

महर्षि दयानंद सरस्वती विश्वविद्यालय, अजमेर
MAHARSHI DAYANAND SARASWATI UNIVERSITY,
AJMER

SYLLABUS / पाठ्यक्रम



SCHEME OF EXAMINATION AND COURSE OF STUDY

MASTER OF ARTS/SCIENCE (M.A./M.Sc.) GEOGRAPHY

MASTER'S PROGRAMME IN GEOGRAPHY

Credit Score and Scheme

TABLE 1: STRUCTURAL FRAMEWORK OF THE TWO YEARS GEOGRAPHY M.A./M.SC. PROGRAM UNDER NEP-2020				
SEMESTER	SEM-I	SEM-II	SEM-III	SEM-IV
Core Courses	DCC-01Th (4 Cr) DCC-02 Th (4 Cr) DCC-03 Th (4 Cr) DCC-04 Th (4 Cr) DCC-05 Th (4 Cr)	DCC-06Th (4 Cr) DCC-07 Th (4 Cr) DCC-08 Th (4 Cr) DCC-09Th (4 Cr)	DCC-10Th (4 Cr) DCC-11 Th (4 Cr) DCC-12 Th (4 Cr)	DCC-13Th (4 Cr) DCC-14Th (4 Cr) DCC-15Th (4 Cr)
Discipline Specific Elective (DSE)		DSE– 01 Th (4 Cr)	DSE-02 Th (4 Cr) DSE-03 Th (4 Cr)	DSE-04 Th (4 Cr) DSE-05 Th (4 Cr)
Total No. of Credits	20 + 0 = 20	16 + 4 = 20	12 + 8 = 20	12 + 8 = 20
	60 (DCC) + 20 (DSE) = 80			

- Duration of examination of each course shall be 3 hours (for Theory courses) and 4 hours (for Practical courses).
- Each Core and Elective course will be of 100 marks (70+ 30).
- It is mandatory to clear Theory and Internal Assessment courses separately. The minimum qualifying marks in both shall be 40 percent.

The semester wise details of Master's Course are given below.

2.0 SCHEME OF TWO YEARS POSTGRADUATE M.A./M.SC. DEGREE PROGRAM IN GEOGRAPHY

Programme Code :

Programme Faculty : SOCIAL SCIENCE

Programme Name : TWO-YEAR POST-GRADUATE DEGREE PROGRAM IN GEOGRAPHY

SCHEME AND WEIGHTAGE OF COURSES

S.No.	Course Category	Title ofthe Course	Credits			Credits earned	Evaluation			Remarks
			L	T	P		IA	ESA	Total	
SEMESTER – I										
1	GEOG,DCC – 01	Evolution of Geographical Thought	4	0	0	4	30	70	100	All Courses re compulsory Courses
2	GEOG,DCC – 02	Geomorphological Analysis	4	0	0	4	30	70	100	
3	GEOG,DCC – 03	Environmental Geography	4	0	0	4	30	70	100	
4	GEOG,DCC – 04	Advanced Geography of Rajasthan	4	0	0	4	30	70	100	

5	GEOG,DCC – 05	Lab Work - Representation of Geographical Data	0	0	4	4	0	100	100	
			Total Credits in Semester I			20	Total Marks in Semester I		500	
SEMESTER – II										
6	GEOG,DCC – 06	Advanced Geography of India	4	0	0	4	30	70	100	
7	GEOG,DCC – 07	Climatology & Oceanography	4	0	0	4	30	70	100	
8	GEOG,DCC – 08	Economic & Resource Geography	4	0	0	4	30	70	100	
9	GEOG,DSE–01A	Transport Geography	4	0	0	4	30	70	100	Student may opt any one
	GEOG,DSE – 01B	Regional Development & Planning	4	0	0	4	30	70	100	
10	GEOG,DCC – 09	Lab Work –Map Projections, Statistics & Socio-Economic Survey	0	0	4	4	0	100	100	
			Total Credits in Semester II			20	Total Marks in Semester II		500	
SEMESTER – III										
11	GEOG,DCC – 10	Urban Geography	4	0	0	4	30	70	100	
12	GEOG,DCC – 11	Agricultural Geography	4	0	0	4	30	70	100	
13	GEOG,DSE – 02A	Population Geography	4	0	0	4	30	70	100	Student may opt any one
	GEOG,DSE – 02B	Fundamental Remote Sensing & GIS	4	0	0	4	30	70	100	
14	GEOG,DSE – 03A	Quantitative Methods in Geography	4	0	0	4	30	70	100	Student may opt any one
	GEOG,DSE – 03B	Disaster Management	4	0	0	4	30	70	100	

15	GEOG,DCC – 12	Lab Work –Basics of Surveying & GIS	0	0	4	4	0	100	100	
			Total Credits in Semester III			20	Total Marks in Semester III		500	
SEMESTER – IV										
16	GEOG,DCC – 13	World Regional Geography	4	0	0	4	30	70	100	
17	GEOG,DCC – 14	Industrial Geography	4	0	0	4	30	70	100	
18	GEOG,DSE – 04A	Research Methods in Geography	4	0	0	4	30	70	100	Student may opt any one
	GEOG,DSE – 04B	Social Geography	4	0	0	4	30	70	100	
19	GEOG,DSE – 05A	Political Geography	4	0	0	4	30	70	100	Students may opt any one
	GEOG,DSE – 05B	Cultural Geography	4	0	0	4	30	70	100	
20	GEOG,DCC – 15	Lab IV - Advanced Surveying Techniques and Field Survey	0	0	4	4	0	100	100	
NOTE	GEOG,DSN – 01	DISSERTATION	4			4	100		100	Students can opt for dissertation in lieu of either paper on S. No. 18 or 19
			Total Credits in Semester IV			20	Total Marks in Semester IV		500	
Total Credits in all semester (20+20+20+20)						80	Total Marks in all semesters		2000	

Note:

CourseCategories : DCC–Discipline Core Course ;DSE–Discipline Specific Elective;

Contact Hours : Lecture-1 Credit=1Hour/ Week

The internal assessment shall consist of the following components:-

• First Internal Test	–	10 Marks
• Second Internal Test	–	10 Marks
• Handwritten Assignment / PPT	–	05 Marks(to be written in approximately 500 words)
• Attendance	–	05 Marks
Total	–	30 Marks

MASTER OF ARTS/SCIENCE (M.A./M.Sc.)IN GEOGRAPHY
SEMESTER - I
GEOGDCC – 01:EVOLUTION OF GEOGRAPHICAL THOUGHT

Distribution of Marks for the Course		
Paper	Max.Marks	Duration
First InternalTest	10	1 hr
Second InternalTest	10	1 hr
Hand written Assignment	05	to be written in approx. 500 words
Attendance	05	-
End Semester Examination	70	3 hrs
TotalMaxMarks	100	

There shall be a Terminal Examination at the end of each Semester carrying 70 marks. The question paper shall comprise three sections **Section A, Section B and Section C.**

Section A

Section shall be of **20 marks** and consist of **10 questions** carrying **2 marks** each to be answered in approximately *20 words* each. All questions shall be compulsory. The examiner shall set the question paper choosing at least 3 questions from each unit.

Section B

Section shall be of **30 marks** and consist of **9 questions** carrying **5 marks** each to be answered in approximately *250 words* each. A Candidate shall attempt any six questions selecting at least one from each Unit.. The examiner shall set the questions ensuring that at least three questions are drawn from each Unit.

Section C

Section shall be of **20 marks** and consist of three questions carrying 10 marks each to be answered in *500 words* each. A Candidate shall attempt any two questions. The examiner shall set one question from each Unit.

Note : –

- (i) For Non- Collegiate Students, there shall be only One Terminal Examination of 100 containing the Section A, B and C. (Theory Paper will be of 70 Marks, the marks obtained from 70 Marks will be proportionately upgraded to as marks obtained from 100 Marks and will be awarded in Mark sheet.
- (ii) The student has to qualify both the Internal Assessment and External Assessment separately. The minimum qualifying marks in both shall be 40 percent.

Course Contents :

Unit – I

Meaning and definition, nature, aims and purpose, approaches and concepts of Geography, Interdisciplinary trends, Post war, modern and recent trends in geography. Development of modern Geography in India, Geography – the Vedic age and Geography of Purana's (first four chapters of geography of Purana's by S.M. Ali), Detail study of Jambu Dwip.

Unit – II

Contribution by Greek, Roman and Arab Geographers, Al-Baruni and Ibn-Battuta. The emergence of scientific geography in the 18th and 19th centuries. Development of geographical ideas during 20th century. Contribution of different schools of geography: German, French, American, British and Russian school.

Unit – III

Dualism in geography : Physical & human geography, Determinism & Possibilism, Regional & systematic geography, Quantitative & Qualitative. Areal Differentiation, Quantitative Revolution, Positivism, Idealism and realism in geography, Behaviorism in Geography. Humanistic geography, Welfare geography and Feminist Geography, Postmodernism in Geography.

Books Recommended :

1. Hartshorne, Richard : Perspective on the Nature of Geography, The Association of American Geographers, Hutchinson University Library, London.
2. Dikshit, R.D. : Geographical Thought – A Contextual History of Ideas, Prentice Hall of India Pvt. Ltd.
3. Kaushik & Rawat: Geographical Thought & Methodology, Rastogi Publication, Meerut.
4. Dikshit, R.D. : The Arts, Science of Geography Integrated, Readings Prentice Hall of India, New Delhi, 1994.
5. Saxena, D.P. : Regional Geography of Vedic India, Grantham Rambhag, Kanpur.
6. Hussain, Majid : Evolution of Geographical Thought, Rawat Publication, Jaipur.
7. Hagget, P. : Geography – A Modern Synthesis, Harper International Ed.
8. हुसैन मजिद : भौगोलिक विचारधाराओं का इतिहास रावत पब्लिकेशन्स, जयपुर।
9. कौशिक, एस.डी. : भौगोलिक विचारधारा एवं विधि तंत्र, रस्तोगी प्रकाशन, मेरठ।
10. जैन, एस.एम. : भौगोलिक चिन्तन का विकास, साहित्य भवन, आगरा।

MASTER OF ARTS/SCIENCE (M.A./M.Sc.)IN GEOGRAPHY
SEMESTER - I
GEOGDCC – 02:GEOMORPHOLOGICAL ANALYSIS

Distribution of Marks for the Course		
Paper	Max.Marks	Duration
First InternalTest	10	1 hr
Second InternalTest	10	1 hr
Hand written Assignment	05	to be written in approx. 500 words
Attendance	05	-
End Semester Examination	70	3 hrs
TotalMaxMarks	100	

There shall be a Terminal Examination at the end of each Semester carrying 70 marks. The question paper shall comprise three sections **Section A, Section B and Section C.**

Section A

Section shall be of **20 marks** and consist of **10 questions** carrying **2 marks** each to be answered in approximately *20 words* each. All questions shall be compulsory. The examiner shall set the question paper choosing at least 3 questions from each unit.

Section B

Section shall be of **30 marks** and consist of **9 questions** carrying **5 marks** each to be answered in approximately *250 words* each. A Candidate shall attempt any six questions selecting at least one from each Unit.. The examiner shall set the questions ensuring that at least three questions are drawn from each Unit.

Section C

Section shall be of **20 marks** and consist of three questions carrying 10 marks each to be answered in *500 words* each. A Candidate shall attempt any two questions. The examiner shall set one question from each Unit.

Note : –

- (i) For Non- Collegiate Students, there shall be only One Terminal Examination of 100 containing the Section A, B and C. (Theory Paper will be of 70 Marks, the marks obtained from 70 Marks will be proportionately upgraded to as marks obtained from 100 Marks and will be awarded in Mark sheet.
- (ii) The student has to qualify both the Internal Assessment and External Assessment separately. The minimum qualifying marks in both shall be 40 percent.

Course Contents :

Unit – I

Concept and scope of Geomorphology, Geological Time Scale, Earth's interior, concept of isostasy – Airy & Pratt. Continental Drift Theory, Plate Tectonics Theory, Earthquake and Volcanism.

Unit – II

Diastrophism Movement-Epeirogenesis and Orogenesis. Theories of mountain building: Kober and Holmes. Denudational Processes: Concept of Weathering and its types, Cycle of Erosion: Davis and Penck. Development of Slopes: Penck, Wood and Strahler.

Unit – III

Dynamic geomorphic processes: fluvial, glacial, Aeolian, marine and karst processes and resultant landforms. Mass movement and soil formation. Applied Geomorphology – application of geomorphic mapping terrain evaluation. Digital Elevation Model (DEM) and Triangulated Irregular Network (TIN) unit

Suggested Readings:-

1. Ahmad, E.: Coastal Geomorphology of India, New Delhi
2. Arthur Holmes, 1993: Principles of Physical Geology, Routledge
3. Bloom, A.L. 1992: Geomorphology- Systematic Analysis of Late Cenozoic Landforms, Prentice Hall India, New Delhi.
4. Chorley, R.J., Schumm, S. A. and Sugden, D.E. 1984: Geomorphology, Methuen, London
5. Kale, V. and Gupta, A. 2001: Introduction to Geomorphology, Orient Longman, Kolkata
6. Sharma, H.S. (Ed.) - Perceptives in Geomorphology, Concept Publishers, New Delhi
7. Singh, S. 1998: Geomorphology, Prayag Publication, Allahabad.
8. Steers, J.A Unstable Earth, Methuen & Co., London.
9. Strahler, A.N. and Strahler, A.H. 1984: Elements of Physical Geography, John Wiley, New York.
10. Thornbury, W.D. 1954: Principles of Geomorphology, John Wiley, New York.
11. सविन्द्र सिंह : भू-आकृति विज्ञान, वसुन्धरा प्रकाशन, गोरखपुर।
12. कौशिक, एस.डी.: भू-आकृति विज्ञान, रस्तोगी प्रकाशन, मेरठ।
13. नेगी, बी.एस.: भू-आकृति विज्ञान, रस्तोगी प्रकाशन, मेरठ।
14. जे.पी. शर्मा : भू-आकृति विज्ञान, रस्तोगी प्रकाशन, मेरठ।

MASTER OF ARTS/SCIENCE (M.A./M.Sc.)IN GEOGRAPHY
SEMESTER - I
GEOGDCC – 03: ENVIRONMENTAL GEOGRAPHY

Distribution of Marks for the Course		
Paper	Max.Marks	Duration
First InternalTest	10	1 hr
Second InternalTest	10	1 hr
Hand written Assignment	05	to be written in approx. 500 words
Attendance	05	-
End Semester Examination	70	3 hrs
TotalMaxMarks	100	

There shall be a Terminal Examination at the end of each Semester carrying 70 marks. The question paper shall comprise three sections **Section A, Section B and Section C.**

Section A

Section shall be of **20 marks** and consist of **10 questions** carrying **2 marks** each to be answered in approximately *20 words* each. All questions shall be compulsory. The examiner shall set the question paper choosing at least 3 questions from each unit.

Section B

Section shall be of **30 marks** and consist of **9 questions** carrying **5 marks** each to be answered in approximately *250 words* each. A Candidate shall attempt any six questions selecting at least one from each Unit.. The examiner shall set the questions ensuring that at least three questions are drawn from each Unit.

Section C

Section shall be of **20 marks** and consist of three questions carrying 10 marks each to be answered in *500 words* each. A Candidate shall attempt any two questions. The examiner shall set one question from each Unit.

Note : –

- (i) For Non- Collegiate Students, there shall be only One Terminal Examination of 100 containing the Section A, B and C. (Theory Paper will be of 70 Marks, the marks obtained from 70 Marks will be proportionately upgraded to as marks obtained from 100 Marks and will be awarded in Mark sheet.
- (ii) The student has to qualify both the Internal Assessment and External Assessment separately. The minimum qualifying marks in both shall be 40 percent.

Course Content:

UNIT-I

Environmental Geography – Nature and scope, its relation with other physical and social sciences. Environment and Ecosystem: Concepts and approaches, Geographic classification, human ecology, functions – trophic levels, energy flows, cycles (Geo-chemical, Carbon, Nitrogen and Oxygen), food chain, food web and ecological pyramid.

UNIT-II

Biome and biomass; Concept of Biodiversity and its conservation, Biodiversity: depletion and conservation. Biodiversity hotspots in India. World distribution of plants and animals - The Zoo-Geographical regions, Phyto-Geographical Regions. Detailed Study of the following: Wildlife (Protection) Act 1972, Project Tiger (1973), Environment Protection Act (1986), Biological Diversity Act (2002), National Environment Policy (2006), Rajasthan State Environment Policy (2010).

UNIT-III

Environmental pollution: pollutants, sources and types of pollution; Water, soil, air, and noise pollution; Solid waste disposal; Environmental pollution and health, Environmental education; Environmental impact analysis. Brief Study of following: Agenda 21, Montreal Protocol (1987), RAMSAR Convention on Wetlands, Kyoto Protocol, Convention on biological diversity (CBD).

Suggested readings:

1. Anjuneeyulu, Y. 2004: Introduction to Environmental Science. B. S. Publications, Hyderabad.
2. Huggett, R. J. 1998: Fundamental of Biogeography. Routledge, London.
3. Mathur, H. S. 2003: Essentials of Biogeography. Pointer Publication, Jaipur.
4. Nag, P., Kumra, V.K. and Singh, J. 1990: Geography and Environmental Issues at Local, Regional and National Levels. (in 3 vols.), Concept Publishing Company, New Delhi.
5. Saxena, K.K. 2004: Environmental Studies. University Book House Private Ltd., Jaipur 18.
6. Singh, J. 2001: Paryavaran Evam Samvikas. Gyanodaya Prakashan, Gorakhpur.
7. Singh, S. 2006: Environmental Geography. Prayag Pustak Bhawan, Allahabad.
8. Singh, S. 2007: Paryavaran Bhugol. Prayag Pustak Bhawan, Allahabad.
9. सिंह एस : पर्यावरण भूगोल, प्रयाग पुस्तक भवन, इलाहाबाद।

MASTER OF ARTS/SCIENCE (M.A./M.Sc.)IN GEOGRAPHY
SEMESTER - I
GEOGDCC – 04: ADVANCED GEOGRAPHY OF RAJASTHAN

Distribution of Marks for the Course		
Paper	Max.Marks	Duration
First InternalTest	10	1 hr
Second InternalTest	10	1 hr
Hand written Assignment	05	to be written in approx. 500 words
Attendance	05	-
End Semester Examination	70	3 hrs
TotalMaxMarks	100	

There shall be a Terminal Examination at the end of each Semester carrying 70 marks. The question paper shall comprise three sections **Section A, Section B and Section C.**

Section A

Section shall be of **20 marks** and consist of **10 questions** carrying **2 marks** each to be answered in approximately *20 words* each. All questions shall be compulsory. The examiner shall set the question paper choosing at least 3 questions from each unit.

Section B

Section shall be of **30 marks** and consist of **9 questions** carrying **5 marks** each to be answered in approximately *250 words* each. A Candidate shall attempt any six questions selecting at least one from each Unit.. The examiner shall set the questions ensuring that at least three questions are drawn from each Unit.

Section C

Section shall be of **20 marks** and consist of three questions carrying 10 marks each to be answered in *500 words* each. A Candidate shall attempt any two questions. The examiner shall set one question from each Unit.

Note : –

- (i) For Non- Collegiate Students, there shall be only One Terminal Examination of 100 containing the Section A, B and C. (Theory Paper will be of 70 Marks, the marks obtained from 70 Marks will be proportionately upgraded to as marks obtained from 100 Marks and will be awarded in Mark sheet.
- (ii) The student has to qualify both the Internal Assessment and External Assessment separately. The minimum qualifying marks in both shall be 40 percent.

Course Content:

UNIT-I

Physical aspects of Rajasthan: geological structure, relief, climate, drainage, natural vegetation, environmental pollution-causes and types, drought, desertification, soils, soil erosion and conservation availability, problems and conservation of water resources.

UNIT-II

Economics aspects. irrigation, sources, types, irrigation intensity, crop wise irrigation, quality of irrigation water, problems, irrigation projects: detailed study of Indira Gandhi canal project, Chambal valley project Mahi BajajSagar project on physical and socio-economics aspects, Agriculture: development under five-year plans, problems of agriculture development. general land use: live-stock and dairy development, Minerals, Industries, transport & trade, development of tourism, desert development programme, tribal areas development programme, Aravali hill development programme.

UNIT-III

Cultural and development aspects: population-number, growth, distribution and density, rural and urban, male and female population, literacy status, occupational structure, schedule castes and schedule tribes, population problems, study of Bhil, Meena and Garasia, settlement types, building materials and house types and factors affecting settlements in Rajasthan.

Suggested readings:

1. Bhalla L.R. 1996-97: (Geography of Rajasthan. Kuldeep Publications, Ajmer.
2. Dhabriya, S.S. 1988: Desert Spread and Desertification. Environmental, Jaipur.
3. Govt. of Rajasthan Techno-Economies Survey Of Rajasthan. Govt, of Rajasthan Publication.
4. Maheswari, D. 2008: Geography of Rajasthan. Shahitya Bhawan Publication, Hospital Road, Agra.
5. Mishra, V.C. 1967: Geography of Rajasthan. National book trust of India, New Delhi.
6. Sharma B. L. 1984: Agricultural Typology of Rajasthan.
7. Sharma P.K. and Mishra Preeti: 2022 Geography of Rajasthan. Pareek Publication, Jaipur.
8. सक्सेना एच.एम.: 2025 राजस्थान का भूगोल, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर।
9. शर्मा एच.एस. एण्ड एम.एल: 2020 राजस्थान का भूगोल, पंचशील प्रकाशन, जयपुर।

MASTER OF ARTS/SCIENCE (M.A./M.Sc.)IN GEOGRAPHY
SEMESTER - I
GEOGDCC – 05: REPRESENTATION OF GEOGRAPHICAL DATA

Credits: 04 (Hours per week): 04	Total Marks:- 100
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Note:-

- | | | |
|------------------------------|------------------|----------|
| 1. Written Test on Lab work | 4 Hrs. (5 Ques.) | 60 Marks |
| 2. Record work and Viva-Voce | 2 Hrs. (25+15) | 40 Marks |

Student will have to attempt Five question out of Six question in written paper of Practical Examination.

Record work of minimum 25 sheets must be prepared by students and checked & signed by teacher with date, otherwise students will be responsible. Students must write his/her name on every sheet. The teacher should give fresh exercise every year, so that the student may not undertake tracing of old exercise.

Course Content:

- 1. Representation of relief:** Introduction and importance. Methods of relief representations: Qualitative or Pictorial method: Hachure method, Hill shading method, Trachographic method, Morphographic method. Quantitative or Mathematical methods (Spot height, Bench mark, Trigonometric stations, Form lines and Contour lines (Principals of contouring, Interpolation of contour lines and Methods of contour representation) and Composite methods. Their characteristics, merits and demerits.
- 2. Representation Of Geographical Data by Diagram:**One-Dimensional Diagram: Line-Polyline, Bar-Simple, Compound, Multiple, Pyramid: Simple, Superimposed, Compound.Two-Dimensional Diagram: Square, Rectangle, Ring, Divided Circle, Three-Dimensional Diagram Sphere, Block pile.
- 3. Classification of distribution maps-** Qualitative Maps (Choro Schematic & Choro Chromatic), Quantitative Maps (Choropleth, Dot, Dot & Circle, Dot & Sphere Maps), Traffic-flow diagram. Weather symbols (weather condition, wind velocity and cloud cover) and Weather maps: introduction, uses, importance and interpretation of Indian weather maps (January and July). Isopleths on weather.Simple and Compound

Windrose, Climograph, Hythergraph and Climatograph, Ergograph, Water budget diagram and Rainfall Dispersion Diagram.

Suggested Readings:-

1. Monkhouse, F.J., 1971: Maps and Diagrams, Methuen, London.
2. Dury, G.H., 1972: Map Interpretation, Pitman Publishing, London.
3. Ishtiaque, M., 1989: Practical Geography, Heritage Publishers, New Delhi
4. Robinson, A.H., Morrison, J.L., Muehrcke, P.C., Kimerling, A.J. and Guphill, S.C., 1995: Elements of Cartography, John Wiley and Sons, New York.
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, L.R., 2006: Fundamentals of Practical Geography, Sharda Pustak Bhawan, Allahabad.
8. Singh, R.L. and Singh, Rana P.B., 1993: Elements of Practical Geography. (Hindi and English editions). Kalyani Publishers, New Delhi.
9. Mishra, R.N. and Sharma, P.K., 2018: Practical Geography, Rawat Publication, Jaipur.
10. मिश्रा, आर.एन., और शर्मा, पी. के. 2018: प्रायोगिक भूगोल, रावत पब्लिकेशन, जयपुर।
11. शर्मा जे.पी.: प्रायोगिक भूगोल, रस्तोगी प्रकाशन, मेरठ।
12. इन्द्रपाल एवं माथुर: मानचित्र प्रक्षेप, राजस्थान हिन्दी ग्रंथ अकादमी।

SEMESTER - II

MASTER OF ARTS/SCIENCE (M.A./M.Sc.) IN GEOGRAPHY
SEMESTER – II
GEOGDCC – 06: ADVANCED GEOGRAPHY OF INDIA

Distribution of Marks for the Course		
Paper	Max.Marks	Duration
First InternalTest	10	1 hr
Second InternalTest	10	1 hr
Hand written Assignment	05	to be written in approx. 500 words
Attendance	05	-
End Semester Examination	70	3 hrs
TotalMaxMarks	100	

There shall be a Terminal Examination at the end of each Semester carrying 70 marks. The question paper shall comprise three sections **Section A, Section B and Section C.**

Section A

Section shall be of **20 marks** and consist of **10 questions** carrying **2 marks** each to be answered in approximately *20 words* each. All questions shall be compulsory. The examiner shall set the question paper choosing at least 3 questions from each unit.

Section B

Section shall be of **30 marks** and consist of **9 questions** carrying **5 marks** each to be answered in approximately *250 words* each. A Candidate shall attempt any six questions selecting at least one from each Unit.. The examiner shall set the questions ensuring that at least three questions are drawn from each Unit.

Section C

Section shall be of **20 marks** and consist of three questions carrying 10 marks each to be answered in *500 words* each. A Candidate shall attempt any two questions. The examiner shall set one question from each Unit.

Note : –

- (i) For Non- Collegiate Students, there shall be only One Terminal Examination of 100 containing the Section A, B and C. (Theory Paper will be of 70 Marks, the marks obtained from 70 Marks will be proportionately upgraded to as marks obtained from 100 Marks and will be awarded in Mark sheet.
- (ii) The student has to qualify both the Internal Assessment and External Assessment separately. The minimum qualifying marks in both shall be 40 percent.

Course Content:

Unit-I

India in the context of south-east and south Asia; Physiographic divisions; Drainage systems; Climate, origin of Indian Monsoon and climatic regions by Koeppen and Thornwaite.

Unit-II

Forest and Soil Resources: Types and distribution, Agriculture: Green Revolution, Agro-climatic zones. Production and distribution of major crops: Rice, Wheat, Cotton, Jute, Sugarcane, Tea & Coffee. Minerals: Distribution & Production of Iron-Ore, Copper, Manganese, Bauxite and Mica. Power Resources: Distribution of Coal, Petroleum, Natural Gas, Hydel, Solar, Wind and Atomic Power.

Unit-III

Planning regions of India and their characteristics; Transport and communication: study of the network of roadways, Swarnim Chaturbhuj Bharatmala Yojna, Railways - DFCCIL, Airways and Waterways, Sagarmala Pariyojna. Regional disparities of development in India; Trade: composition and recent changes.

Suggested Readings:-

1. Khullar, D.R., 2019: India: A Comprehensive Geography, Kalyani Publishers, New Delhi
2. Chauhan, P.R. and Prasad, M., 2003: Bharat Ka Vrihad Bhugol, Vasundhara Prakashan, Gorakhpur.
3. Gautam, A., 2006: Advanced Geography of India, Sharda Pustak Bhawan, Allahabad
4. Krishnan, M.S., 1982: Geology of India and Burma, CAS Publishers and Distributors, Delhi.
5. Nag, P. and Gupta, S. S., 1992: Geography of India, Concept Publishing Company, New Delhi.
6. Rao, B.P., 2007: Bharat ki Bhaugolik Sameeksha, Vasundhara Prakashan, Gorakhpur.
7. Singh, J., 2001: Bharat: Bhogolik Aadhar Avam Ayam, Gyanodaya Prakashan, Gorakhpur.
8. Spate, O.H. K., Learmonth A. T. A. and Farmer, B. H., 1996: India, Pakistan and Sri Lanka. Methuen, London, 7th edition.
9. Tiwari, R.C. (2007): Geography of India, Prayag Pustak Bhawan, Allahabad.
10. आर.सी.तिवारी, भारत का भूगोल, प्रयाग पुस्तक भवन, इलाहाबाद।
11. माजिद हुसैन : भारत का भूगोल, मैकग्राहिल पब्लिकेशन, नई दिल्ली।
12. शर्मा एच.एस. : भारत का भूगोल, पंचशील प्रकाशन, जयपुर।

MASTER OF ARTS/SCIENCE (M.A./M.Sc.) IN GEOGRAPHY
SEMESTER – II
GEOGDCC – 07: CLIMATOLOGY & OCEANOGRAPHY

Distribution of Marks for the Course		
Paper	Max.Marks	Duration
First InternalTest	10	1 hr
Second InternalTest	10	1 hr
Hand written Assignment	05	to be written in approx. 500 words
Attendance	05	-
End Semester Examination	70	3 hrs
TotalMaxMarks	100	

There shall be a Terminal Examination at the end of each Semester carrying 70 marks. The question paper shall comprise three sections **Section A, Section B and Section C.**

Section A

Section shall be of **20 marks** and consist of **10 questions** carrying **2 marks** each to be answered in approximately *20 words* each. All questions shall be compulsory. The examiner shall set the question paper choosing at least 3 questions from each unit.

Section B

Section shall be of **30 marks** and consist of **9 questions** carrying **5 marks** each to be answered in approximately *250 words* each. A Candidate shall attempt any six questions selecting at least one from each Unit.. The examiner shall set the questions ensuring that at least three questions are drawn from each Unit.

Section C

Section shall be of **20 marks** and consist of three questions carrying 10 marks each to be answered in *500 words* each. A Candidate shall attempt any two questions. The examiner shall set one question from each Unit.

Note : –

- (i) For Non- Collegiate Students, there shall be only One Terminal Examination of 100 containing the Section A, B and C. (Theory Paper will be of 70 Marks, the marks obtained from 70 Marks will be proportionately upgraded to as marks obtained from 100 Marks and will be awarded in Mark sheet.
- (ii) The student has to qualify both the Internal Assessment and External Assessment separately. The minimum qualifying marks in both shall be 40 percent.

Course Content:

UNIT-I

Nature and scope of Climatology. Composition and structure of the atmosphere. Processes of heating and cooling of atmosphere, Controlling factors and distribution, Insolation; energy balance of the Earth; horizontal and vertical distribution of temperature. Inversion of Temperature, El Nino- La Nina; Walker's circulation & El Nino Southern Oscillation (ENSO).

UNIT-II

Atmospheric pressure and pressure belts. Winds: forces-PGF, CF, FF. Planetary, periodic and local winds; Air masses and fronts; tropical and temperate cyclones, jet streams. Atmospheric humidity-process and forms of precipitation: types of rainfall; world distribution of rainfall. Clouds: formation and types. Climate change & its consequences.

UNIT-III

Nature and scope of Oceanography. Ocean bottom relief; relief of Indian, Pacific and Atlantic oceans. Ocean temperature and salinity: factors and distribution patterns. Coral reefs: types and theories of formation; Darwin, Daly and Murray; Coral Bleaching. Tides: types, theories of origin of tides: Newton, Whewell & Harris. Ocean currents: currents of Indian, Atlantic and Pacific Ocean. Marine resources: food, mineral and energy resources.

Suggested Readings:-

1. Singh, Savindra, Climatology and Oceanography, Pravalika Publication, Prayagraj
2. Lal, D.S., Climatology and Oceanography, Sharda Pustak Bhavan, Prayagraj
3. Miller, A.A., Climatology. Shubhi Publications, Gurugram
4. सिंह, सविन्द्र, भौतिक भूगोल, वसुन्धरा प्रकाशन गोरखपुर
5. सिंह, सविन्द्र, समुद्र विज्ञान, प्रवालिका पब्लिकेशन्स, इलाहाबाद
6. सिंह, सविन्द्र, जलवायु विज्ञान, प्रवालिका पब्लिकेशन्स, इलाहाबाद
7. शर्मा, एच.एस., शर्मा, एन. एल., मिश्रा, आर.एन. भौतिक भूगोल, पंचशील प्रकाशन, जयपुर
8. हुसैन, माजिद, भौतिक भूगोल, रावत पब्लिकेशन्स, नई दिल्ली
9. बंसल, डॉ. सुरेश चन्द्र, चौहान, डॉ. पंकज कुमार, भौतिक भूगोल, मीनाक्षी प्रकाशन, मेरठ
10. Barry, R.G. and R.J. Chorley, Atmosphere, Weather and Climate, Routledge, 1998.
11. Critchfield, H., General Climatology, Pearson Education, India.
12. Strahler, A.N. and A.H. Strahler, Modern Physical Geography, John Wiley & Sons, 1992.

MASTER OF ARTS/SCIENCE (M.A./M.Sc.) IN GEOGRAPHY
SEMESTER - II
GEOGDCC – 08: ECONOMIC & REOURCE GEOGRAPHY

Distribution of Marks for the Course		
Paper	Max.Marks	Duration
First InternalTest	10	1 hr
Second InternalTest	10	1 hr
Hand written Assignment	05	to be written in approx. 500 words
Attendance	05	-
End Semester Examination	70	3 hrs
TotalMaxMarks	100	

There shall be a Terminal Examination at the end of each Semester carrying 70 marks. The question paper shall comprise three sections **Section A, Section B and Section C.**

Section A

Section shall be of **20 marks** and consist of **10 questions** carrying **2 marks** each to be answered in approximately *20 words* each. All questions shall be compulsory. The examiner shall set the question paper choosing at least 3 questions from each unit.

Section B

Section shall be of **30 marks** and consist of **9 questions** carrying **5 marks** each to be answered in approximately *250 words* each. A Candidate shall attempt any six questions selecting at least one from each Unit.. The examiner shall set the questions ensuring that at least three questions are drawn from each Unit.

Section C

Section shall be of **20 marks** and consist of three questions carrying 10 marks each to be answered in *500 words* each. A Candidate shall attempt any two questions. The examiner shall set one question from each Unit.

Note : –

- (i) For Non- Collegiate Students, there shall be only One Terminal Examination of 100 containing the Section A, B and C. (Theory Paper will be of 70 Marks, the marks obtained from 70 Marks will be proportionately upgraded to as marks obtained from 100 Marks and will be awarded in Mark sheet.
- (ii) The student has to qualify both the Internal Assessment and External Assessment separately. The minimum qualifying marks in both shall be 40 percent.

Course Content:

Unit-I

Definition, scope, approaches and recent trends in economic geography; Factors affecting location of economic activities; sectors of economy primary, secondary, tertiary and quaternary. Concept and techniques of delimitation of Economic regions. Agricultural regions: Whittlesey. Typology of markets, market network in rural societies, market system in urban economy, role of market in the development of trade and commerce.

Unit II

Classification of industries; Case studies of selected industries iron and Steel, Copper, Petrochemical and Textile. Introduction of location models in various economic activities: Von Thunen's model of Agriculture, Alfred Weber's model of Industrial Location and Christaller's Model of Market theory. Economic development in India, Impact of green revolution and globalization on Indian economy.

Unit III

Resource: concept and classification, Spatial distribution of forest & water resources, Distribution and Production of Iron, Coal, Petroleum, Gold and non-conventional energy resources globally. Conservation and management of natural & human resources. World Trade Organization (WTO), Resource & International Politics, SDG for economic growth and equality.

Suggested Readings:

1. Lloyd and Dicken: Location in Space- Theoretical Approach to Economic Geography.
2. McCart and Lindberg: A Preface to Economic Geography.
3. Berry Conkling & Ray: The Geography of Economic Systems, Prentice Hall.
4. Alexander, J.W. Economic Geography, Prentice Hall, New York.
5. Guha & Chatterjee: A New Approach to Economic Geography.
6. Thoman, R.S.: The Geography of Economic Activity, McGraw Hill, New York.
7. काशीनाथ सिंह : आर्थिक भूगोल के मूलतत्त्व, वसुन्धरा प्रकाशन गोरखपुर।
8. पुरुषोत्तम जैन : आर्थिकभूगोल, रस्तोगी प्रकाशन, मेरठ।
9. जैन. एस.सी. : सैद्धान्तिक आर्थिक भूगोल।
10. मोर्य एस.डी. : आर्थिक भूगोल, प्रवालिका पब्लिकेशन, प्रयागराज।
11. अल्का गौतम : आर्थिक भूगोल के मूल तत्त्व, शारदा पुस्तक भवन।
12. Saxena H.M.: Economic Geography, Rawat Publication, Jaipur.

MASTER OF ARTS/SCIENCE (M.A./M.Sc.) IN GEOGRAPHY
SEMESTER - II
GEOGDSE/GEC – 01A: TRANSPORT GEOGRAPHY

Distribution of Marks for the Course		
Paper	Max.Marks	Duration
First InternalTest	10	1 hr
Second InternalTest	10	1 hr
Hand written Assignment	05	to be written in approx. 500 words
Attendance	05	-
End Semester Examination	70	3 hrs
TotalMaxMarks	100	

There shall be a Terminal Examination at the end of each Semester carrying 70 marks. The question paper shall comprise three sections **Section A, Section B and Section C.**

Section A

Section shall be of **20 marks** and consist of **10 questions** carrying **2 marks** each to be answered in approximately *20 words* each. All questions shall be compulsory. The examiner shall set the question paper choosing at least 3 questions from each unit.

Section B

Section shall be of **30 marks** and consist of **9 questions** carrying **5 marks** each to be answered in approximately *250 words* each. A Candidate shall attempt any six questions selecting at least one from each Unit.. The examiner shall set the questions ensuring that at least three questions are drawn from each Unit.

Section C

Section shall be of **20 marks** and consist of three questions carrying 10 marks each to be answered in *500 words* each. A Candidate shall attempt any two questions. The examiner shall set one question from each Unit.

Note : –

- (i) For Non- Collegiate Students, there shall be only One Terminal Examination of 100 containing the Section A, B and C. (Theory Paper will be of 70 Marks, the marks obtained from 70 Marks will be proportionately upgraded to as marks obtained from 100 Marks and will be awarded in Mark sheet.
- (ii) The student has to qualify both the Internal Assessment and External Assessment separately. The minimum qualifying marks in both shall be 40 percent.

Course Content:

Unit-I

Transport Geography: Meaning, Scope and Development. Factors associated with the development of transport system: historical, technological, physical, economic, political and social. Ideas of Edward Ulman for spatial interaction and functional approach of M.E.E. Hurst, Modes of Transportation: Roadways, Railways, Oceanic and Air transportation.

Unit-II

Concepts and measures of distance, Transportation and spatial processes: Regional specialization and agglomeration economies. The functional region, linkages and nodes. Types of Transport Network. Graph Theory, Connectivity of transport network, Centrality within transport network. Measures of nodal accessibility: the network as matrix, degree of connectivity.

Unit-III

Network analysis: indices as measures of connectivity, Basic network configuration Alpha, Beta & Gamma Indices. Gravity model, Allocation models, Urban transport problems, Major transport routes of the world, Urban Transport planning and management, Development of Indian surface transport system.

Suggested Readings:

1. Abler, Adams and Gould, Spatial organization: the geographers view of the world, Prentice Hall, New York.
2. Buchannan, C.D. Traffic in Towns, Buchannan Report, HMSO, London.
3. Hagget, Peter, Locational Analysis in Human Geography, Edward Arnold, London 1977.
4. Hagget, Peter and R.J. Chorley, Network Analysis in Geography, Arnold, London 1968.
5. Hay, A. Transport Economy, Macmillan, London 1973.
6. Hoybe, B.S. (ed) Transport and Development, Macmillan, London 1973.
7. Hurst, M.E.E. Transportation Geography, comments and readings, McGraw Hill, New York 1974.
8. Hussain, M. et al, transport geography: perspective in economic geography series anmol publications Pvt. Ltd. New Delhi.
9. James P.E. and C.E. Jones (eds) American Geography inventory and prospect, Syracuse university press, Syracuse, 1954..
10. लोढ़ा आर.एम. एवं माहेश्वरी : औद्योगिक भूगोल, राज. हिन्दी ग्रन्थ अकादमी, जयपुर।
11. Saxena H.M. : Transport Geography, Rawat Publication, Jaipur.

MASTER OF ARTS/SCIENCE (M.A./M.Sc.) IN GEOGRAPHY
SEMESTER – II
GEOGDSE/GEC – 01B: REGIONAL DEVELOPMENT & PLANNING

Distribution of Marks for the Course		
Paper	Max.Marks	Duration
First InternalTest	10	1 hr
Second InternalTest	10	1 hr
Hand written Assignment	05	to be written in approx. 500 words
Attendance	05	-
End Semester Examination	70	3 hrs
TotalMaxMarks	100	

There shall be a Terminal Examination at the end of each Semester carrying 70 marks. The question paper shall comprise three sections **Section A, Section B and Section C.**

Section A

Section shall be of **20 marks** and consist of **10 questions** carrying **2 marks** each to be answered in approximately *20 words* each. All questions shall be compulsory. The examiner shall set the question paper choosing at least 3 questions from each unit.

Section B

Section shall be of **30 marks** and consist of **9 questions** carrying **5 marks** each to be answered in approximately *250 words* each. A Candidate shall attempt any six questions selecting at least one from each Unit.. The examiner shall set the questions ensuring that at least three questions are drawn from each Unit.

Section C

Section shall be of **20 marks** and consist of three questions carrying 10 marks each to be answered in *500 words* each. A Candidate shall attempt any two questions. The examiner shall set one question from each Unit.

Note : –

- (i) For Non- Collegiate Students, there shall be only One Terminal Examination of 100 containing the Section A, B and C. (Theory Paper will be of 70 Marks, the marks obtained from 70 Marks will be proportionately upgraded to as marks obtained from 100 Marks and will be awarded in Mark sheet.
- (ii) The student has to qualify both the Internal Assessment and External Assessment separately. The minimum qualifying marks in both shall be 40 percent.

Course Content:

Unit-I

Definition of Region, Evolution, Need and Types of Regional planning. Choice of a Region for Planning: Characteristics of an Ideal Planning Region; Delineation of Planning Region. Principles and Determination of Regional Planning. Planning for sustainable development.

Unit-II

Theories and Models for Regional Planning: Growth Pole Model of Perroux, Growth Centre Model in Indian Context; Myrdal, Hirschman, Rostow and Friedmann Model. Methods of Regional Planning: Factor Analysis, Comparative Cost-analysis, Industrial complex and analysis, Shift analysis.

Unit-III

Planning Regions of India, Integrated Regional Planning. Regional Planning and National Development, Multi-level Planning, Measuring Regional development: Indicators (Economic, Social and Environmental); National, State and Local Level Planning. Study of master plan in reference to National Capital Region and Ajmer.

Suggested Readings

1. Chand, M. and Puri, V.K. (1983), Regional Planning in India, Allied Publishers.
2. Claval P.1, 1998: An Introduction to Regional Geography, Blackwell Publishers, Oxford and Massachusetts.
3. Friedmann J. and Alonso W. (1975): Regional Policy Readings in Theory and Applications, MIT Press, Massachusetts.
4. Haynes J., 2008; Development Studies, Polity Short Introduction Series.
5. Johnson E. A. J., 1970: The Organization of Space in Developing Countries, MIT Press, Massachusetts.
6. Peet R., 1999: Theories of Development, The Guilford Press, New York.
7. Misra R.P., Sundram K.V., PrakasaRao, V.L.S. (1974). Regional Development Planning in India, A New Strategy, Vikas Publishing House, New Delhi.
8. Misra R.P. (ed). (1992). Regional Planning, Concepts, Techniques, Policies and Case Studies, Concept, New Delhi.
9. Mitra, A. (1965). Levels of Regional Development in India, Census of India, New Delhi.
10. चांदना, आर.सी. (2015): प्रादेशिक नियोजन और विकास, कल्याणी पब्लिशर्स, नई दिल्ली।
11. मौर्य एस.डी. : प्रादेशिक विकास एवं नियोजन प्रवालिका पब्लिकेशन, प्रयागराज।

MASTER OF ARTS/SCIENCE (M.A./M.Sc.) IN GEOGRAPHY
SEMESTER – II

GEOGDCC – 09: MAP PROJECTIONS, STATISTICS AND SOCIO-ECONOMIC SURVEY

Credits: 04 (Hours per week): 08	Total Marks: - 100
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Note:-

- | | | |
|---------------------------------|----------------|----------|
| 1. Written Test on Lab work | 4 Hrs. (5 Qs) | 50 Marks |
| 2. Record work and Viva-Voce | (15+10) | 25 Marks |
| 3. Project Report and Viva-Voce | 2 Hrs. (15+10) | 25 Marks |
- (Based on Socio – Economic Survey Report with PPT)

Student will have to attempt Five question out of Six question in written paper of Practical Examination.

Record work of minimum 25 sheets must be prepared by students and checked & signed by teacher with date, otherwise students will be responsible. Students must write his/her name on every sheet. The teacher should give fresh exercise every year, so that the student may not undertake tracing of old exercise.

Course Content:

1. **Map Projection:** Meaning and Definition, Necessity of map projection, Latitude and parallels, Longitude and meridians, Classification of projections, classification and choice of projections, construction, properties, merits and demerits, limitations and use of the following projections :

Mathematical constructions of the following projections -

I. Conical Projections :

1. Equal area with two standard Parallels (Albert's Projection)
2. Bonne's

II. Cylindrical Projections

1. Mercator's
2. Gall's Stereographic

III. Zenithal Projections :

1. Gnomonic –Equatorial case.
2. Stereographic – Equatorial case.
3. Orthographic –Polar case.

IV. Conventional Projections :

1. Mollweide
2. Interrupted Mollweide and Goode's

2. Statistical Analysis :

1. Mean, median and mode, standard deviation, Coefficient of variation and Lorenz Curve, correlation – Spearman's & Karl Pearson's.
2. Theoretical basis of nearest neighbor analysis, practical exercise on nearest neighbor analysis, Network analysis, locational analysis of urban centres.

3. Project Report:

A candidate has to prepare project report on socio-economic aspects of a village/ Town/City within Rajasthan. The project should be based on primary data obtained by the candidate. The data should be represented by suitable cartographic methods in hard copy or PowerPoint presentation (PPT).

Suggested Readings:-

1. Monkhouse, F.J., 1971: Maps and Diagrams, Methuen, London.
2. Dury, G.H., 1972: Map Interpretation, Pitman Publishing, London.
3. Ishtiaque, M., 1989: Practical Geography, Heritage Publishers, New Delhi
4. Robinson, A.H., Morrison, J.L., Muehrcke, P.C., Kimerling, A.J. and Guptill, S.C., 1995: Elements of Cartography, John Wiley and Sons, New York.
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, L.R., 2006: Fundamentals of Practical Geography, Sharda Pustak Bhawan, Allahabad.
8. Singh, R.L. and Singh, Rana P.B., 1993: Elements of Practical Geography. (Hindi and English editions). Kalyani Publishers, New Delhi.
9. Mishra, R.N. and Sharma, P.K., 2018: Practical Geography, Rawat Publication, Jaipur.
10. मिश्रा, आर.एन., और शर्मा, पी. के. 2018: प्रायोगिक भूगोल, रावत पब्लिकेशन, जयपुर।
11. शर्मा जे.पी.: प्रायोगिक भूगोल, रस्तोगी प्रकाशन, मेरठ।
12. इन्द्रपाल एवं माथुर: मानचित्र प्रक्षेप, राजस्थान हिन्दी ग्रंथ अकादमी।

SEMESTER - III

MASTER OF ARTS/SCIENCE (M.A./M.Sc.) IN GEOGRAPHY
SEMESTER –III
GEOGDCC - 10: URBAN GEOGRAPHY

Distribution of Marks for the Course		
Paper	Max.Marks	Duration
First InternalTest	10	1 hr
Second InternalTest	10	1 hr
Hand written Assignment	05	to be written in approx. 500 words
Attendance	05	-
End Semester Examination	70	3 hrs
TotalMaxMarks	100	

There shall be a Terminal Examination at the end of each Semester carrying 70 marks. The question paper shall comprise three sections **Section A, Section B and Section C.**

Section A

Section shall be of **20 marks** and consist of **10 questions** carrying **2 marks** each to be answered in approximately *20 words* each. All questions shall be compulsory. The examiner shall set the question paper choosing at least 3 questions from each unit.

Section B

Section shall be of **30 marks** and consist of **9 questions** carrying **5 marks** each to be answered in approximately *250 words* each. A Candidate shall attempt any six questions selecting at least one from each Unit.. The examiner shall set the questions ensuring that at least three questions are drawn from each Unit.

Section C

Section shall be of **20 marks** and consist of three questions carrying 10 marks each to be answered in *500 words* each. A Candidate shall attempt any two questions. The examiner shall set one question from each Unit.

Note : –

- (i) For Non- Collegiate Students, there shall be only One Terminal Examination of 100 containing the Section A, B and C. (Theory Paper will be of 70 Marks, the marks obtained from 70 Marks will be proportionately upgraded to as marks obtained from 100 Marks and will be awarded in Mark sheet.
- (ii) The student has to qualify both the Internal Assessment and External Assessment separately. The minimum qualifying marks in both shall be 40 percent.

Course Content:

Unit-I

Nature and scope of Urban Geography, Origin and growth of towns during ancient, Medieval and Modern period. Factors affecting the growth, site and situation, Chief characteristics of modern town – Conurbation and Megalopolis. Trends of Urbanizations in India since 1901. Spatial pattern and distribution of urban centers, Central Place Theory, Rank-size relationship.

Unit-II

Functional classification of cities, Urban hierarchy based on functions, Urban Morphology – Centrifugal and centripetal forces, Theories of urban growth and structure: Burgess, Hoyt, Harris & Ullman; Morphology of Indian cities and its comparison with western cities, Urban Land use- city core, commercial, residential and industrial areas.

Unit-III

Contemporary urban issues and problems: environmental, urban poverty, slums, transportation, housing; Urban developmental policies. Urban Heat Island. City – Region Relationship – Umland, Rural-Urban fringe, suburbs, satellite town, Green Belt, Garden city, Principles of town planning, Smart city, Principles of Regional Planning, Master Plan – preparation, implementation, obstacles, Detail Study of Jaipur City.

Suggested Readings

1. A.E. Smailes: The Geography of Towns. Hutchinson, University Library, London. Abercrombie: Town and Country-Planning. Oxford University Press, London.
2. बंसल. एस.सी. 2010: नगरीय भूगोल, मीनाक्षी प्रकाशन, मेरठ।
3. Carter, Harold 1995: The Study of Urban Geography, Arnold (Publisher) Pvt. Ltd., London.
4. Dickinson, R.F. City Region and Regionalisation. Routledge and Kegan Paul London. Herold M. Mayer: Readings in Urban Geography, Central Book Depot, Allahabad.
5. N.V. Sovani: Urbanization and Urban India. Asla publishing House, Bombay.
6. P.C. Malhotra: Survey of Bhopal City and Bairagarh (Asla publishing Bombay)
7. R.L. Singh: Bangalore as Urban Survey. National Geographical Society of India, B.H.U., Varanasi.
8. Allied Published, Delhi.
9. Singh, R.L.: Banaras A study in Urban Geography. Student Friends, Allahabad.
10. रत्न जोशी: नगरीय भूगोल, राजस्थान हिन्दी ग्रंथ अकादमी, जयपुर

MASTER OF ARTS/SCIENCE (M.A./M.Sc.) IN GEOGRAPHY
SEMESTER –III
GEOGDCC - 11: AGRICULTURE GEOGRAPHY

Distribution of Marks for the Course		
Paper	Max.Marks	Duration
First InternalTest	10	1 hr
Second InternalTest	10	1 hr
Hand written Assignment	05	to be written in approx. 500 words
Attendance	05	-
End Semester Examination	70	3 hrs
TotalMaxMarks	100	

There shall be a Terminal Examination at the end of each Semester carrying 70 marks. The question paper shall comprise three sections **Section A, Section B and Section C.**

Section A

Section shall be of **20 marks** and consist of **10 questions** carrying **2 marks** each to be answered in approximately *20 words* each. All questions shall be compulsory. The examiner shall set the question paper choosing at least 3 questions from each unit.

Section B

Section shall be of **30 marks** and consist of **9 questions** carrying **5 marks** each to be answered in approximately *250 words* each. A Candidate shall attempt any six questions selecting at least one from each Unit.. The examiner shall set the questions ensuring that at least three questions are drawn from each Unit.

Section C

Section shall be of **20 marks** and consist of three questions carrying 10 marks each to be answered in *500 words* each. A Candidate shall attempt any two questions. The examiner shall set one question from each Unit.

Note : –

- (i) For Non- Collegiate Students, there shall be only One Terminal Examination of 100 containing the Section A, B and C. (Theory Paper will be of 70 Marks, the marks obtained from 70 Marks will be proportionately upgraded to as marks obtained from 100 Marks and will be awarded in Mark sheet.

- (ii) The student has to qualify both the Internal Assessment and External Assessment separately. The minimum qualifying marks in both shall be 40 percent.

Course Content:

Unit-I

Meaning, scope, approaches and development of agricultural geography. Origin and dispersal of agriculture. Sources of agricultural data. Factors affecting agriculture – Physical, economic, social, and technological. Whittlesey's classification of agricultural regions. Detailed study of Intensive subsistence, commercial grain farming and tropical plantation agriculture.

Unit-II

Land-Use classification; land-use pattern in India and land capability classification. Von Thunen's theory of agricultural location and its recent modifications, Diffusion Model. Concepts and delimitation of agricultural regions; Agricultural regions of India and their characteristics. Measures of agricultural productivity and efficiency levels. Cropping pattern, crop diversification, Crop combination: Weaver's, Doi's and Rafiullah's methods.

Unit-III

Agricultural typology: concept and methodology. Sustainable development of Agriculture Green Revolution, White Revolution, Food deficit and Food surplus regions, nutritional index. Specific problems in Indian agriculture and their management and planning. Agricultural Policy in India. Agro-climatic Regions of India and Rajasthan.

Suggested Readings

1. Gregor, H.P.: Geography of Agriculture, Prentice Hall, New York, 1970.
2. Grigg, D.B.: the Agricultural Systems of the World. Combridge University Press, New York, 1974.
3. Manmon, A.M.: Agriculture and Environment Changs, Jhn Wiley, Londoan, 1995.
4. Morgan W.B. and Norton, R.J.C.: Agricultural Geography. Mathuuesn London, 1971.
5. Sauer, C.O.: Agricultural Origins and Dispersals, M.L.T. Press, Mass, U.S.A., 1969.
6. Tarrant, J.R.: Agricultural Geography. Wiley, New York, 1974.
7. Shafi, M. Land Use in Eastern U.P., Aligarh University Press. 11. Ali Mohammed: Situation of Agriculture Development in India, Concept Publicatin Co., Delhi.
8. SymonLeslie: Agricultural Geography, G.Bell and Sons, Ltd, London, 1967.
9. प्रमिलाकुमार : कृषि भूगोल, मध्य प्रदेश हिन्दी अकादमी।
10. सिंह, ब्रजभूषण : कृषि भूगोल, गोरखपुर।
11. अलका गौतम; कृषि भूगोल, शारदा पुस्तक भवन, इलाहबाद।
12. तिवारी आर.सी.एण्ड सिंह बी. एन : कृषि भूगोल, प्रवालिका पब्लिकेशन, इलाहबाद।

MASTER OF ARTS/SCIENCE (M.A./M.Sc.) IN GEOGRAPHY
SEMESTER –III
GEOGDSE - 02A: POPULATION GEOGRAPHY

Distribution of Marks for the Course		
Paper	Max.Marks	Duration
First InternalTest	10	1 hr
Second InternalTest	10	1 hr
Hand written Assignment	05	to be written in approx. 500 words
Attendance	05	-
End Semester Examination	70	3 hrs
TotalMaxMarks	100	

There shall be a Terminal Examination at the end of each Semester carrying 70 marks. The question paper shall comprise three sections **Section A, Section B and Section C.**

Section A

Section shall be of **20 marks** and consist of **10 questions** carrying **2 marks** each to be answered in approximately *20 words* each. All questions shall be compulsory. The examiner shall set the question paper choosing at least 3 questions from each unit.

Section B

Section shall be of **30 marks** and consist of **9 questions** carrying **5 marks** each to be answered in approximately *250 words* each. A Candidate shall attempt any six questions selecting at least one from each Unit.. The examiner shall set the questions ensuring that at least three questions are drawn from each Unit.

Section C

Section shall be of **20 marks** and consist of three questions carrying 10 marks each to be answered in *500 words* each. A Candidate shall attempt any two questions. The examiner shall set one question from each Unit.

Note : –

- (i) For Non- Collegiate Students, there shall be only One Terminal Examination of 100 containing the Section A, B and C. (Theory Paper will be of 70 Marks, the marks obtained from 70 Marks will be proportionately upgraded to as marks obtained from 100 Marks and will be awarded in Mark sheet.
- (ii) The student has to qualify both the Internal Assessment and External Assessment separately. The minimum qualifying marks in both shall be 40 percent.

Course Content:

Unit I

Population Geography: Meaning, Scope and Development; Sources of population data (census, vital statistics, surveys, UN/ other government publications); Sample Surveys and vital statistics, Data Reliability and errors; World pattern of population distribution, determinants of population distribution, Population-Resource Regions of the World, Population Policies in Developed and Less Developed countries.

Unit II

World Population Growth: Prehistoric to modern period; Population Theories/Models: Malthus, Marx, Sadler, Ricardo, Demographic Transition Theory, Migration (International and National) and theories of Migration Population Projections: Types and Methods; Migration: theories and typologies, causes and consequences; Impact of pandemics in migration.

Unit III

Population Composition: Age structure and sex composition, Rural-Urban, Occupational Structure of Population and Educational Composition; Population distribution in India: Patterns and Determinants. Population Composition of India: Characteristics and Problems, Contemporary Issues: Ageing of Population, declining Sex Ratio, Human Development Index (HDI), National Survey Office (NSSO), Overview of Sustainable Development Goals 1-5. National Population Policies of India.

Suggested Readings

1. Bhende, A. A. and Kanetkar T. 2003: Principles of Population Studies, Himalaya Publishing House, Mumbai.
2. Bose, A. (ed.) 2001: Population in India's Development, 1947-2000. Vikas Publications, New Delhi.
3. Chandna, R. C. 2006: Geography of Population. Kalyani Publishers., New Delhi.
4. Dyson, T. 2010: Population and development: the demographic transition. London: Zed Books.
5. Garnier, B.J. 1993: Geography of Population. 3rd edition. Longman, London.
6. James, K.S. 2011: India's demographic change: opportunities and challenges. Science
7. Trewartha, G.T. 1985: A Geography of Population. World Patterns. John Wiley and Sons, New York.
8. ममोरिया, सी. और डांगी, एस.के: जनसंख्या भूगोल, साहित्य भवन प्रकाशन, आगरा।
9. दूबे, के.के. और सिंह, एम.बी. 1994: जनसंख्या भूगोल, रावत प्रकाशन, जयपुर।

MASTER OF ARTS/SCIENCE (M.A./M.Sc.) IN GEOGRAPHY
SEMESTER –III
GEOGDSE – 02B: FUNDAMENTALS OF REMOTE SENSING & GIS

Distribution of Marks for the Course		
Paper	Max.Marks	Duration
First InternalTest	10	1 hr
Second InternalTest	10	1 hr
Hand written Assignment	05	to be written in approx. 500 words
Attendance	05	-
End Semester Examination	70	3 hrs
TotalMaxMarks	100	

There shall be a Terminal Examination at the end of each Semester carrying 70 marks. The question paper shall comprise three sections **Section A, Section B and Section C.**

Section A

Section shall be of **20 marks** and consist of **10 questions** carrying **2 marks** each to be answered in approximately *20 words* each. All questions shall be compulsory. The examiner shall set the question paper choosing at least 3 questions from each unit.

Section B

Section shall be of **30 marks** and consist of **9 questions** carrying **5 marks** each to be answered in approximately *250 words* each. A Candidate shall attempt any six questions selecting at least one from each Unit.. The examiner shall set the questions ensuring that at least three questions are drawn from each Unit.

Section C

Section shall be of **20 marks** and consist of three questions carrying 10 marks each to be answered in *500 words* each. A Candidate shall attempt any two questions. The examiner shall set one question from each Unit.

Note : –

- (i) For Non- Collegiate Students, there shall be only One Terminal Examination of 100 containing the Section A, B and C. (Theory Paper will be of 70 Marks, the marks obtained from 70 Marks will be proportionately upgraded to as marks obtained from 100 Marks and will be awarded in Mark sheet.
- (ii) The student has to qualify both the Internal Assessment and External Assessment separately. The minimum qualifying marks in both shall be 40 percent.

Course Content:

Unit-I

Remote Sensing- Definition and Components, Development, Platforms and Types, Principles of Remote Sensing, EMR Interaction with Atmosphere and Earth Surface; Satellites (Landsat and IRS) and Sensors.

Unit-II

Air photos and Photogrammetry- Elements of photographic system: type, scales and ground coverage, resolution, radiometric characteristics, films, filters, aerial cameras, film exposures, geometric fundamentals of photogrammetry: elements of vertical photographs, relief displacement, image parallax, stereoscopic, ortho-photos. Air photo interpretation: shape, size, pattern tone, texture, shadows, site.

Unit-III

GIS Data Structures: Types (spatial and Non-spatial), Raster and Vector Data Structure, Image Processing (Digital and Manual) and Data Analysis: Pre-processing (Radiometric and Geometric Correction), Enhancement (Filtering); Classification (Supervised and Un-supervised), Geo-Referencing; Editing and Output; Overlays.

Suggested Readings:

1. Campbell J. B., 2007: Introduction to Remote Sensing, Guildford Press.
2. Jensen J. R., 2004: Introductory Digital Image Processing: A Remote Sensing Perspective, Prentice Hall.
3. Joseph, G. 2005: Fundamentals of Remote Sensing, United Press India.
4. Lillesand T. M., Kiefer R. W. and Chipman J. W., 2004: Remote Sensing and Image Interpretation, Wiley. (Wiley Student Edition).
5. Nag P. and Kudra, M., 1998: Digital Remote Sensing, Concept, New Delhi.
6. Rees W. G., 2001: Physical Principles of Remote Sensing, Cambridge University Press.
7. Singh R. B. and Murai S., 1998: Space-informatics for Sustainable Development, Oxford and IBH Pub.
8. Wolf P. R. and Dewitt B. A., 2000: Elements of Photogrammetry: With Applications in GIS, McGrawHill.
9. Sarkar, A. (2015) Practical geography: A systematic approach. Orient Black Swan Private Ltd., New Delhi
10. चौनियाल डी.डी. : सुदूर संवेदन एवं भौगोलिक सूचना प्रणाली, शारदा पुस्तक भवन, इलाहबाद।

MASTER OF ARTS/SCIENCE (M.A./M.Sc.) IN GEOGRAPHY
SEMESTER –III
GEOGDSE – 03A: QUANTITATIVE METHODS IN GEOGRAPHY

Distribution of Marks for the Course		
Paper	Max.Marks	Duration
First InternalTest	10	1 hr
Second InternalTest	10	1 hr
Hand written Assignment	05	to be written in approx. 500 words
Attendance	05	-
End Semester Examination	70	3 hrs
TotalMaxMarks	100	

There shall be a Terminal Examination at the end of each Semester carrying 70 marks. The question paper shall comprise three sections **Section A, Section B and Section C.**

Section A

Section shall be of **20 marks** and consist of **10 questions** carrying **2 marks** each to be answered in approximately *20 words* each. All questions shall be compulsory. The examiner shall set the question paper choosing at least 3 questions from each unit.

Section B

Section shall be of **30 marks** and consist of **9 questions** carrying **5 marks** each to be answered in approximately *250 words* each. A Candidate shall attempt any six questions selecting at least one from each Unit.. The examiner shall set the questions ensuring that at least three questions are drawn from each Unit.

Section C

Section shall be of **20 marks** and consist of three questions carrying 10 marks each to be answered in *500 words* each. A Candidate shall attempt any two questions. The examiner shall set one question from each Unit.

Note : –

- (i) For Non- Collegiate Students, there shall be only One Terminal Examination of 100 containing the Section A, B and C. (Theory Paper will be of 70 Marks, the marks obtained from 70 Marks will be proportionately upgraded to as marks obtained from 100 Marks and will be awarded in Mark sheet.

- (ii) The student has to qualify both the Internal Assessment and External Assessment separately. The minimum qualifying marks in both shall be 40 percent.

Course Content:

Unit – I

Significance of Statistical Methods in Geography, Sources of Data, Classification, Arrangement and Tabulation of data, Scales of Measurement (Nominal, Ordinal, Interval, Ratio), Frequency Distribution, Central Tendency: Mean, Median and Quartile Partition Values. Measure of dispersion, Standard deviation and Mean deviation, Coefficient of Variation.

Unit – II

Interpolation, Extrapolation, Correlation, Spearman's rank and product movement correlation, regression analysis, simple linear, Construction of regression line, Multiple regression and correlation, Regression residuals. Probability: Theory of probabilities-law of addition and multiplication, probabilities of distribution : Normal and Binomial.

Unit – III

Hypothesis Testing : Needs and types of hypotheses-goodness of fit and significance and confidence levels, Chi-square test, binomial test, t-test, Mann-Whitney U-test, F-test, Analysis of Variance (ANOVA), Principles and elements of factor analysis, principal component analysis. Time Series Analysis: Time Series processes; Smoothing time series; Time series components. Graphical, Moving Average and Least Square Methods.

Suggested Readings:

1. David Unwin: Introductory Spatial Analysis, Methuen, London, 1981.
2. Gregory, S.: Statistical Methods and Geographer, Longman, London, 1978.
3. Hammond R and P.S. McCullagh: Quantitative Techniques in Geography: an Introduction, Clearendan Press, Oxford, 1974.
4. Gupta S.P.: Statistical Methods, Sultan Chand & Sons, New Delhi
5. Mahmood Aslam: Statistical Methods in Geographical Studies (Both Hindi and English), Rajesh Publisher
6. Sarkar Ashish: Quantitative Geography: Techniques and Presentations, Orient Black Swan Publication.
7. शर्मा पी.एम.: 2009 भूगोल में सांख्यिकीय विधियाँ, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर।

MASTER OF ARTS/SCIENCE (M.A./M.Sc.) IN GEOGRAPHY
SEMESTER – III
GEOGDSE – 03B: DISASTER MANAGEMENT

Distribution of Marks for the Course		
Paper	Max.Marks	Duration
First InternalTest	10	1 hr
Second InternalTest	10	1 hr
Hand written Assignment	05	to be written in approx. 500 words
Attendance	05	-
End Semester Examination	70	3 hrs
TotalMaxMarks	100	

There shall be a Terminal Examination at the end of each Semester carrying 70 marks. The question paper shall comprise three sections **Section A, Section B and Section C.**

Section A

Section shall be of **20 marks** and consist of **10 questions** carrying **2 marks** each to be answered in approximately *20 words* each. All questions shall be compulsory. The examiner shall set the question paper choosing at least 3 questions from each unit.

Section B

Section shall be of **30 marks** and consist of **9 questions** carrying **5 marks** each to be answered in approximately *250 words* each. A Candidate shall attempt any six questions selecting at least one from each Unit.. The examiner shall set the questions ensuring that at least three questions are drawn from each Unit.

Section C

Section shall be of **20 marks** and consist of three questions carrying 10 marks each to be answered in *500 words* each. A Candidate shall attempt any two questions. The examiner shall set one question from each Unit.

Note : –

- (i) For Non- Collegiate Students, there shall be only One Terminal Examination of 100 containing the Section A, B and C. (Theory Paper will be of 70 Marks, the marks obtained from 70 Marks will be proportionately upgraded to as marks obtained from 100 Marks and will be awarded in Mark sheet.
- (ii) The student has to qualify both the Internal Assessment and External Assessment separately. The minimum qualifying marks in both shall be 40 percent.

Course Content:

UNIT-I

Disasters: Definition and Concepts; Concept of Hazards, Risk, Vulnerability and Disaster
Types of Hazards: Natural (Flood, Earthquake and Tsunami), man-made: Causes, Impact, Distribution and Mapping.

UNIT-II

Regional Dimension of hazard: Occurrence and trends, methods of identifying hazard prone regions (World and India examples). Disaster Losses and Impact Displacements, livelihood, economy and infrastructure, health.

UNIT-III

Response to Disasters: International, national, government, non-government, community and individual, media and education. Mitigation and Management: Plans and policies; engineering, economic, social, political and policy initiatives.

Suggested Readings:-

1. Disaster Management: Dr. H.S. Garg, SBPD Publications
2. Disaster Management: Savindra singh, Pravalika Publication, Allahabad
3. Disaster Management: S.C. Sharma, Khanna Publishing House
4. Kapur, Anu, et al. 2005. Disasters in India: Studies of Grim Reality,
5. Kapur, Anu, 2008. On Disasters in India, Cambridge University Press.
6. आपदा प्रबंधन: श्री गोपाल मिश्र, प्रभात प्रकाशन प्रा. लिमिटेड।
7. पर्यावरण शिक्षा एवं आपदा प्रबंधन: डॉ. आशुतोष बाजपेयी, ठाकुर पब्लिकेशन प्राइवेट लिमिटेड।
8. Bankoff, G., G. Frerks and D. Hilhorst (eds.) 2003. Mapping Vulnerability: Disasters, Development and People, Earthscan.
9. Government of India, 2005. Disaster Management Act, 2005, The Gazette of India, New Delhi.
10. Allan, S., Adam, B. and Carter, C., (eds.), (2000): Environmental Risks and the Media, Routledge, London.
11. Ambala-Bertrand, J.M., (1993): Political Economy of Large Natural Disasters: With Special Reference to Developing Countries, Clarendon Press, Oxford.

MASTER OF ARTS/SCIENCE (M.A./M.Sc.) IN GEOGRAPHY
SEMESTER – III

GEOGDCC – 12: BASICS OF SURVEYING AND GIS

Credits: 04 (Hours per week): 08	Marks: Total 100
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Note:-

1. Written Test on Lab. Work	3 Hrs. (4 Qs.)	40 Marks
2. Record Work and Viva-Voce.	(20+10)	30 Marks
3. Field Survey and Viva-Voce.	3 Hrs. (20+10)	30 Marks
Total		100 Marks

Student will have to attempt Five question out of Six question in written paper of Practical Examination.

Record work of minimum 25 sheets must be prepared by students and checked & signed by teacher with date, otherwise students will be responsible. Students must write his/her name on every sheet. The teacher should give fresh exercise every year, so that the student may not undertake tracing of old exercise.

Course Content:

1. The Art of surveying, History of surveying, scope, Utility and problems; classification of surveying.
2. **Field Surveying -**
 - a. **Plane table**–Radiation, Intersection, Traversing: Open travers & Closed Traverse, Resectioning: two- and three-point problems, Llano’s and Basel Method.
 - b. **Prismatic Compass** – Use and Survey: Radiation, Intersection, Traversing – Open & Closed
 - c. **Clinometer and Abney Level:** Use of Clinometer and Abney level as instrument of leveling, measuring spot heights, Contouring and interpolation of contours and drawing of profiles
3. **GIS Introduction:** Definition and Scope, its application in various field and Planning. Remote sensing and GIS: Use and importance of air photos; Historical development, space programmes in India.
4. **GPS Survey:**Introduction to Mobile Mapping. Point data collection. Route mapping. Introduction to GPS and GNSS. GPS receivers, processing methods, errors and accuracy. GPS signal characteristics, Data formats (broadcast, precise ephemeris). Introduction to Indian Regional Navigation Satellite System (IRNSS). Demonstration on DGPS.Web portals ISRO Bhuvan portal, Bhoonidhi, Bhukosh, Nakshe, Vedas SAC, MOSDAC. Socioeconomic Data and Applications Center (SEDAC).

Suggested Readings:-

1. Monkhouse, F.J., 1971: Maps and Diagrams, Methuen, London.
2. Dury, G.H., 1972: Map Interpretation, Pitman Publishing, London.
3. Ishtiaque, M., 1989: Practical Geography, Heritage Publishers, New Delhi
4. Robinson, A.H., Morrison, J.L., Muehrcke, P.C., Kimerling, A.J. and Guptill, S.C., 1995: Elements of Cartography, John Wiley and Sons, New York.
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, L.R., 2006: Fundamentals of Practical Geography, Sharda Pustak Bhawan, Allahabad.
8. Singh, R.L. and Singh, Rana P.B., 1993: Elements of Practical Geography. (Hindi and English editions). Kalyani Publishers, New Delhi.
9. Mishra, R.N. and Sharma, P.K., 2018: Practical Geography, Rawat Publication, Jaipur.
10. मिश्रा, आर.एन., और शर्मा, पी. के. 2018: प्रायोगिक भूगोल, रावत पब्लिकेशन, जयपुर।
11. शर्मा जे.पी.: प्रायोगिक भूगोल, रस्तोगी प्रकाशन, मेरठ।
12. इन्द्रपाल एवं माथुर: मानचित्र प्रक्षेप, राजस्थान हिन्दी ग्रंथ अकादमी।

SEMESTER - IV

MASTER OF ARTS/SCIENCE (M.A./M.Sc.) IN GEOGRAPHY
SEMESTER –IV
GEOGDCC - 13: WORLD REGIONAL GEOGRAPHY

Distribution of Marks for the Course		
Paper	Max.Marks	Duration
First InternalTest	10	1 hr
Second InternalTest	10	1 hr
Hand written Assignment	05	to be written in approx. 500 words
Attendance	05	-
End Semester Examination	70	3 hrs
TotalMaxMarks	100	

There shall be a Terminal Examination at the end of each Semester carrying 70 marks. The question paper shall comprise three sections **Section A, Section B and Section C.**

Section A

Section shall be of **20 marks** and consist of **10 questions** carrying **2 marks** each to be answered in approximately *20 words* each. All questions shall be compulsory. The examiner shall set the question paper choosing at least 3 questions from each unit.

Section B

Section shall be of **30 marks** and consist of **9 questions** carrying **5 marks** each to be answered in approximately *250 words* each. A Candidate shall attempt any six questions selecting at least one from each Unit.. The examiner shall set the questions ensuring that at least three questions are drawn from each Unit.

Section C

Section shall be of **20 marks** and consist of three questions carrying 10 marks each to be answered in *500 words* each. A Candidate shall attempt any two questions. The examiner shall set one question from each Unit.

Note : –

- (i) For Non- Collegiate Students, there shall be only One Terminal Examination of 100 containing the Section A, B and C. (Theory Paper will be of 70 Marks, the marks obtained from 70 Marks will be proportionately upgraded to as marks obtained from 100 Marks and will be awarded in Mark sheet.
- (ii) The student has to qualify both the Internal Assessment and External Assessment separately. The minimum qualifying marks in both shall be 40 percent.

Course Content:-

UNIT-I

Location and extent, major physical divisions and drainage system of Asia, Europe, Africa, North & South America and Oceania. Human resources, major crops (Wheat, Rice, Sugarcane, Cotton & Tea) and minerals (Iron Ore, Coal & Petroleum) of Asia, Europe, Africa, North and South America, Oceania.

UNIT - II

Major industrial regions of Asia (Japan & China), Europe (Russia & England), Africa (South Africa), North and South America (USA & Brazil), Oceania (Australia & New Zealand). Geographical overview about major contemporary issues of world: Geo-Strategy of Indian Ocean, South China Sea dispute, Crimea dispute, Gaza strip dispute, Kashmir dispute, Diego Garcia dispute.

UNIT - III

Globalization and its impact. Major organizations of world: UNO, UNESCO, WTO, World Bank, OPEC, SAARC. Geographical disasters in the world: Earth quake, Volcano, Cyclones, Tsunamis, Landslides, Drought, flood. Disaster Management. Economic development and environmental problems.

Suggested Readings :-

1. Blij H. Muller, O: Geography, Regions and Concepts: John Wiley, New York, 1993
2. Finlayson, Caitlin, World Regional Geography, Caitlin Finlayson.
3. Pulsipher, Lydia, World Regional Geography, W.H. Freeman, New York
4. Husain, Majid, World Geography, Rawat Publication, New Delhi
5. Jackson, R. H. and Hudman, L. E. World Regional Geography: Issues for Today, John Wiley & Sons, New York, 1991
6. English, P.W. and Miller, J.A., World Regional Geography: A Question of Place, John Wiley & Sons, New York, 1989
7. सक्सेना, एच. एम. : विश्व का प्रादेशिक भूगोल, रस्तोगी पब्लिकेशन, मेरठ।

MASTER OF ARTS/SCIENCE (M.A./M.Sc.) IN GEOGRAPHY
SEMESTER –IV
GEOGDCC - 14: INDUSTRIAL GEOGRAPHY

Distribution of Marks for the Course		
Paper	Max.Marks	Duration
First InternalTest	10	1 hr
Second InternalTest	10	1 hr
Hand written Assignment	05	to be written in approx. 500 words
Attendance	05	-
End Semester Examination	70	3 hrs
TotalMaxMarks	100	

There shall be a Terminal Examination at the end of each Semester carrying 70 marks. The question paper shall comprise three sections **Section A, Section B and Section C.**

Section A

Section shall be of **20 marks** and consist of **10 questions** carrying **2 marks** each to be answered in approximately *20 words* each. All questions shall be compulsory. The examiner shall set the question paper choosing at least 3 questions from each unit.

Section B

Section shall be of **30 marks** and consist of **9 questions** carrying **5 marks** each to be answered in approximately *250 words* each. A Candidate shall attempt any six questions selecting at least one from each Unit.. The examiner shall set the questions ensuring that at least three questions are drawn from each Unit.

Section C

Section shall be of **20 marks** and consist of three questions carrying 10 marks each to be answered in *500 words* each. A Candidate shall attempt any two questions. The examiner shall set one question from each Unit.

Note : –

- (i) For Non- Collegiate Students, there shall be only One Terminal Examination of 100 containing the Section A, B and C. (Theory Paper will be of 70 Marks, the marks obtained from 70 Marks will be proportionately upgraded to as marks obtained from 100 Marks and will be awarded in Mark sheet.
- (ii) The student has to qualify both the Internal Assessment and External Assessment separately. The minimum qualifying marks in both shall be 40 percent.

Course Content:-

UNIT-I

Nature, scope and approaches to the study of Industrial geography, Classification of Industries: bases and characteristics. Elements and factors of industrial localization; centralization and decentralization of industrial enterprises. Theories and models of industrial location : A. Weber, E. M. Hoover, August Losch, A. Fetter, G. T. Renner. A. Pred, Palander Tord, D. M. Smith, E. M. Rawstron, Bos H. C. & Hamilton.

UNIT-II

Geographical analysis of selected industries in the world with special reference to India: Iron and Steel, Aluminium, Copper, Automobiles; Textiles, Chemicals, Petro-chemicals, Ship-building, information & technology industries. Locational analysis of zinc and cement industries of Rajasthan.

UNIT-III

Study of major industrial regions of the world, Major industrial regions of India. Special Economic Zones (SEZ), MSME's, RIICO in India: concept, distribution and significance. Environmental degradation caused by manufacturing industries, industrial hazards and occupational health. Impact of manufacturing industries on economic development; Role of globalization on manufacturing sector. Industrial Policies of India.

Suggested Readings :-

1. Alexander. J. W., Economic Geography, Prentice Hall, New York.
2. Berry, B.J.L. et al, Geography of Economic System. Prentice Hall, Englewood Cliff, 1976.
3. Estall, R.C. and Buchanan R.C.. Industrial Activity and Economic Geography. Hutchinson University Library, London, 1963.
4. Llyod, P. E. and Dicken, Location in Space. Harper & Row, London., 1978.
5. Shukla, S.K., Location of Industries. Sahitya Ratnalaya, Kanpur, 1979.
6. लोढा, माहेश्वरी: 2015 औद्योगिक भूगोल, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर।
7. मौर्य एस.डी.: 2020 औद्योगिक भूगोल, प्रवालिका पब्लिकेशन, प्रयागराज।
8. कुमार प्रमिला, शर्मा श्री कमल: औद्योगिक भूगोल, मध्य प्रदेश हिन्दी ग्रंथ अकादमी, भोपाल।

MASTER OF ARTS/SCIENCE (M.A./M.Sc.) IN GEOGRAPHY
SEMESTER –IV
GEOGDSE – 04A: RESEARCH METHODS IN GEOGRAPHY

Distribution of Marks for the Course		
Paper	Max.Marks	Duration
First InternalTest	10	1 hr
Second InternalTest	10	1 hr
Hand written Assignment	05	to be written in approx. 500 words
Attendance	05	-
End Semester Examination	70	3 hrs
TotalMaxMarks	100	

There shall be a Terminal Examination at the end of each Semester carrying 70 marks. The question paper shall comprise three sections **Section A, Section B and Section C.**

Section A

Section shall be of **20 marks** and consist of **10 questions** carrying **2 marks** each to be answered in approximately *20 words* each. All questions shall be compulsory. The examiner shall set the question paper choosing at least 3 questions from each unit.

Section B

Section shall be of **30 marks** and consist of **9 questions** carrying **5 marks** each to be answered in approximately *250 words* each. A Candidate shall attempt any six questions selecting at least one from each Unit.. The examiner shall set the questions ensuring that at least three questions are drawn from each Unit.

Section C

Section shall be of **20 marks** and consist of three questions carrying 10 marks each to be answered in *500 words* each. A Candidate shall attempt any two questions. The examiner shall set one question from each Unit.

Note : –

- (i) For Non- Collegiate Students, there shall be only One Terminal Examination of 100 containing the Section A, B and C. (Theory Paper will be of 70 Marks, the marks obtained from 70 Marks will be proportionately upgraded to as marks obtained from 100 Marks and will be awarded in Mark sheet.
- (ii) The student has to qualify both the Internal Assessment and External Assessment separately. The minimum qualifying marks in both shall be 40 percent.

Course Content:

Unit-I

Research methodology: an overview, procedure of scientific research. Nature of geographical research and its importance. Selection and relevance of research theme, defining research problem. Research design: Meaning, characteristics, subject matter and classification. Hypothesis: Meaning, characteristics, source, types, importance, limitations. Sources and types of data. Methods of data collection: observation, questionnaire, schedule and interview.

Unit-II

Sampling: need, bases, steps and types. Scales of measurement: Definition and Types. Sources of error in measurement. Scaling: meaning of scaling. Scale of classification bases, important scaling techniques. Techniques of data collection; Sampling-Types and methods, field survey. Testing of hypothesis: Chi-Square, t-test, z-test, F-test and ANOVA.

Unit-III

Processing (editing & coding), organization, classification, tabulation and presentation of data. Significance of quantitative techniques, Overview of descriptive and inferential statistics. Research Report writing: Meaning, characteristics and format. Types of Research Reports. Writing of the dissertation/ thesis. Appendices, notes, references, citation and bibliography. Plagiarism.

Suggested Readings:

1. Ahuja, R. (2001): Research Methods, Rawat Publications, Jaipur and New Delhi.
2. Bhattacharyya, D. K. (2005): Research Methodology, Excel Books, New Delhi
3. Denzin, N. K. and Lincoln, Y.S., (eds.) (2000): Handbook of Qualitative Research. Thousand Oaks CA. Sage Publications.
4. Dikshit, R. D. (2003): The Art and Science of Geography: Integrated Readings. Prentice-Hall of India, New Delhi.
5. Kothari, C.R. and Garg, G. (2019): Research Methodology: Methods and Techniques, New Age International Publishers, New Delhi.
6. Sharma, P.R., Yadav, R.S. and Sharma, V.N., (2011), Interdisciplinary Research Methods: Concepts and Studies, R.K. Books Publishers, New Delhi.
7. कोठारी सी.आर : शोध पद्धति, न्यू एज इंटरनेशनल पब्लिशर्स, नई दिल्ली।
8. चौहाल, आलोक : भूगोल में शोध विधि तन्त्र : रावत पब्लिकेशन्स, जयपुर।

MASTER OF ARTS/SCIENCE (M.A./M.Sc.) IN GEOGRAPHY
SEMESTER –IV
GEOGDSE – 04B: SOCIAL GEOGRAPHY

Distribution of Marks for the Course		
Paper	Max.Marks	Duration
First InternalTest	10	1 hr
Second InternalTest	10	1 hr
Hand written Assignment	05	to be written in approx. 500 words
Attendance	05	-
End Semester Examination	70	3 hrs
TotalMaxMarks	100	

There shall be a Terminal Examination at the end of each Semester carrying 70 marks. The question paper shall comprise three sections **Section A, Section B and Section C.**

Section A

Section shall be of **20 marks** and consist of **10 questions** carrying **2 marks** each to be answered in approximately *20 words* each. All questions shall be compulsory. The examiner shall set the question paper choosing at least 3 questions from each unit.

Section B

Section shall be of **30 marks** and consist of **9 questions** carrying **5 marks** each to be answered in approximately *250 words* each. A Candidate shall attempt any six questions selecting at least one from each Unit.. The examiner shall set the questions ensuring that at least three questions are drawn from each Unit.

Section C

Section shall be of **20 marks** and consist of three questions carrying 10 marks each to be answered in *500 words* each. A Candidate shall attempt any two questions. The examiner shall set one question from each Unit.

Note : –

- (i) For Non- Collegiate Students, there shall be only One Terminal Examination of 100 containing the Section A, B and C. (Theory Paper will be of 70 Marks, the marks obtained from 70 Marks will be proportionately upgraded to as marks obtained from 100 Marks and will be awarded in Mark sheet.
- (ii) The student has to qualify both the Internal Assessment and External Assessment separately. The minimum qualifying marks in both shall be 40 percent.

Course Content:

Unit-I

Social Geography: Concept, Origin, Nature, and Scope. Social structure: First, Second, and Third World, Social process of Urbanization and Ruralisation. Social differentiation and region formation: Socio-cultural regionalization of the world: Elements in the development of sociocultural regions; continuity and change in the historically evolved regional structure; implications of emerging regional challenges.

Unit-II

Social Issues: Contemporary social issues: Gender-related problems, Poverty and crime, Marginalization and deprivation, social segregation: A comparison between of global north and south. Geographies of Welfare and Well-being: Concept and Components – Healthcare, Housing, and Education for Human Development, A role of Social Geographies of Inclusion and Exclusion for the global society.

Unit-III

Indian Society: Aryavarta, Dakshinpatha, Narmada Chota-Nagpur axis, regional identities, and regionalism. Social Categories of India: Caste, Class, Religion, Race, language and Gender and their Spatial Distribution. Towards a Social Geography of India: socio-cultural regions of India; bases of social region formation; role of caste, tribe, religion and language; unity in diversity in India; social transformation and change in India. Concept of social well-being and deprivation and discrimination issues relating to women and under privileged groups.

Suggested Readings:-

1. Ahmad, Aijazuddin, 1999: Social Geography, Rawat Publication, New Delhi.
2. De Blij. H.D.: Human Geography, John Wiley and son, New York.
3. Dubey. S.C, 1991: Indian Society, National Book Trust, New Delhi.
4. Gregory, D and J. Larry, (eds.), 1985: Social relations and spatial structures, McMillan.
5. Rao, M.S.A., 1970: Urban Sociology in India. Orient longman.
6. Smith, David, 1977: Geography: A Welfare Approach, Edward Arnold, London.
7. Sopher, David, 1980: An Exploration of India, Cornell University Press.
8. मोर्य, एस.डी. : सामाजिक भूगोल, शारदा पुस्तक भवन, इलाहाबाद ।
9. बी.एन.सिंह : सामाजिक एवं सांस्कृतिक भूगोल, प्रवालिका पब्लिकेशन, प्रयागराज ।
10. कौशिक, देवेश: सामाजिक भूगोल, अर्जून पब्लिशिंग हाउस, नई दिल्ली

MASTER OF ARTS/SCIENCE (M.A./M.Sc.) IN GEOGRAPHY
SEMESTER –IV
GEOGDSE – 05A: POLITICAL GEOGRAPHY

Distribution of Marks for the Course		
Paper	Max.Marks	Duration
First InternalTest	10	1 hr
Second InternalTest	10	1 hr
Hand written Assignment	05	to be written in approx. 500 words
Attendance	05	-
End Semester Examination	70	3 hrs
TotalMaxMarks	100	

There shall be a Terminal Examination at the end of each Semester carrying 70 marks. The question paper shall comprise three sections **Section A, Section B and Section C.**

Section A

Section shall be of **20 marks** and consist of **10 questions** carrying **2 marks** each to be answered in approximately *20 words* each. All questions shall be compulsory. The examiner shall set the question paper choosing at least 3 questions from each unit.

Section B

Section shall be of **30 marks** and consist of **9 questions** carrying **5 marks** each to be answered in approximately *250 words* each. A Candidate shall attempt any six questions selecting at least one from each Unit.. The examiner shall set the questions ensuring that at least three questions are drawn from each Unit.

Section C

Section shall be of **20 marks** and consist of three questions carrying 10 marks each to be answered in *500 words* each. A Candidate shall attempt any two questions. The examiner shall set one question from each Unit.

Note : –

- (i) For Non- Collegiate Students, there shall be only One Terminal Examination of 100 containing the Section A, B and C. (Theory Paper will be of 70 Marks, the marks obtained from 70 Marks will be proportionately upgraded to as marks obtained from 100 Marks and will be awarded in Mark sheet.

- (ii) The student has to qualify both the Internal Assessment and External Assessment separately. The minimum qualifying marks in both shall be 40 percent.

Course Content:

Unit-I

Nature, scope, objectives; and recent development in political geography; approaches to political study; major schools of thought; Geographic Elements and the State: Physical Elements, Human elements, Economic elements, Geopolitics and its current status in the world.

Electoral Geography – Geography of Voting, Geographic Influences on Voting pattern, Geography of Representation, Gerrymandering.

Unit-II

State, Nation and Nation State – Concept of Nation and State, Attributes of State – Frontiers and Boundaries (Concepts and Classifications, Continental and Maritime Boundaries), Shape, Size, Territory and Sovereignty (Laws of Spatial Growth of State), Concept of Nation State; Geopolitics; Theories (Heartland and Rimland).

Unit-III

Political Geography of Resource Conflicts – Water Sharing Disputes, Disputes and Conflicts Related to Forest Rights and Minerals. Politics of Displacement: Geopolitics of Foreign Aid, Assistance and Development Cooperation, Issues of relief, compensation and rehabilitation in reference to dams and special economic zones. Geopolitical significance of Indian Ocean; Political geography of contemporary India with special reference to: The changing political map of India; Unity diversity: centripetal & centrifugal forces; stability & instability; Interstate issues (like water disputes & riparian claims) and conflict resolutions insurgency in border states in India.

Suggested Readings :-

1. Alexander, L.M (1963)- World Political Patterns Ran McNally, Chicago.
2. De Blij, H. J. and Glassner, Martin (1968)- Systematic Political Geography, John Wiley, New York.
3. Dikshit, R.D (1996) Political Geography: A Contemporary Perspective. Tata McGraw Hill, New Delhi.
4. Dikshit, R.D (1999)- Political geography: A Century of progress, Sage, New Delhi.
5. Taylor, Peter (1985)- Political Geography Longman, London.
6. Fisher Charles A. (1968) - Essays in Political Geography, Methuen, London.
7. John R. Short (1982) - An introduction to Political Geography Routledge, London.
8. Adhikari, Sudeepa: Political Geography, Rawat Publication.
9. सक्सेना एच.एम. : राजनैतिक भूगोल, रावत पब्लिकेशन, जयपुर।

MASTER OF ARTS/SCIENCE (M.A./M.Sc.) IN GEOGRAPHY
SEMESTER –IV
GEOGDSE – 05B: CULTURAL GEOGRAPHY

Distribution of Marks for the Course		
Paper	Max.Marks	Duration
First InternalTest	10	1 hr
Second InternalTest	10	1 hr
Hand written Assignment	05	to be written in approx. 500 words
Attendance	05	-
End Semester Examination	70	3 hrs
TotalMaxMarks	100	

There shall be a Terminal Examination at the end of each Semester carrying 70 marks. The question paper shall comprise three sections **Section A, Section B and Section C.**

Section A

Section shall be of **20 marks** and consist of **10 questions** carrying **2 marks** each to be answered in approximately *20 words* each. All questions shall be compulsory. The examiner shall set the question paper choosing at least 3 questions from each unit.

Section B

Section shall be of **30 marks** and consist of **9 questions** carrying **5 marks** each to be answered in approximately *250 words* each. A Candidate shall attempt any six questions selecting at least one from each Unit.. The examiner shall set the questions ensuring that at least three questions are drawn from each Unit.

Section C

Section shall be of **20 marks** and consist of three questions carrying 10 marks each to be answered in *500 words* each. A Candidate shall attempt any two questions. The examiner shall set one question from each Unit.

Note : –

- (i) For Non- Collegiate Students, there shall be only One Terminal Examination of 100 containing the Section A, B and C. (Theory Paper will be of 70 Marks, the marks

obtained from 70 Marks will be proportionately upgraded to as marks obtained from 100 Marks and will be awarded in Mark sheet.

- (ii) The student has to qualify both the Internal Assessment and External Assessment separately. The minimum qualifying marks in both shall be 40 percent.

Course Content:

Unit - I

Definition, scope and development of Cultural Geography, Approaches and conceptual framework. School of cultural determinism, cultural adaptation, assimilation, integration, diffusion and environmental perception, morphology of cultural landscape; representational and more-than-representational critiques.

Unit - II

Races of mankind: origin, distribution and characteristics, zone and strata theory. Evolution of civilization: Mesopotamian, Nile, Indus and Hwang Ho Valley with respect to racial, ethnic, religious, linguistic, demographic and organizational characteristics. Politics of Difference: Caste, Class, Race, Gender. Creation of Cultural Spaces: Body, Home, City, Nation and Globe, Sanskritization and Cultural Urbanization, Cosmopolitanizing.

Unit - III

Cultural diversity – Nature and bases: race, religion, language and nationalism. Major linguistic families – evolution, dispersion, classification and distribution; Religion: evolution, dispersion, classification and distribution. Economy and society of tribal groups, theories of tribal groups; dwelling places as cultural explorations. Culture and Environment; Economy and cultural landscape; Industrial Revolution and cultural development; Globalization and culture conflicts; Cultural Heritage.

Suggested Readings:

1. Anderson, K., Domosh, M., Pile, S., & Thrift, N. (eds.). 2002: Handbook of cultural geography.
2. Cosgrove, D. 1984: Social Formation and Symbolic Landscape, London: Croom Helm.
3. Duncan, J. S. 2005: The city as Text: The Politics of Landscape Interpretation in the Kandy Kingdom, Cambridge University Press.
4. Mitchell, D. 2000: Cultural Geography: A Critical Introduction, Blackwell.
5. Valentine, G. 2014: Social geographies: space and society, Routledge.
6. कौशिक, देवेश: सांस्कृतिक भूगोल, अर्जुन पब्लिशिंग हाउस।
7. सिंह, इंदिरा, 2008: सांस्कृतिक भूगोल, दया पब्लिशिंग हाउस।
8. खुल्लर, डी.आर.: मानव एवं सांस्कृतिक भूगोल, न्यू सरस्वती हाउस।
9. बी.एन.सिंह : सामाजिक एवं सांस्कृतिक भूगोल, प्रवालिका पब्लिकेशन, प्रयागराज।

MASTER OF ARTS/SCIENCE (M.A./M.Sc.) IN GEOGRAPHY
SEMESTER –IV

GEOGDCC – 15: ADVANCED SURVEYING TECHNIQUES AND FIELD SURVEY

Credits: 04 (Hours per week): 04	Marks: Total - 100
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Note:-

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|-------------------------------|----------------|----------|
| 1. Written Test on Lab work | 4 Hrs. (5 Qs) | 50 Marks |
| 2. Record work and Viva-Voce | (10+05) | 20 Marks |
| 3. Field Survey and Viva-Voce | 2 Hrs. (10+05) | 15 Marks |
| 4. Camp work and Viva-Voce | 7 Days (10+05) | 15 Marks |

Student will have to attempt Five question out of Six question in written paper of Practical Examination.

Record work of minimum 25 sheets must be prepared by students and checked & signed by teacher with date, otherwise students will be responsible. Students must write his/her name on every sheet. The teacher should give fresh exercise every year, so that the student may not undertake tracing of old exercise.

Course Content:

1. Profile, gradients and calculation of slopes. Block diagrams, field sketching, serial profile, hypsographic curves altimetry frequency graphs.
2. **Study of Topographical sheets:** Scheme of Indian Topo-sheets. Interpretation of a hilly and a plain area of India in respects of relief, drainage, Human settlement, Transport & Communication Pattern, Profile Drawing. Open Series Maps (OSM)
3. **Air photo interpretation** and exercise on the determination of height of plan, parallax, number of runs and number of photographs, knowledge of stereoscopic vision, mosaics; types of cameras, emulsions and stereoscopes.
4. **Dumpy level:** Use of Dumpy level as an instrument of leveling and adjustment of the dumpy level, Principles: Calculation of difference of level, series leveling, back

sights, foresights, intermediate sights, Level book and computation of reduced level:
Rise and fall and collimation method, Plotting of profiles

5. **Theodolite and Total Station:** Theodolite as an instrument of surveying and leveling, adjustment of Theodolite, Computation of Theodolite bearings, Computation of length of triangles and plotting of control points, Total Station and its uses.
6. **Camp Work:** A topographical survey of a settlement of about 500 acres of land will be done by organizing a camp at least for a week away from the centre of the institution and maps and reports of the same will be prepared.

Suggested Readings:-

1. Clark, D., Plane and Geodetic Surveying, Constable
2. Davis, R. E. and F. S. Foot, Surveying: Theory and Practice, McGraw Hill
3. Hinks, H.R., Map and Survey, Cambridge
4. Kanetkar, T. P., Surveying and leveling, Volume I & II, A. U. Grah Prakashan
5. Kiley, P. T., Surveying and leveling, Volume I & II, A. U. Grah Prakashan
6. Survey Manual, Volume I-VIII, Survey of India
7. Williamson, J. T., Surveying and Field Work, Constable
8. शर्मा जे.पी.: 2023 प्रायोगिक भूगोल की रुपरेखा।

**MASTER OF ARTS/SCIENCE (M.A./M.Sc.) IN GEOGRAPHY
SEMESTER –IV**

GEOGDSN – 01: DISSERTATION

Credits: 04	Total Marks:- 100
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Dissertation on Geographical Studies (In lieu of Paper 18 & 19)

N.B. The candidates offering this paper will be required to submit dissertation at least two weeks before the commencement of the theory examination. it will be examined by a board of two examiners. Three copies of dissertation must be submitted to the University, out of which one copy will be returned to the Department/College and one of the Supervisor. The dissertation should exclusively be based on field work and statistical analysis, as far as possible and be prepared under the guidance of a postgraduate teacher of five years standing. The faculty members will be able to supervise maximum two candidates for dissertation.

The volume of the dissertation should be about 110-115 pages.
