collected from the field and secondary sources.

Course Content:

Unit 1

Field Work in Geographical Studies – Role, Value and Ethics of Field-Work; Defining

the Field and Identifying the Case Study – Rural / Urban /

Physical / Human / Environmental.

Unit 2

Field Techniques – Merits, Demerits and Selection of the Appropriate Technique;

observation (Participant / Non Participant). (6 Lectures)

Unit 3

Methods of primary data collection: Questionnaires (Open/ Closed / Structured /

Non-Structured); Schedule, Interview. (6 Lectures)

Unit 4

Space Survey (Transects and Quadrants, constructing a Sketch). (6 Lectures)

Unit 5

Designing the Field Report – Aims and Objectives, Methodology, Analysis,

Interpretation and Writing the Report.

Practical Record

1. Each student will prepare an individual report based on primary and secondary data collected during field work.

2. The duration of the field work should not exceed 10 days.

3. The word count of the report should be about 6,000 to 10,000 excluding figures, tables, photographs, maps, references and appendices.

4. Students are advised to make use of navigation satellite positioning

(GNSS/GPS) during observation and it report.

5. One copy of the report on A4 size paper should be submitted in soft binding.

References:

1. Creswell, J., (1994): Research Design: Qualitative and Quantitative Approaches, Sage Publications, California.

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,Cambridge.

4. Mukherjee, N., (1993). Participatory Rural Appraisal: Methodology and Application. Concept Publs. Co., New Delhi.

5. Mukherjee, N., (2002). Participatory Learning and Action: with 100 Field Methods. Concept Pub. 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. The Geographical Review (2001) Special Issue on "Doing Fieldwork" 91:1-2, John Wiley, New Jersey..

8. Stoddard, R. H., (1982): Field Techniques and Research Methods in Geography, Kendall/Hunt, Iowa.

9. Wolcott, H. (1995). The Art of Fieldwork. Alta Mira Press, California.

2. BGESE02 : Fundamentals of Remote sensing (1)

Learning Outcomes:

After the completion of the course, the students will have the ability to:

1. Appreciate the development and uses of aerial and satellite remote sensing system and navigation satellite systems in India and other Nations.
2. Understand the basics of EMR and energy interaction in atmosphere and on earth surface features;
3. Analyse and interpret the aerial and satellite data products and GNSS/GPS survey results.

Course Content

1. Basics of Remote Sensing: definition, history, and Processes, stages.
2. Interaction with earth surface features and atmosphere; Spectral Signature.
3. Aerial photos: Types and Characteristics;
4. Remote Sensing satellites: Platforms Types.
5. Remote Sensing Applications.

References:

1. Campbell, J. B., (2007) Introduction to Remote Sensing, Guildford Press,New York.
2. Jensen, J. R., (2004) Introductory Digital Image Processing: A Remote Sensing Perspective, Prentice Hall, New Jersey.
3. Joseph, G. (2005) Fundamentals of Remote Sensing, Universities Press, Hyderabad.
4. Kumar, Dilip, Singh, R.B. and Kaur, Ranjeet (2019) Spatial Information Technology for Sustainable Development Goals, Springer, Basel.
5. Lillesand, T. M., Kiefer, R. W. and Chipman J. W., (2004) Remote Sensing and Image Interpretation, Wiley, New Jersey. (Wiley Student Edition).

6. Nag P. and Kudra, M., (1998) Digital Remote Sensing, Concept, New Delhi.
7. Rees, W. G., (2001) Physical Principles of Remote Sensing, Cambridge University Press, Cambridge.
8. Singh, R. B. and Murai, S., (1998) Space-informatics for Sustainable Development, Oxford and IBH Pub, New Delhi.
9. Wolf, P. R. and Dewitt, B. A., (2000) Elements of Photogrammetry: With Applications in GIS, McGraw-Hill, New York.

BGESE02.1 (1)
PRACTICAL

REMOTE SENSING

Fundamentals of EMR, Fundamentals of Aerial photography and Recognisation, Stereoscopic Vision, Digital Image Processing,Remote Sensing Programme of India.

Practical record and viva- Voice

3. BGESE03 : ThematicAtlas (1)

Learning Outcomes:

After the completion of course, the students will have ability to:

1. Have sound knowledge regarding the classification and elements of maps.

2. Have proper utilization of maps for the development.

3. Appreciate the preparation of various thematic maps with the application of various techniques.

Course Content:

1. Maps – Meaning, Definition, Concepts, Classification.

2.Types of Diagrammatic – Line, Bar (simple And copound) and Pie Diagram.

3. Thematic Mapping Techniques – Choropleth, Dot, Isopleths.

4. Representation of Statistical Data – Climograph,Hythergraph.

References:

1. Singh, R. L, and Duttta, P. K., (2012): Prayogatama Bhugol, Central Book Depot, Allahabad

2. Cuff, J. D. and Mattson, M. T., (1982): Thematic Maps: Their Design and Production, Methuen Young Books

3. Dent, B. D., Torguson, J. S., and Holder, T. W., (2008): Cartography: Thematic Map Design (6th Edition), McGraw Hill Higher Education 4. Gupta, K.

K. and Tyagi, V. C., (1992): Working with Maps, Survey of India, DST, New Delhi.

5. Kraak, M.J. and Ormeling, F., (2003): Cartography: Visualization of Geo-Spatial Data, Prentice-Hall.

6. Mishra, R. P. and Ramesh, A., (1989): Fundamentals of Cartography, Concept, New Delhi.

BGESE03 (1)
PRACTICAL

Course Content:

Representation of Statistical data – Line, Bar (simple And copound) and Pie Diagram. Climograph,Hythergraph.

Quantitative Methods – Choropleth, Dot, Isopleths.

References:

1. Singh, R. L, and Duttta, P. K., (2012): Prayogatama Bhugol, Central Book Depot, Allahabad

2. Cuff, J. D. and Mattson, M. T., (1982): Thematic Maps: Their Design and Production, Methuen Young Books

3. Dent, B. D., Torguson, J. S., and Holder, T. W., (2008): Cartography: Thematic Map Design (6th Edition), McGraw Hill Higher Education 4. Gupta, K.

K. and Tyagi, V. C., (1992): Working with Maps, Survey of India, DST, New Delhi.

5. Kraak, M.J. and Ormeling, F., (2003): Cartography: Visualization of Geo-Spatial Data, Prentice-Hall.

6. Mishra, R. P. and Ramesh, A., (1989): Fundamentals of Cartography, Concept, New Delhi.

GOVT. V.Y.T. PG. AUTONOMOUS COLLEGE, DURG
B.A. II Semester (Geography)
Session – 2023-24

BGE201 : Human Geography (3)

Learning Outcomes:

After the completion of course, the students will have ability to:

1. Know the changing human and cultural landscape at different levels.
2. Understand patterns and processes of population growth and its implications.
3. Appreciate the nature and quality of human landscapes.

Course Content:

Unit I

Human Geography: Definition, Scope . Man - environment relationship; Determinism, Possibilism, and Probabilism; Human Development Index (HDI).

Unit II

Growth, Density and Distribution of World Population and factors influencing Spatial distribution. Migration of Population. .

Unit III

Classification of Human Races – their Characteristics and Distribution; Human adaptation to environment: Eskimos, Bushman, Pigmy, Gond.

Unit IV

Settlements – Types of Settlements (Rural and urban) Origin and Evolution of towns , patterns of urban settlements, Rural settlements : Types and patterns , Responsible factors for the growth and development of Rural settlements . Rural problems and planning of India

Unit V

Issues – Global Warming, Climate Change, Deforestation, Desertification, Air, Water and Soil Pollution.

References:

1. Chandna, R.C., (2017):Population Geography, Kalyani Publishers, New Delhi.
2. Daniel, P.A. and Hopkinson, M.F. (1989):The Geography of Settlement, Oliver & Boyd, London.
3. Hassan, M.I. (2005):Population Geography, Rawat Publications, Jaipur
4. Hussain, Majid., (2012):ManavBhugol,Rawat Publications, Jaipur.
5. Johnston, R., Gregory, D.,& Pratt, G., et al. (2008):The Dictionary of Human Geography, Blackwell Publication.
6. Jordan-Bychkov., et al., (2006):The Human Mosaic: A Thematic Introduction to Cultural Geography, W. H. Freeman and Company, New

York.

7. Kaushik, S.D., (2010):ManavBhugol, Rastogi Publication, Meerut.

8. Maurya, S.D., (2012):ManavBhugol, ShardaPustakBhawan, Allahabad.

9. Rozenblat., Celine., Pumain., Denise and Velasquez., Elkin Eds. (2018): International and Transnational Perspectives on Urban Systems, Springer, Japan, pages 393.

10. Singh, R.B., Ed. (2015): Urban Development Challenges, Risk and Resilience in Asian Mega Cities-Sustainable Urban Future of Emerging Asian Mega Region, Springer, Tokyo, Pages 488, 2015.

The syllabus for B.A. GEOGRAPHY is hereby approved for the sessions 2023-24

Name and Signatures

Chairperson/H.O.D. ..... Subject Expert (UniversityNominee)..... Subject Expert (CollegeNominee)..... Subject Expert (CollegeNominee)..... Industrial Area (Representative)..... Meritorious Alumni of Postgraduate..... Professors of other department of the same Faculty	Departmental members 1..... 2..... 3..... 4..... 5..... 6.....

GOVT. V.Y.T. PG. AUTONOMOUS COLLEGE, DURG
B.A. II Semester (Geography)
Session – 2023-24

2. BGE202 : Statistical Methods (Practical) - (1) (GEC)

Learning Outcomes:

After the completion of course, the students will have ability to:

1. Know the changing human and cultural landscape at different levels.
2. Understand patterns and processes of population growth and its implications.
3. Appreciate the nature and quality of human landscapes.

Course Content:

Statistical Technique: Mean, Median, Mode.

Quartile: Mean Deviation, Standard Deviation .

PRACTICAL RECORD AND VIVA VOCE

Books Recommended:

1. Sharma, J. P. (2001): Prayogik Bhugol., Rastogi Publication, Meerut 3rd. edition.

2. Singh, R.L. and Singh, Rana P.B. (1993): Elements of Practical Geography. (Hindi and English editions). Kalyani Publishers, New Delhi.

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

4. Alvi, Z. 1995 : Statistical Geography: Methods and Applications, Rawat Pub. New Delhi.

5. Sarkar, A. K. (1997): Practical Geography: A Systematic Approach. Orient Longman, Kolkata.

6.Pal, S.K. 1999 : Statistics for Geoscientists, Concept publishing Company, New Delhi

The syllabus for B.A. GEOGRAPHY is hereby approved for the sessions 2023-24

Name and Signatures

Chairperson/H.O.D. ..... Subject Expert (UniversityNominee)..... Subject Expert (CollegeNominee)..... Subject Expert (CollegeNominee)..... Industrial Area (Representative)..... Meritorious Alumni of Postgraduate..... Professors of other department of the same Faculty	Departmental members 1..... 2..... 3..... 4..... 5..... 6.....

• Skill Enhancement : (Credit : 02 each)

1. BGESE01 : Field Techniques Surveying And Research Methods (1)

Learning Outcomes:

After the completion of the course, the students will have the ability to:

1. Conduct field work in physical and human geography, besides investigating socio-economic and environmental issues;

2. Develop tools to collect primary data from the field and interpret them meaningfully;

3. Prepare field report with suitable tables, maps and diagrams based on the data collected from the field and secondary sources.

Course Content:

Unit 1

Field Work in Geographical Studies – Role, Value and Ethics of Field-Work; Defining

the Field and Identifying the Case Study – Rural / Urban /

Physical / Human / Environmental.

Unit 2

Field Techniques – Merits, Demerits and Selection of the Appropriate Technique;

observation (Participant / Non Participant). (6 Lectures)

Unit 3

Methods of primary data collection: Questionnaires (Open/ Closed / Structured /

Non-Structured); Schedule, Interview. (6 Lectures)

Unit 4

Space Survey (Transects and Quadrants, constructing a Sketch). (6 Lectures)

Unit 5

Designing the Field Report – Aims and Objectives, Methodology, Analysis,

Interpretation and Writing the Report.

Practical Record

1. Each student will prepare an individual report based on primary and secondary data collected during field work.

2. The duration of the field work should not exceed 10 days.

3. The word count of the report should be about 6,000 to 10,000 excluding figures, tables, photographs, maps, references and appendices.

4. Students are advised to make use of navigation satellite positioning

(GNSS/GPS) during observation and it report.

5. One copy of the report on A4 size paper should be submitted in soft binding.

References:

1. Creswell, J., (1994): Research Design: Qualitative and Quantitative Approaches, Sage Publications, California.

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,Cambridge.

4. Mukherjee, N., (1993). Participatory Rural Appraisal: Methodology and Application. Concept Publs. Co., New Delhi.

5. Mukherjee, N., (2002). Participatory Learning and Action: with 100 Field Methods. Concept Pub. 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. The Geographical Review (2001) Special Issue on "Doing Fieldwork" 91:1-2, John Wiley, New Jersey..

8. Stoddard, R. H., (1982): Field Techniques and Research Methods in Geography, Kendall/Hunt, Iowa.

9. Wolcott, H. (1995). The Art of Fieldwork. Alta Mira Press, California.

2. BGESE02 : Fundamentals of Remote sensing (1)

Learning Outcomes:

After the completion of the course, the students will have the ability to:

2. Appreciate the development and uses of aerial and satellite remote sensing system and navigation satellite systems in India and other Nations.

2. Understand the basics of EMR and energy interaction in atmosphere and on earth surface features;

3. Analyse and interpret the aerial and satellite data products and GNSS/GPS survey results.

Course Content

6. Basics of Remote Sensing: definition, history, and Processes, stages.
7. Interaction with earth surface features and atmosphere; Spectral Signature.
8. Aerial photos: Types and Characteristics;
9. Remote Sensing satellites: Platforms Types.
10. Remote Sensing Applications.

References:

1. Campbell, J. B., (2007) Introduction to Remote Sensing, Guildford Press,New York.

2. Jensen, J. R., (2004) Introductory Digital Image Processing: A Remote Sensing Perspective, Prentice Hall, New Jersey.

3. Joseph, G. (2005) Fundamentals of Remote Sensing, Universities Press, Hyderabad.

4. Kumar, Dilip, Singh, R.B. and Kaur, Ranjeet (2019) Spatial Information Technology for Sustainable Development Goals, Springer, Basel.

5 . Lillesand, T. M., Kiefer, R. W. and Chipman J. W., (2004) Remote Sensing and Image Interpretation, Wiley, New Jersey. (Wiley Student Edition).

6. Nag P. and Kudra, M., (1998) Digital Remote Sensing, Concept, New Delhi.

7. Rees, W. G., (2001) Physical Principles of Remote Sensing, Cambridge University Press, Cambridge.

8. Singh, R. B. and Murai, S., (1998) Space-informatics for Sustainable Development, Oxford and IBH Pub, New Delhi.

9. Wolf, P. R. and Dewitt, B. A., (2000) Elements of Photogrammetry: With Applications in GIS, McGraw-Hill, New York.

BGESE02.1 (1)
PRACTICAL

REMOTE SENSING

Fundamentals of EMR, Fundamentals of Aerial photography and Recognisation, Stereoscopic Vision, Digital Image Processing,Remote Sensing Programme of India.

Practical record and viva- Voice

3. BGESE03 : ThematicAtlas (1)

Learning Outcomes:

After the completion of course, the students will have ability to:

1. Have sound knowledge regarding the classification and elements of maps.

2. Have proper utilization of maps for the development.

3. Appreciate the preparation of various thematic maps with the application of various techniques.

Course Content:

1. Maps – Meaning, Definition, Concepts, Classification.

2.Types of Diagrammatic – Line, Bar (simple And copound) and Pie Diagram.

3. Thematic Mapping Techniques – Choropleth, Dot, Isopleths.

4. Representation of Statistical Data – Climograph,Hythergraph.

References:

1. Singh, R. L, and Duttta, P. K., (2012): Prayogatama Bhugol, Central Book Depot, Allahabad

2. Cuff, J. D. and Mattson, M. T., (1982): Thematic Maps: Their Design and Production, Methuen Young Books

3. Dent, B. D., Torguson, J. S., and Holder, T. W., (2008): Cartography: Thematic Map Design (6th Edition), McGraw Hill Higher Education 4. Gupta, K.

K. and Tyagi, V. C., (1992): Working with Maps, Survey of India, DST, New Delhi.

5. Kraak, M.J. and Ormeling, F., (2003): Cartography: Visualization of Geo-Spatial Data, Prentice-Hall.

6. Mishra, R. P. and Ramesh, A., (1989): Fundamentals of Cartography, Concept, New Delhi.

BGESE03 (1)
PRACTICAL

Course Content:

Representation of Statistical data – Line, Bar (simple And copound) and Pie Diagram. Climograph,Hythergraph.

Quantitative Methods – Choropleth, Dot, Isopleths.

References:

1. Singh, R. L, and Duttta, P. K., (2012): Prayogatama Bhugol, Central Book Depot, Allahabad

2. Cuff, J. D. and Mattson, M. T., (1982): Thematic Maps: Their Design and Production, Methuen Young Books

3. Dent, B. D., Torguson, J. S., and Holder, T. W., (2008): Cartography: Thematic Map Design (6th Edition), McGraw Hill Higher Education 4. Gupta, K.

K. and Tyagi, V. C., (1992): Working with Maps, Survey of India, DST, New Delhi.

5. Kraak, M.J. and Ormeling, F., (2003): Cartography: Visualization of Geo-Spatial Data, Prentice-Hall.

6. Mishra, R. P. and Ramesh, A., (1989): Fundamentals of Cartography, Concept, New Delhi.

GOVT. V.Y.T. PG. AUTONOMOUS COLLEGE DURG

Dept. of Geography

Session – 2023-24

Approved syllabus for B.A by the members of Board of Studies for the session 2022-23
The syllabus with the paper combinations is as under

B.A / B.Sc. III & IV SEM.

B.A / B.Sc. III SEM Core papers **Geography (Credit: 04 Each)**	**B.A / B.Sc. IV SEM Core papers** **Geography (Credit: 04 Each)**
BGE101 : Climatology & Oceanography (3)	**BGE201 : GEOGRAPHY OF INDIA AND CHHATTISGARH (3)**
PaperII: Practical Geography (1)	PaperII: Practical Geography(1)
GEC (Credit: 04 Each) **Climatology & Oceanography (3)** Practical Geography (1)	
Skill Enhancement : (Credit : 02 each) 1. BGESE01 : Field Techniques Surveying And Research Methods **OR** 2. BGESE02 : Fundamentals of Remote Sensing. **OR** 3. BGESE03 : Thematic Atlas	

GOVT. V.Y.T. PG. AUTONOMOUS COLLEGE, DURG
B.A. III Semester (Geography)
Session – 2023-24
Climatology & Oceanography

Learning Outcomes:

After the completion of course, the students will have ability to:

1. Know the changing human and cultural landscape at different levels.
2. Understand patterns and processes of population growth and its implications.
3. Appreciate the nature and quality of human landscapes.

Unit – I

1. Meaning, definition and scope Of Climatology
2. Composition and Structure of atmosphere
3. Insolation.
4. Temperature – Factors and distribution, Temperature inversion.
5. Heat budget.

UNIT-II

1. Atmospheric Pressure- Distribution and Pressure belt.
2. Winds- Forces affecting winds, Types of winds (Planetary, seasonal and local winds).
3. Atmospheric moisture- Humidity (Absolute, Specific, Relative.) Condensation (Dew, Frost, Fog), Types of Rainfall (Convectional, Orographic & Cyclonic).

UNIT-III

1. Clasification of climatic regions- Koppen's&Thornthwait.
2. World climatic region- Equatorial, Mediterranean, Tundra.
3. Fronts, Cyclone (Tropical & Temperate).
4. EL NINO & LA NINA.

UNIT-IV

1. Nature & Scope of Oceanography.
2. Major feature of ocean basins- Continental shelf, Continental slope, Deep sea plane, Oceanic deeps.
3. Ocean salinity & temperature- distribution & determinates.

UNIT - V

1. Oceanic water movements- Currents: Pacific, Atlantic & Indian ocean, tides(types)
2. Coral Reefs:Conditions of formation &Types
3. Marine deposits:Source & Classification. Ocean Resources(Biological, Minerals & Energy resources.)

Suggested Readings

1. Crichfield, J.H. : Genral Climatology, Prentice Hall, India, New Delhi,1993
2. Das,P.K. : Monsoons National Book Trust, New Delhi, 1987.
3. Lat, D.S. : Climatology, chaitanya Publications, Allahabad, 1986.
4. Robinson, P.J. and Henderson S. : Contempory Climatology,Henlow,1999.
5. Thampson, R.D. and Perry, A (ed) : Applied Climatology, Priniciples and Practice Routledge, London, 1997.

Suggested Readings

1. Davis, Richard J.A. : "Oceanography – an Introduction to the Marine Environment" Wm. C. Brown.
2. Duxbury. C.A. and Duxbury B. : An Introduction to the World's Oceans – C. Brown. Towa 2nd ed.1996.
3. Sharma, R.C. :" The Oceans" Rajesh N. Delhi, 1985.
4. Ummerkutty, A.N.P. Science of the Oceans and Human life, NBT,New Delhi 1985.
5. सिह ,सविन्द्र – समुद्र विज्ञान ,प्रयाग पुस्तक भवन ,इलाहाबाद
6. नेगी ,बी.एस. : जलवायु तका समुद्र विज्ञान ,केदारनाथ ,रामनाक प्रका ान ,मेरठ

The syllabus for B.A. GEOGRAPHY is hereby approved for the sessions 2023-24

Name and Signatures

Chairperson/H.O.D. ..... Subject Expert (UniversityNominee)..... Subject Expert (CollegeNominee)..... Subject Expert (CollegeNominee)..... Industrial Area (Representative)..... Meritorious Alumni of Postgraduate..... Professors of other department of the same Faculty	Departmental members 1..... 2..... 3..... 4..... 5..... 6.....

GOVT. V.Y.T. PG. AUTONOMOUS COLLEGE, DURG
B.A. III Semester (Geography)
Session – 2023-24

BGE102 : Surveying (Practical) - (1) (CORE &GEC)

Learning Outcome:

After the completion of course, the students will have ability to:

1. Read and prepare maps.
2. Comprehend locational and spatial aspects of the earth surface.
3. Use and importance of maps for regional development and decision making.

Course Content:

Surveying : an Introdution

Chain and Tap survey : Triangulation method, Open Traverse and Closed Traverse method.

Prismatic Compass Survey : Whole Circle Bearing and Reduced Bearing, Open Traverse and Closed Traverse method.

Plane table survey, Basic Principels of Plane table. Surveying, Plane table survey including intersection, Open Traverse and Closed Traverse method.

Suggested Readings

1.Greogory,S.: Statistical Methods and the Geographers,Longman,London,1978.

2.Hammond R. and P.S. Mc Cullah ; Quantitive Techniques in Geography : An Introduction . Clarendanpress, Oxfrod, 1974.

3. हीरालाल : प्रायोगिक भूगोल ,किताब धर कानपुर

4 . चौहान ,पी. आर. : प्रयोगात्मक भूगोल ,वसुन्धरा प्रकाशन ,गोरखपुर ,2009

The syllabus for B.A. GEOGRAPHY is hereby approved for the sessions 2023-24

Name and Signatures

Chairperson/H.O.D. ..... Subject Expert (UniversityNominee)..... Subject Expert (CollegeNominee)..... Subject Expert (CollegeNominee)..... Industrial Area (Representative)..... Meritorious Alumni of Postgraduate..... Professors of other department of the same Faculty	Departmental members 1..... 2..... 3..... 4..... 5..... 6.....

• Skill Enhancement : (Credit : 02 each)

1. BGESE01 : Field Techniques Surveying And Research Methods (1)

Learning Outcomes:

After the completion of the course, the students will have the ability to:

1. Conduct field work in physical and human geography, besides investigating socio-economic and environmental issues;

2. Develop tools to collect primary data from the field and interpret them meaningfully;

3. Prepare field report with suitable tables, maps and diagrams based on the data collected from the field and secondary sources.

Course Content:

Unit 1

Field Work in Geographical Studies – Role, Value and Ethics of Field-Work; Defining

the Field and Identifying the Case Study – Rural / Urban /

Physical / Human / Environmental.

Unit 2

Field Techniques – Merits, Demerits and Selection of the Appropriate Technique;

observation (Participant / Non Participant). (6 Lectures)

Unit 3

Methods of primary data collection: Questionnaires (Open/ Closed / Structured /

Non-Structured); Schedule, Interview. (6 Lectures)

Unit 4

Space Survey (Transects and Quadrants, constructing a Sketch). (6 Lectures)

Unit 5

Designing the Field Report – Aims and Objectives, Methodology, Analysis,

Interpretation and Writing the Report.

Practical Record

1. Each student will prepare an individual report based on primary and secondary data collected during field work.

2. The duration of the field work should not exceed 10 days.

3. The word count of the report should be about 6,000 to 10,000 excluding figures, tables, photographs, maps, references and appendices.

4. Students are advised to make use of navigation satellite positioning

(GNSS/GPS) during observation and it report.

5. One copy of the report on A4 size paper should be submitted in soft binding.

References:

1. Creswell, J., (1994): Research Design: Qualitative and Quantitative Approaches, Sage Publications, California.

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,Cambridge.

4. Mukherjee, N., (1993). Participatory Rural Appraisal: Methodology and Application. Concept Publs. Co., New Delhi.

5. Mukherjee, N., (2002). Participatory Learning and Action: with 100 Field Methods. Concept Pub. 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. The Geographical Review (2001) Special Issue on "Doing Fieldwork" 91:1-2, John Wiley, New Jersey..

8. Stoddard, R. H., (1982): Field Techniques and Research Methods in Geography, Kendall/Hunt, Iowa.

9. Wolcott, H. (1995). The Art of Fieldwork. Alta Mira Press, California.

2. BGESE02 : Fundamentals of Remote sensing (1)

Learning Outcomes:

After the completion of the course, the students will have the ability to:

3. Appreciate the development and uses of aerial and satellite remote sensing system and navigation satellite systems in India and other Nations.

2. Understand the basics of EMR and energy interaction in atmosphere and on earth surface features;

3. Analyse and interpret the aerial and satellite data products and GNSS/GPS survey results.

Course Content

11. Basics of Remote Sensing: definition, history, and Processes, stages.
12. Interaction with earth surface features and atmosphere; Spectral Signature.
13. Aerial photos: Types and Characteristics;
14. Remote Sensing satellites: Platforms Types.
15. Remote Sensing Applications.

References:

1. Campbell, J. B., (2007) Introduction to Remote Sensing, Guildford Press,New York.

2. Jensen, J. R., (2004) Introductory Digital Image Processing: A Remote Sensing Perspective, Prentice Hall, New Jersey.

3. Joseph, G. (2005) Fundamentals of Remote Sensing, Universities Press, Hyderabad.

4. Kumar, Dilip, Singh, R.B. and Kaur, Ranjeet (2019) Spatial Information Technology for Sustainable Development Goals, Springer, Basel.

5 . Lillesand, T. M., Kiefer, R. W. and Chipman J. W., (2004) Remote Sensing and Image Interpretation, Wiley, New Jersey. (Wiley Student Edition).

6. Nag P. and Kudra, M., (1998) Digital Remote Sensing, Concept, New Delhi.

7. Rees, W. G., (2001) Physical Principles of Remote Sensing, Cambridge University Press, Cambridge.

8. Singh, R. B. and Murai, S., (1998) Space-informatics for Sustainable Development, Oxford and IBH Pub, New Delhi.

9. Wolf, P. R. and Dewitt, B. A., (2000) Elements of Photogrammetry: With Applications in GIS, McGraw-Hill, New York.

BGESE02.1 (1)
PRACTICAL

REMOTE SENSING

Fundamentals of EMR, Fundamentals of Aerial photography and Recognisation, Stereoscopic Vision, Digital Image Processing,Remote Sensing Programme of India.

Practical record and viva- Voice

3. BGESE03 : ThematicAtlas (1)

Learning Outcomes:

After the completion of course, the students will have ability to:

1. Have sound knowledge regarding the classification and elements of maps.

2. Have proper utilization of maps for the development.

3. Appreciate the preparation of various thematic maps with the application of various techniques.

Course Content:

1. Maps – Meaning, Definition, Concepts, Classification.

2.Types of Diagrammatic – Line, Bar (simple And copound) and Pie Diagram.

3. Thematic Mapping Techniques – Choropleth, Dot, Isopleths.

4. Representation of Statistical Data – Climograph,Hythergraph.

References:

1. Singh, R. L, and Duttta, P. K., (2012): Prayogatama Bhugol, Central Book Depot, Allahabad

2. Cuff, J. D. and Mattson, M. T., (1982): Thematic Maps: Their Design and Production, Methuen Young Books

3. Dent, B. D., Torguson, J. S., and Holder, T. W., (2008): Cartography: Thematic Map Design (6th Edition), McGraw Hill Higher Education 4. Gupta, K.

K. and Tyagi, V. C., (1992): Working with Maps, Survey of India, DST, New Delhi.

5. Kraak, M.J. and Ormeling, F., (2003): Cartography: Visualization of Geo-Spatial Data, Prentice-Hall.

6. Mishra, R. P. and Ramesh, A., (1989): Fundamentals of Cartography, Concept, New Delhi.

BGESE03 (1)
PRACTICAL

Course Content:

Representation of Statistical data – Line, Bar (simple And copound) and Pie Diagram. Climograph,Hythergraph.

Quantitative Methods – Choropleth, Dot, Isopleths.

References:

1. Singh, R. L, and Duttta, P. K., (2012): Prayogatama Bhugol, Central Book Depot, Allahabad

2. Cuff, J. D. and Mattson, M. T., (1982): Thematic Maps: Their Design and Production, Methuen Young Books

3. Dent, B. D., Torguson, J. S., and Holder, T. W., (2008): Cartography: Thematic Map Design (6th Edition), McGraw Hill Higher Education 4. Gupta, K.

K. and Tyagi, V. C., (1992): Working with Maps, Survey of India, DST, New Delhi.

5. Kraak, M.J. and Ormeling, F., (2003): Cartography: Visualization of Geo-Spatial Data, Prentice-Hall.

6. Mishra, R. P. and Ramesh, A., (1989): Fundamentals of Cartography, Concept, New Delhi.

GOVT. GOVT. V.Y.T. PG. AUTONOMOUS COLLEGE DURG

B.A.IV Semester Geography

Session 2023-24

GEOGRAPHY OF INDIA AND CHHATTISGARH

Learning Outcomes:

After the completion of course, the students will have ability to:

1. Know the changing human and cultural landscape at different levels.
2. Understand patterns and processes of population growth and its implications.
3. Appreciate the nature and quality of human landscapes.

GEOGRAPHY OF INDIA

Unit – I

GEOGRAPHY OF INDIA : Geological Strcture, Major Physical features : The Himalayan Mountains, The Northern Plains, Peninsular Plateau, Coastal Plains Climate Drainage

Unit – II

Natural Vegetation : Types and their distribution, Soils : Types and their distribution. Mineral resoures– Iron, Copper, Bauxite. Power of resources – Coal & Petroleum

Unit – III

Major crops: Rice, Wheat, cotton , Agricultural regions of India. Green revolution of India, Industries in India: – Iron & Steel, Cement, Cotton Textiles
Population of India : Growth, distribution and Density

GEOGRAPHY OF CHHATTISGARH

Unit – IV GEOGRAPHY OF CHHATTISGARH

Geological Strcture, Major Physical feature, Climate, Soils, Natural Vegetation Drainage. Mineral and power : coal , Iron, limestone.

Unit – V

industries in Chattisgarh – Iron & Steel, Cement
Major crops: Rice, Wheat,
Population of Chhattisgarh : Growth, distribution and Density,
Major tribes : Baiga, gond,

Suggested Reading

1. Deshpande, C.D. ; India – A Regional Interpretation, ICSSR Northern Book Centre, New Delhi.
2. Singh, Jagdish ; India Gyanodaya, Gorakhpur.
3. Singh, R.L. , ed India – A Regional Geography. National Geographical Society of India. Varanasi 1971.
4. Singh R.L. (ed) ; India A – Regional Geography, National Geographical Society, India VARANASHI, 1971.
5. Tirtha R. & Gopal Krishna, Emerging India Reprinted by Rawat, Publication Jaipur.
6. बंसल सुो ाचंद , भारत का भूगोल ,मिनाश्री प्रका ान मेर
7. वर्मा ,रामविलास , भारत : एक भौगोलिक विवेचन
8. chhattisgarh geography Dr. L.N Verma
9. Chhattisgarh geography Dr. KIRAN GAJPAL VAIBHAV PRAKASHAN

The syllabus for B.A. GEOGRAPHY is hereby approved for the sessions 2023-24

Name and Signatures

Chairperson/H.O.D.	Departmental members 1..... 2..... 3..... 4..... 5..... 6.....
Subject Expert (UniversityNominee)..... Subject Expert (CollegeNominee)..... Subject Expert (CollegeNominee)..... Industrial Area (Representative)..... Meritorious Alumni of Postgraduate..... Professors of other department of the same Faculty	

GOVT. V.Y.T. PG. AUTONOMOUS COLLEGE, DURG
B.A. IV Semester (Geography)
Session – 2023-24

BGE102 : Cartographic Techniques (Practical) - (1) (GEC)

Learning Outcome:

After the completion of course, the students will have ability to:

1. Read and prepare maps.
2. Comprehend locational and spatial aspects of the earth surface.
3. Use and importance of maps for regional development and decision making.

Course Content:

MAP INTERPRETATION

1. Interpretation of weather maps and Use of metrological instrument.

2. Study and interpretation of Indian Topographical sheet : Classification and numbering system, interpretation of Indian Topographical sheet with respect to Cultural and Physical features.

Suggested Readings

1.Greogory,S.: Statistical Methods and the Geographers,Longman,London,1978.

2.Hammond R. and P.S. Mc Cullah ; Quantitive Techniques in Geography : An Introduction . Clarendanpress, Oxfrod, 1974.

3. हीरालाल : प्रायोगिक भूगोल ,किताब धर कानपुर

4 . चौहान ,पी. आर. : प्रयोगात्मक भूगोल ,वसुन्धरा प्रकाशन ,गोरखपुर ,2009

The syllabus for B.A. GEOGRAPHY is hereby approved for the sessions 2023-24

Name and Signatures

Chairperson/H.O.D. ..... Subject Expert (UniversityNominee)..... Subject Expert (CollegeNominee)..... Subject Expert (CollegeNominee)..... Industrial Area (Representative)..... Meritorious Alumni of Postgraduate..... Professors of other department of the same Faculty	Departmental members 1..... 2..... 3..... 4..... 5..... 6.....

• Skill Enhancement : (Credit : 02 each)

1. BGESE01 : Field Techniques Surveying And Research Methods (1)

Learning Outcomes:

After the completion of the course, the students will have the ability to:

1. Conduct field work in physical and human geography, besides investigating socio-economic and environmental issues;

2. Develop tools to collect primary data from the field and interpret them meaningfully;

3. Prepare field report with suitable tables, maps and diagrams based on the data collected from the field and secondary sources.

Course Content:

Unit 1

Field Work in Geographical Studies – Role, Value and Ethics of Field-Work; Defining

the Field and Identifying the Case Study – Rural / Urban /

Physical / Human / Environmental.

Unit 2

Field Techniques – Merits, Demerits and Selection of the Appropriate Technique;

observation (Participant / Non Participant). (6 Lectures)

Unit 3

Methods of primary data collection: Questionnaires (Open/ Closed / Structured /

Non-Structured); Schedule, Interview. (6 Lectures)

Unit 4

Space Survey (Transects and Quadrants, constructing a Sketch). (6 Lectures)

Unit 5

Designing the Field Report – Aims and Objectives, Methodology, Analysis,

Interpretation and Writing the Report.

Practical Record

1. Each student will prepare an individual report based on primary and secondary data collected during field work.

2. The duration of the field work should not exceed 10 days.

3. The word count of the report should be about 6,000 to 10,000 excluding figures, tables, photographs, maps, references and appendices.

4. Students are advised to make use of navigation satellite positioning

(GNSS/GPS) during observation and it report.

5. One copy of the report on A4 size paper should be submitted in soft binding.

References:

1. Creswell, J., (1994): Research Design: Qualitative and Quantitative Approaches, Sage Publications, California.

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,Cambridge.

4. Mukherjee, N., (1993). Participatory Rural Appraisal: Methodology and Application. Concept Publs. Co., New Delhi.

5. Mukherjee, N., (2002). Participatory Learning and Action: with 100 Field Methods. Concept Pub. 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. The Geographical Review (2001) Special Issue on "Doing Fieldwork" 91:1-2, John Wiley, New Jersey..

8. Stoddard, R. H., (1982): Field Techniques and Research Methods in Geography, Kendall/Hunt, Iowa.

9. Wolcott, H. (1995). The Art of Fieldwork. Alta Mira Press, California.

2. BGESE02 : Fundamentals of Remote sensing (1)

Learning Outcomes:

After the completion of the course, the students will have the ability to:

4. Appreciate the development and uses of aerial and satellite remote sensing system and navigation satellite systems in India and other Nations.

2. Understand the basics of EMR and energy interaction in atmosphere and on earth surface features;

3. Analyse and interpret the aerial and satellite data products and GNSS/GPS survey results.

Course Content

16. Basics of Remote Sensing: definition, history, and Processes, stages.
17. Interaction with earth surface features and atmosphere; Spectral Signature.
18. Aerial photos: Types and Characteristics;
19. Remote Sensing satellites: Platforms Types.
20. Remote Sensing Applications.

References:

1. Campbell, J. B., (2007) Introduction to Remote Sensing, Guildford Press,New York.

2. Jensen, J. R., (2004) Introductory Digital Image Processing: A Remote Sensing Perspective, Prentice Hall, New Jersey.

3. Joseph, G. (2005) Fundamentals of Remote Sensing, Universities Press, Hyderabad.

4. Kumar, Dilip, Singh, R.B. and Kaur, Ranjeet (2019) Spatial Information Technology for Sustainable Development Goals, Springer, Basel.

5 . Lillesand, T. M., Kiefer, R. W. and Chipman J. W., (2004) Remote Sensing and Image Interpretation, Wiley, New Jersey. (Wiley Student Edition).

6. Nag P. and Kudra, M., (1998) Digital Remote Sensing, Concept, New Delhi.

7. Rees, W. G., (2001) Physical Principles of Remote Sensing, Cambridge University Press, Cambridge.

8. Singh, R. B. and Murai, S., (1998) Space-informatics for Sustainable Development, Oxford and IBH Pub, New Delhi.

9. Wolf, P. R. and Dewitt, B. A., (2000) Elements of Photogrammetry: With Applications in GIS, McGraw-Hill, New York.

BGESE02.1 (1)
PRACTICAL

REMOTE SENSING

Fundamentals of EMR, Fundamentals of Aerial photography and Recognisation, Stereoscopic Vision, Digital Image Processing,Remote Sensing Programme of India.

Practical record and viva- Voice

3. BGESE03 : ThematicAtlas (1)

Learning Outcomes:

After the completion of course, the students will have ability to:

1. Have sound knowledge regarding the classification and elements of maps.

2. Have proper utilization of maps for the development.

3. Appreciate the preparation of various thematic maps with the application of various techniques.

Course Content:

1. Maps – Meaning, Definition, Concepts, Classification.

2.Types of Diagrammatic – Line, Bar (simple And copound) and Pie Diagram.

3. Thematic Mapping Techniques – Choropleth, Dot, Isopleths.

4. Representation of Statistical Data – Climograph,Hythergraph.

References:

1. Singh, R. L, and Duttta, P. K., (2012): Prayogatama Bhugol, Central Book Depot, Allahabad

2. Cuff, J. D. and Mattson, M. T., (1982): Thematic Maps: Their Design and Production, Methuen Young Books

3. Dent, B. D., Torguson, J. S., and Holder, T. W., (2008): Cartography: Thematic Map Design (6th Edition), McGraw Hill Higher Education 4. Gupta, K.

K. and Tyagi, V. C., (1992): Working with Maps, Survey of India, DST, New Delhi.

5. Kraak, M.J. and Ormeling, F., (2003): Cartography: Visualization of Geo-Spatial Data, Prentice-Hall.

6. Mishra, R. P. and Ramesh, A., (1989): Fundamentals of Cartography, Concept, New Delhi.

BGESE03 (1)
PRACTICAL

Course Content:

Representation of Statistical data – Line, Bar (simple And copound) and Pie Diagram. Climograph,Hythergraph.

Quantitative Methods – Choropleth, Dot, Isopleths.

References:

1. Singh, R. L, and Duttta, P. K., (2012): Prayogatama Bhugol, Central Book Depot, Allahabad

2. Cuff, J. D. and Mattson, M. T., (1982): Thematic Maps: Their Design and Production, Methuen Young Books

3. Dent, B. D., Torguson, J. S., and Holder, T. W., (2008): Cartography: Thematic Map Design (6th Edition), McGraw Hill Higher Education 4. Gupta, K.

K. and Tyagi, V. C., (1992): Working with Maps, Survey of India, DST, New Delhi.

5. Kraak, M.J. and Ormeling, F., (2003): Cartography: Visualization of Geo-Spatial Data, Prentice-Hall.

6. Mishra, R. P. and Ramesh, A., (1989): Fundamentals of Cartography, Concept, New Delhi.