SOPHIA GIRLS' COLLEGE, (AUTONOMOUS) AJMER

Scheme of Examination
And

SYLLABUS

2020-21(Batch)

FOR
BACHELOR OF ARTS
(GEOGRAPHY)

Under
Choice Based Credit System
Semester – I to VI

SGCA

Program Specific Outcomes

On successful completion of the Program the student shall be able to:

1. Demonstrate proficiency in knowledge of essential concepts of geography about man and environment; nature and society to exhibit their awareness and responsibility towards environment and society at large.
2. Identifying, interpret and analyze human and environmental issues from local to global scales by critically assessing their various perspectives to promote sustainable development of humanity.
3. Develop integrated geographical knowledge to avail a plethora of opportunities in the field of town planning, urban management, cartography, tourism, civil services, teaching, survey, wild life, defense, population, community development etc

BACHELOR OF ARTS

Eligibility for admission in First Year of B.A. is 10+2 examination of any Board with at least 45% marks. With regard to admission on reserved category seats government rules will be applicable.

SCHEME OF EXAMINATION

The number of the paper and the maximum marks for each paper together, with the minimum marks required to pass are shown against each subject separately. It will be necessary for a candidate to pass in the theory as well as the practical part of a subject/paper, wherever prescribed, separately.

Classification of successful candidates shall be as follows:

First Division	60%	of the aggregate marks prescribed in Semesters I to VI taken together
Second Division	50%	

All the rest shall be declared to have passed the examination.

- For passing a candidate shall have to secure at least 40% marks in each course (Theory and Practical separately).
- No division shall be awarded in Semesters I to V.
- Whenever a candidate appears for a due paper examination, she will do so according to the syllabus in force.
- A candidate not appearing in any examination/absent in any paper of term end examination shall be considered as having DUE in those papers.

End Semester Examination Pattern

Maximum Marks : 50 **Duration : 2 ½ Hrs.**

Section A — 10 x 1 =10 marks

Contains 10 Questions of 1 mark each and all are compulsory.
Three questions from each unit and one extra question from any one unit.

Section B — 3+3+4 =10marks

Contains 3 questions with internal choice (Two questions from each unit).
(2 Questions of 3 marks each and 1 Question of 4 marks)
A student has to attempt 3 questions, choosing at least one question from each unit.

Section C — 3 x 10 =30 marks

Contains 3 questions with internal choice (Two questions from each unit).
Each Question carries 10 marks.
A Student has to attempt 3 questions, choosing at least one question from each unit.

End Semester Practical Examination Pattern

Maximum Marks : 40 **Duration : 3 Hrs.**

Note:

1. A Laboratory Exercise File should be prepared by each student for practical paper and should be submitted during practical examination.
2. One internal and one external examiner shall conduct two practical exams, in a day, of a batch of 60 students.
3. Duration of practical exam is 3 hours.
4. Practical of 40 marks distribution is as under:

Course Structure in Semester – I

Compulsory

Paper Code	Paper Title	Credits	Total Marks		Max. Marks	Min. Marks	Duration
			CIA	ESE			
GEN-101	General English	2	15	35	50	20	1 Hr.

Optional

Paper Code	Nomenclature of the Paper	Contact Hours Per Week	Credits	Total Marks		Max. Marks	Min. Pass Marks	Duration
				CIA	ESE			
Geo-101	Physical Geography-I (Elements of Geomorphology)	03	03	25	50	75	30	2½ hrs
Geo-102	Geography of Rajasthan	03	03	25	50	75	30	2½ hrs
Geo-103	Practical: Basics of Cartography	04	02	10	40	50	20	3 hrs

GEN 101 – General English

Max. Marks: 50 **Min. Marks: 20**
Credit: 2 **Duration: 1 Hr.**

Learning Outcomes:

After the successful completion of the paper, the students will be able to –

1. Have Knowledge regarding with the different concepts of Grammar.
2. Enhance the reading and writing skills of the students.
3. Develop a practice of using idioms and phrasal verbs in everyday conversations.
4. Have acutting edge in the competitive and professional world.

Unit I

SVOCA (Subject, Verb, Object, Complement, Adverbial), Transformation of sentence (Active Passive and Direct Indirect), Modals, Tense usage, Homophones and Homonyms,

- **IDIOMS**

1. A penny for your thoughts
2. Actions speak louder than words
3. At the drop of a hat
4. Ball is in your court
5. Barking up the wrong tree
6. Beat around the bush
7. Best of both worlds
8. Bite off more than you can chew
9. Blessing in disguise
10. Burn the midnight oil
11. Can't judge a book by its cover
12. Cross that bridge when you come to it
13. Cry over spilt milk
14. Curiosity killed the cat
15. Don't count your chickens before the eggs have hatched
16. Don't put all your eggs in one basket
17. Every cloud has a silver lining
18. Feel a bit under the weather
19. Give the benefit of the doubt
20. Hear it on the grapevine
21. Hit the nail on the head
22. In the heat of the moment
23. Kill two birds with one stone
24. Last straw
25. Let sleeping dogs lie
26. Let the cat out of the bag
27. Make a long story short

28. Miss the boat
29. Off one's rocker
30. Once in a blue moon
31. Piece of cake
32. Put wool over other people's eyes
33. See eye to eye
34. Sit on the fence
35. Speak of the devil!
36. Take with a grain of salt
37. Taste of your own medicine
38. To hear something straight from the horse's mouth
39. A Picture paints a thousand words
40. Method to my madness

Phrasal verbs

- Break: Break away, Break down, Break off, Break up
- Bring: Bring about, Bring in, Bring up, Bring down
- Come: Come by, Come across, Come upon
- Carry: Carry out, Carry on, Carry off, Carry over
- Call: Call on, Call off, Call at
- Get: Get Along, Get Away, Get By, Get Through, Get Over
- Give: Give up, Give away, Give in
- Hard: Hard up, Hard of hearing, Hard to please
- Look: look after, look into, look forward to, look up to
- Put: put out, put off, put up, put up with
- Run: run after, run down, run over, run out of
- Take: take after, take up, take to

Unit II

Comprehension, Précis writing

Unit III

Formal and Informal Letters- Job Application, Resume and Cover letter, Composition, Report Writing

Reference Books:

- A Practical English Grammar (Oxford Paper Back) : A.J. Thomson
- Intermediate English Practice Book (Orient Longman) : S.Pit Corder :
- Strengthen Your English (OUP 1973) :Bhaskaran and Hordburgh
- The English Errors Of Indian Students (OUP) :T.l.h. Smith – Pearce
- A Practical Course of English (Ramesh Book Depot, Jaipur) :I.K. Sharma and V.D. Singh

GEO-101: PHYSICAL GEOGRAPHY–I
(Elements of Geomorphology)

Max. Marks: 75 **Min. Marks: 30**
Credit: 03 **Duration – 2 ½ hrs**

Learning Outcomes:

On successful completion of the Course the students will be able to:

1. Identify the concepts of origin of earth and landforms.
2. Illustrate the different forces acting over the earth.
3. Compare and analyze the different cycles of landform erosion and their processes.
4. Build competency and academic excellence for competitive exams.

Unit I

Origin of the Earth: Big Bang Theory; Earth's interior: Structure and Zoning of the Earth's interior; Forces of the Earth: Endogenetic and Exogenetic; Folds and Faults.

Unit II

Origin of Continents and Oceans: Wegner's Continental Drift Theory, Plate tectonics, Sea-floor spreading; Volcanoes: distribution and related landforms; Earthquakes: occurrence and distribution.

Unit III

Rocks: Igneous, Sedimentary and Metamorphic; Denudation: Weathering and its types, Erosion and resulted landforms: Work of River, Glacier, Wind (arid and semi-arid), and Karst, Davisian Cycle of erosion.

Reference Books

- Bloom, A. L. (2003). Geomorphology: A Systematic Analysis of Late Cenozoic Landforms. New Delhi: Prentice-Hall of India.
- Bridges, E. M. (1990). World Geomorphology. Cambridge: Cambridge University Press.
- Christopherson, Robert W. (2011). Geosystems: An Introduction to Physical Geography 8 Ed. England: Macmillan Publishing Company.
- Ernst, W.G. (2000). Earth systems: Process and Issues. Cambridge: Cambridge University Press.
- Gautam, A. (2010). Bhautik Bhugol. Meerut: Rastogi Publications.
- Kale, V and Gupta, A. (2001). Elements of Geomorphology. Calcutta: Oxford University Press.
- Kale, V. S. and Gupta, A. (2001). Introduction to Geomorphology. Hyderabad: Orient Longman.
- Knighton, A. D. (1984). Fluvial Forms and Processes. London: Edward Arnold Publishers.
- Richards, K. S. (1982). Rivers: Form and Processes in Alluvial Channels. London: Methuen.
- Selby, M.J. (2005). Earth's Changing Surface. United Kingdom: OUP.
- Singh, S. (2009). Bhautik Bhugol ka Swaroop. Allahabad: Prayag Pustak.
- Skinner, Brian J. and Stephen, C. (2000). The Dynamic Earth: An Introduction to physical Geology. John Wiley and Sons.
- Steers, J.A. (1964). The Unstable Earth, Some recent views in geography. New Delhi: Kalyani Publishers.
- Strahler, A.N. and Strahler, A.H. (2005). Modern Physical Geography. John Wiley & Sons. Revised edition.
- Thornbury, W. D. (1968). Principles of Geomorphology. Wiley.
- Tikkaa, R. N. (1989). Bhautik Bhugol ka Swaroop. Meerut: Kedarnath Ram Nath.

Pedagogy : The teacher may familiarize the students with Indian examples of landforms with photographs and diagrams. In case it is possible, short field trips may be organized.

GEO-101: भौतिक भूगोल–I (भू-आकृति विज्ञान के तत्व)

अधिकतम अंक : 75 | न्यूनतम अंक : 30

श्रेय 03 | अवधि : 2½ घंटे

इकाई –I

पृथ्वी की उत्पत्तिः बिग बैंग थ्योरी; पृथ्वी का आंतरिक भागः पृथ्वी के आंतरिक भाग की संरचना और क्षेत्र; पृथ्वी पृथ्वी के बलः अंतर्जात और बहिर्जात; वलन और भ्रंश ।

इकाई –II

महाद्वीपों और महासागरों की उत्पत्तिः वेगनर का महाद्वीपीय विस्थापन सिद्धांत, प्लेट विवर्तनिकी, समुद्र तल का का प्रसार; ज्वालामुखीः वितरण और संबंधित भू-आकृतियाँ; भूकंपः घटना और वितरण।

इकाई –III

चट्टानें: आग्नेय, अवसादी और कायांतरित; अनाच्छेदनः अपक्षय और उसके प्रकार, अपरदन और सम्बंधित स्थलाकृतियांः नदी का कार्य, हिमनद, वायु (शुष्क और अर्ध-शुष्क), और कार्स्ट निर्मित, अपरदन का डेविसियन चक्र।

सन्दर्भः–

- सविन्द्र सिंहः भौतिक भूगोल–वसुन्धरा प्रकाशन गोरखपुर (उ.प्र.)
- भावना माथुरः भौतिक भूगोल–कल्याणी प्रकाशन।
- वी.एस.चौहान एवं अलका गौतम : भौतिक भूगोल–रस्तोगी प्रकाशन, मेरठ।
- डॉ.एल.एन.उपाध्यायः भौतिक भूगोल–राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर।

GEO-102 GEOGRAPHY OF RAJASTHAN

Max. Marks: 75 **Min. Marks: 30**
Credit: 03 **Duration: 2 ½ hrs**

Learning Outcomes:

On successful completion of the Course the students will be able to:

1. Classify and understand the physiographic divisions of Rajasthan.
2. Enumerate the qualitative and quantitative aspects of population and determine the agricultural regions of Rajasthan.
3. List the major metallic, non metallic resources and correlate with industrial development of the state.
4. Build competency and academic excellence for competitive exams.

UNIT I

Physiography; Climate: Factors affecting, Koppen's Climatic classification; Drainage: Rivers and Lakes; Soil: Types and distribution; Vegetation: Factors affecting, conservation; Desertification.

Unit II

Population: Factors affecting, Growth, Density, Distribution; Tribes: Meena, Bhill, Garasia and Saharia; Agriculture: Major crops (Bajra, Wheat, Gram, Jowar, Maize, Barley, Cash crops: Sugar cane, Cotton, Oil seeds); Dryland Farming.

Unit III

Mineral Resources: Metallic Minerals: Iron-ore, Zinc, Manganese, Lead, Silver, Copper, and Tungsten; Non-Metallic: Gypsum, Mica, Limestone, Marble; Power Resources: Non-Renewable (Coal, Petroleum, Natural gas, Hydroelectricity, Atomic); Renewable (Wind, solar, Biogas).

Reference Books

- Bhalla, L.R. (2010). Rajasthan ka Bhugol. Jaipur: RBD Publication.
- Gupta & Prakash. (1979). Environmental Analysis of Thar Desert. Dehradun: English Books Depot.
- Misra, V.C. (1977). Geography of Rajasthan. New Delhi: NBT.
- Roonwal, M.L. (1977). Natural Resources of Rajasthan Vols. I & II. University of Jodhpur.
- Sharma, R.C. (1972). Settlement Geography of the India Desert. New Delhi: Korwar Brother.
- Sharma, R.C. (2000). Settlement Geography of the India Desert. New Delhi: Korwar Brother.
- Singh, R.L. (2000). India: A Regional Geography. Varanasi: National Geographical Society of India.

Pedagogy : The teacher may familiarise the students with Rajasthan examples of landforms with photographs and diagrams. In case it is possible, short field trips may be organized.

GEO–102 राजस्थान का भूगोल

अधिकतम अंक: 75 न्यूनतम अंक : 30

श्रेय 03 अवधि : 2½ घंटे

इकाई –I

भूआकृति; जलवायु: कोपेन के जलवायु वर्गीकरण को प्रभावित करने वाले कारक; प्रवाह प्रणाली: नदियाँ और झीलें; मिट्टी: प्रकार और वितरण; वनस्पति: प्रभावित करने वाले कारक, संरक्षण; मरुस्थलीकरण।

इकाई –II

जनसंख्या: प्रभावित करने वाले कारक, वृद्धि, घनत्व, वितरण; जनजातियाँ: मीना, भील, गरासिया और सहरिया; कृषि: प्रमुख फसलें (बाजरा, गेहूं, चना, ज्वार, मक्का, जौ, नकदी फसलें: गन्ना, कपास, तिलहन); शुष्क कृषि ।

इकाई –III

खनिज संसाधन: धातु खनिज: लौह-अयस्क, जस्ता, मैंगनीज, सीसा, चांदी, तांबा और टंगस्टन; गैर-धातु: जिप्सम, अभ्रक, चूना पत्थर, संगमरमर; ऊर्जा संसाधन: गैर-नवीकरणीय (कोयला, पेट्रोलियम, प्राकृतिक गैस, जलविद्युत, परमाणु); नवीकरणीय (पवन, सौर, बायोगैस)।

सन्दर्भः–

- चौहान, टी.एस, राजस्थान का भूगोल, विज्ञान प्रकाशन, जोधपुर।
- भल्ला, एल.आर, राजस्थान का भूगोल, कुलदीप प्रकाशन अजमेर।
- दिनेश चन्द शर्मा व पुष्पा शर्मा, राजस्थान आज तक।
- एच.एस.शर्मा, राजस्थान का भूगोल, पंचशील प्रकाशन, जयपुर।

GEO-103 PRACTICAL: BASICS OF CARTOGRAPHY

Max. Marks: 50 **Min Marks: 20**
Credits: 02 **Duration: 3 hrs**

Written Test	20 Marks
Lab Work	10 Marks
Record Work	10 Marks
Viva	10 Marks

Learning Outcomes:

On successful completion of the Course the student will be able to:

1. To develop skills and competency regarding area analysis and map making with relief features and profiles.
2. To Hone & develop employability related skills for holistic development.

- Scales: Plain Linear, Statement - Diagonal and Comparative; Representative Fraction.
- Representation of different landforms by contours. Drawing of profiles: superimposed, composite and projected profiles and their relevance in landform mapping and analysis.

Reference Books

- Misra, R.P & Ramesh. (1986). A Fundamentals of Cartography. New Delhi: McMillan Co.
- Monkhouse, F. J. and Wilkinson, H. R. (1973). Maps and Diagrams. London: Methuen.
- Pal, S.K. (1998). Statistics for Geoscientists Techniques & Applications. New Delhi.
- Rhind, D. W. and Taylor, D. R. F. (2000). Cartography: Past, Present and Future. International Cartographic Association.
- Robinson, A. H., (2009). Elements of Cartography. New York: John Wiley and Sons.
- Robinson, A.H. (2000). Elements of Cartography. U.S.A.: John Wiley & Sons.
- Sarkar, A. K. (2005). Practical Geography: A Systematic Approach. Calcutta: Oriental Longman.
- Sharma, J. P. (2010). Prayogic Bhugol. Meerut: Rastogi Publishers.
- Singh, R.L. and Dutt, P.K. (2010). Elements of Practical Geography. New Delhi: Kalyani Publishers.

Pedagogy: The elements of practical geography will be conveyed to students through charts, map and diagrams for effective learning. Stuents will be making a practical file abd will learn to use instruments available in the geography lab.

GEO-103 प्रायोगिकः मूलभूत मानचित्रकला

अधिकतम अंक : 50 न्यूनतम अंक :20

श्रेय 02 अवधि : 3 घंटे

Written Test	20 Marks
Record Work	10 Marks
Viva	10 Marks

- **स्केलः सरल मापनी रैखिक, स्टेटमेंट- विकर्ण और तुलनात्मक; प्रतिनिधि अंश।**
- **समोच्च रेखाओ द्वारा विभिन्न भूआकृति का प्रतिनिधित्व । प्रोफाइल की ड्राइंगः सुपरइम्पोज्ड, मिश्रित मिश्रित और अनुमानित प्रोफाइल और लैंडफॉर्म मैपिंग और विश्लेषण में उनकी प्रासंगिकता**

Course Structure in Semester – II

Compulsory

Paper Code	Paper Title	Credits	Total Marks		Max. Marks	Min. Marks	Duration
			CIA	ESE			
GEN-102	General Hindi	2	15	35	50	20	1 Hr.

Optional

Paper Code	Nomenclature of the Paper	Contact Hours Per Week	Credits	Total Marks		Max. Marks	Min. Pass Marks	Duration
				CIA	ESE			
Geo-201	Physical Geography-II (Climatology and Oceanography)	03	03	25	50	75	30	2½ hrs
Geo-202	Human Geography	03	03	25	50	75	30	2½ hrs
Geo-203	Practical: Socio- Economic Survey of a Village	04	02	10	40	50	20	3 hrs

GEN-102: सामान्य हिंदी

पूर्णांक : 50 न्यूनतम अंक : 20

क्रेडिट : 02 अवधि : 1 घंटे

अध्ययन के परिणाम :

पाठ्यक्रम पूर्ण होने के बाद विद्यार्थी योग्य होंगे–

1. **विद्यार्थियों में हिंदी व्याकरणिक ज्ञान का विकास होना** I

व्याकरण– भाग

इकाई 1 **अंक योजना**

- **संज्ञा,सर्वनाम,विशेषण,क्रिया,** - 10 **अंक**
- **क्रिया विशेषण, संधि ,समास ,विलोम शब्द** - 10 **अंक**

इकाई 2

- **शुद्धीकरण] शब्द शुद्धि, वाक्यशुद्धि ,[पारिभाषिक शब्दावली]-अंग्रेजी शब्दों के हिंदी समानार्थक शब्द[(कोविड 19-से भी सम्बन्धित शब्दावली)** - 5 **अंक**
- **शब्द युग्म -अर्थ भेद , पर्यायवाची शब्द , उपसर्ग , प्रत्यय ,** - 5 **अंक**

इकाई 3

- **निबन्ध लेखन (कोविड 19-से भी सम्बन्धित विषय(** - 10 **अंक**
- **पत्र लेखन- आवेदन पत्र ,बधाई पत्र ,प्रार्थना पत्र (कोविड 19- से भी सम्बन्धित विषय** - 5 **अंक**
- **अपठित गद्यांश (कोविड 19-से भी सम्बन्धित विषय)** - 5 **अंक**

सहायक पुस्तकें-

- **हिंदी व्याकरण- डॉ .इंदिरा अशोक**
- **हिंदी व्याकरण कोश- डॉ .दिनेशचंद्रशर्मा,श्रीमती पुष्पा शर्मा**

- हिंदी व्याकरण- डॉ .हरिचरण शर्मा
- हिंदीव्याकरण- डॉ .राजेश्वर प्रसाद चतुर्वेदी
- हिन्दी व्याकरण - भोलानाथ तिवारी

GEO-201 PHYSICAL GEOGRAPHY-II
(CLIMATOLOGY AND OCEANOGRAPHY)

Max. Marks :75 **Min. Marks: 30**
Credit: 03 **Duration: 2 ½ hrs**

Learning Outcomes:

On successful completion of the Course the students will be able to:

1. Understand the meaning and significance of climatology.
2. Explain various climatic phenomenon and deduce measures to control global warming
3. Define oceanography and elaborate the significance of oceans.
4. Build competency and academic excellence for competition exams.
5. To Hone & develop employability related skills for holistic development.

A. CLIMATOLOGY

Unit - I

Definition Climatology; Composition and structure of the atmosphere; Atmospheric Temperature: Vertical and Horizontal distribution of temperature; Atmospheric pressure and Pressure belts; Winds: Planetary, Periodic and Local winds; Hydrological cycle.

Unit-II

Air masses; Fronts: Concept, classification and properties; Cyclones: Tropical and Temperate cyclones; Climatic classification of Koppen and Thornwait.

B. OCEANOGRAPHY

Unit-III

Definition of Oceanography; Ocean Bottom Relief: Atlantic, Pacific and Indian Ocean; Distribution of Temperature and Salinity; Circulation of oceanic waters- Currents: Atlantic, Pacific and Indian ocean; Coral Reefs: Types, Darwin's Subsidence Theory.

Reference Books:

- Grald, S. (1980). General Oceanography: An Introduction. New York: John Wiley & Sons.
- Barry, R. G. and Carleton, A. M. (2001). Synoptic and Dynamic Climatology. UK: Routledge.
- Barry, R.G. & Chorley, R.J. (1998). Atmosphere, Weather and Climate. UK: Routledge.
- Critchfield, H. J. (1987). General Climatology. New Delhi: Prentice-Hall of India.
- Das, P.K (1968). The Monsoons. New Delhi: National Book Trust.
- Gupta, L. S. (2000). Jalvayu Vigyan: Hindi Madhyam Karyanvay Nidishalya. New Delhi: Delhi Vishwa Vidhyalaya.
- Lal, D. S. (2010). Jalvayu Vigyan. Allahabad: Prayag Pustak Bhavan.
- Patterson, S. (1969). Introduction of Meteorology. London: McGraw-Hill Book Co.
- Sharma, R.C. & Vatel, M. (1970).Oceanography for Geographers. Allahabad: Chetnya Publishing House.
- Shepard, F.P. (1948). Submarine Geology. New York: Harper & Sons.
- Singh, S. (2010). Jalvayu Vigyan. Allahabad: Prayag Pustak Bhawan.
- Strahler, A.N. and Strahler, A.H. (2005). Modern Physical Geography. John Wiley & Sons. Revised edition.
- Stringer, E.T. (1982). Foundation of Climatology. Delhi: Surjeet Publications.
- Trewartha, G. T. and Horne, L. H. (1980). An Introduction to Climate. McGraw-Hill.
- Vatal, M. (1986). Bhautik Bhugol. Allahbad: Central Book Depot.
- Weisberg, J. and Howard. (1976). Introductory Oceanography. New York: McGraw Hill Book Co.

Pedagogy

For effective teaching and meaningful learning, weather charts be shown to students and

illustrations may be drawn from local/regional weather and climatic conditions throughout the course. Efforts should be made to drive home the relevance of climatology and oceanography for the life and activities of human beings.

GEO – 201 भौतिक भूगोल – II (जलवायु विज्ञान और समुद्र विज्ञान)

अधिकतम अंक : 75 **न्यूनतम अंक : 30**

श्रेय 03 **अवधि : 2½ घंटे**

क) जलवायु विज्ञान

इकाई –I

परिभाषा जलवायु विज्ञान; वायुमंडल का संघटन और संरचना; वायुमंडलीय तापमान: तापमान का लंबवत और क्षैतिज वितरण; वायु दाब और वायु दाब पेटियां; हवाएं: ग्रहीय, स्थायी और स्थानीय हवाएं; जलीय चक्र।

इकाई –II

वायु राशी; वाताग्र: अवधारणा, वर्गीकरण और गुण; चक्रवात: उष्णकटिबंधीय और शीतोष्ण चक्रवात; कोपेन और थॉर्नवेट का जलवायु वर्गीकरण।

ख) समुद्र विज्ञान

इकाई –III

समुद्र विज्ञान की परिभाषा; महासागरीय नितल के उच्चावच: अटलांटिक, प्रशांत और हिंद महासागर; तापमान और लवणता का वितरण; महासागरीय जल का परिसंचरण - धाराएँ: अटलांटिक, प्रशांत और हिंद महासागर; प्रवाल भित्तियाँ: प्रकार, डार्विन्स अवतलन सिद्धांत ।

सन्दर्भः–

- सविन्द्र सिंहः भौतिक भूगोल–वसुन्धरा प्रकाशन गोरखपुर (उ.प्र.)
- भावना माथुरः भौतिक भूगोल–कल्याणी प्रकाशन।
- नेगी, बी.एसःभू आकृति विज्ञान, रस्तोगी प्रकाशन, मेरठ।
- कौशिक, एस.डी : भू आकृति विज्ञान, रस्तोगी प्रकाशन, मेरठ।

GEO-202 HUMAN GEOGRAPHY

Max. Marks :75 **Min. Marks: 30**

Credit: 03 **Duration: 2 ½ hrs**

Learning Outcomes:

On successful completion of the Course the students will be able to:

1. Identify branches of human geography and distinguish between the different concepts of man – environment relationship.
2. Classify the different tribes of the world and use various factors to interpret the spatial distribution of population.
3. Visualize the various patterns of migration, settlements and summarize the major problems of urbanization in INDIA.

UNIT I

Nature, Scope; Concepts of man-environment relationship: Determinism, Possibilism, Neo-determinism; Races of Mankind.

Unit – II

Human Adaptation to the environment: (i) Cold region—Eskimo; (ii) Hot region Bushman, Beduin; (iii) Plateau—Masai; World's population: factors affecting, growth, density and spatial distribution; Concepts of over, under, optimum and Zero population growth.

Unit - III

Migration-Types; Griffith Taylor's Migration Zone Theory; Human Settlements: Site and Situation, House types (with special reference to India); Urbanization: factors affecting, associated problems.

Reference Books:

- Bergwan, Edward E. (1995). Human Geography: Culture, Connections and Landscape. New Jersey: Prentice-Hall.
- Carr, M. Patterns. (1987). Process and change in Human Geography. London: MacMillan Education.
- Chandna, R.C. (2010). Population Geography. New Delhi: Kalyani Publisher.
- DeBlij, H.J. (2000). Human Geography, Culture, Society and Space. New York: John Wiley.
- Fellman, J.L. (1997). Human Geography: Landscapes of Human Activities. USA: Brown and Benchman Pub.
- Hassan, M.I. (2005). Population Geography. Jaipur: Rawat Publications.
- Hussain, Majid (2012). Manav Bhugol. Jaipur: Rawat Publications.
- Johnston, R.J. (2000). Dictionary of Human Geography. New York: Oxford.
- Kaushik, S.D. (2010). Manav Bhugol. Meerut: Rastogi Publication.
- Maurya, S.D. (2012). Manav Bhugol. Allahbad: Sharda Pustak Bhawan.
- McBride, P.J. (2000). Human Geography Systems, Patterns and Change. U.K.
- Michael, Can. (1997). New Patterns: Process and Change in Human Geography.
- Singh, K.N. (2000). People of India. An Introduction Seagull Books.

Pedagogy

Students should be introduced to the exact form of many development - environment relationship though local level field visits. They should be encouraged to browse through census atlases and census data and the topographical sheets to understand various dimensions of population and settlements & their relationship with the terrain. They should be encouraged to write an essay on the human geography of their local areas to understand the multi dimensional nature of the subject. Students should be introduced to the exact form of complex relationship among environmental - activities (Place-work-folk) and through local level field-visits.

GEO – 202 मानव भूगोल

अधिकतम अंक: 75 **न्यूनतम अंक : 30**

श्रेय 03 **अवधि : 2½ घंटे**

ईकाई -I

प्रकृति, विषय क्षेत्र; मानव-पर्यावरण संबंध की अवधारणाएं: नियतवाद, संभववाद, नव- नियतवाद; मानव प्रजाति।

ईकाई -II

पर्यावरण के लिए मानव अनुकूलन: (i) **शीत क्षेत्र-एस्किमो**; (ii) **गर्म क्षेत्र बुशमैन, बद्दू**; (iii) **पठार-मसाई; विश्व की जनसंख्या: प्रभावित करने वाले कारक, वृद्धि, घनत्व और स्थानिक वितरण; जनाधिकाय, न्यून और शून्य जनसंख्या वृद्धि की अवधारणाएँ।**

ईकाई -III

प्रवासन-प्रकार; ग्रिफ़िथ टेलर का प्रवासन क्षेत्र सिद्धांत; मानव बस्तियाँ: स्थल और स्थिति, घर के प्रकार (भारत के विशेष संदर्भ में); नगरीयकरण: प्रभावित करने वाले कारक, संबंधित समस्याएं।

सन्दर्भः–

- डॉ. कौशिकःमानव भूगोल के सरल सिद्वान्त, रस्तोगी एण्ड कम्पनी, मेरठ।
- काशीनाथ सिंह एवं जगदीश सिंहः आर्थिक भूगोल के मूल तत्व, किताब महल इलाहाबाद।
- कांस्वा– मानव एवं पर्यावरण

GEO-203 PRACTICAL: SOCIO-ECONOMIC SURVEY

Max. Marks: 50 **Min Marks: 20**

Credits: 02 **Duration: 3 hrs**

Written Test	10 Marks
Field Survey	10 Marks
Record Work	20 Marks
Viva	10 Marks

Learning Outcomes:

On successful completion of the Course the student will be able to:

1. Critically appraise the socio-economic scenario of the surveyed area with graphical and diagrammatic representation of the demographic and economic data.
2. To hone & develop employability related skills for holistic development.

- Methods of Field work: Types of data, Techniques of primary data collection:
- Sampling, Preparation of a questionnaire. Significance of field work in Geographical studies.
- Conduct a socio-economic survey of the Village Households with the help of a questionnaire. Supplement the information by personal observations and perceptions.
- Based on the results of socio-economic and land use enquiry, prepare a Field Survey
- Report for the Village. Maps, diagrams, photographs and sketches should support the report.
- Cartography: Types of maps, graphical and diagrammatic representation of data.

Pedagogy: The students wiil be exposed to the specific field work. They will be motivated to collect data, compile and analyse data for the understanding of socio-economic issues.

GEO -203 प्रायोगिक: सामाजिक–आर्थिक सर्वेक्षण

अधिकतम अंक : 50 न्यूनतम अंक : 20

श्रेय 03 अवधि : 3 घंटे

Written Test	20 Marks
Record Work	10 Marks
Viva	10 Marks

फील्ड कार्य के तरीके: डेटा के प्रकार, प्राथमिक डेटा संग्रह की तकनीकें:

- **नमूनाकरण, प्रश्नावली तैयार करना। भौगोलिक अध्ययन में क्षेत्र कार्य का महत्व।**
- **प्रश्नावली की सहायता से ग्रामीण परिवारों का सामाजिक-आर्थिक सर्वेक्षण करें। व्यक्तिगत टिप्पणियों और और धारणाओं द्वारा जानकारी को पूरक करें।**
- **सामाजिक-आर्थिक और भूमि उपयोग जांच के परिणामों के आधार पर एक फील्ड सर्वेक्षण तैयार करें**
- **गांव के लिए रिपोर्ट। मानचित्रए आरेख, फोटोग्राफ और रेखाचित्रों को रिपोर्ट का समर्थन करना चाहिए।**
- **कार्टोग्राफी: मानचित्र के प्रकार, डेटा का चित्रमय और आरेखीय प्रतिनिधित्व।**

Course Structure in Semester – III

Compulsory

Paper Code	Nomenclature of the Paper	Credits	Total Marks		Max. Marks	Min. Marks	Duration
			CIA	ESE			
GEN-103	General Environmental	2	15	35	50	20	1 Hr.

Optional

Paper Code	Nomenclature of the Paper	Contact Hours Per Week	Credits	Total Marks		Max. Marks	Min. Pass Marks	Duration
				CIA	ESE			
Geo-301	Economic Geography-I	03	03	25	50	75	30	2½ hrs
Geo-302	Geography of India-I	03	03	25	50	75	30	2½ hrs
Geo-303	Practical: Interpretation of Topographical maps	04	02	10	40	50	20	3 hrs

GEN-103: Environmental Studies

Max. Marks: 50 **Min. Marks: 20**
Credit: 02 **Duration: 1 Hr.**

Unit I: Natural Resources

Renewable and Non-Renewable resources:

Natural resources and associated problems

a. Forest resources: Use and over exploitation, deforestations, case studies Timber extraction, mining , dams and their effects on forests and tribal people.
b. Water resources: Use and over utilization of surface and groundwater, floods, drought, conflict over water, dams – benefits and problems
c. Mineral resources: Use and exploitation , environmental effects of extracting and using mineral resources.
d. Energy resources : Growing energy needs, renewable and non renewable energy sources, use of alternate energy sources.
e. Land resources: Land as a resource, Land degradation, man induced landslides, soil erosion and desertification.

Role of an individual in conservation of natural resources
Equitable use of resources for sustainable lifestyles.

Unit II: Ecosystem

Concept of Ecosystem
Structure and function of an ecosystem
Producers, consumers and decomposers,
Energy flow in the eco system
Ecological succession
Food chains, food webs and ecological pyramids.
Virus - COVID
HIV / Aids – causes and precaution
Climate change, global warming, Acid Rain, Ozone layer depletion
Photochemical smog

Unit III: Biodiversity and its conservation

Introduction – Definition: genetics, species and ecosystem diversity
Value of biodiversity : consumptive use, productive use, social, ethical, aesthetic and option values
Hot spots of biodiversity
Threats to biodiversity: habitats loss, poaching of wildlife, man-wildlife conflicts
Endangered and endemic species of India
Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity

SGCA

Environmental Pollution

Causes , effects and control measures of:

a. Air pollution
b. Water pollution
c. Soil pollution
d. Noise pollution

GEN-103 : पर्यावरण विज्ञान

पूर्णांक : 50 **न्यूनतम : 20**
क्रेडिट : 02 **अवधि : 1 घंटे**

इकाई I - प्राकृतिक संसाधन

1. **नवीनकरण एवं अनवीनीकरण संसाधन : प्राकृतिक संसाधन एवं उससे संबंधित समस्याएँ**
2. **वन संसाधन** : उपयोग एवं अतिउपभोग , वनोन्मूलन केस अध्ययन , टिम्बर निभकर्भाण, खनन एवं उनके वनों एवं जन जातियों पर प्रभाव
3. **जलसंसाधन** : सतही एवं भूजल का उपयोग एवं अतिउपभोग , बाढ़ , सूखा, जल विवाद, बांधो की समस्याएं एवं लाभ |
4. **खनिज संसाधन** : उपयोग एवं अतिउपभोग , खनिज संसाधन के उपयोग एवं निभकर्भा के पर्यावरणीय प्रभाव, केस अध्यन |
5. **ऊर्जा संसाधन** : बढ़ती हुई ऊर्जा आव यकताएँ, नवीनीकरण एवं अनवीनीकरण ऊर्जा संसाधन , ऊर्जा संसाधनों का वेकल्पिक उपयोग केस अध्यन |
6. **भूसंसाधन** : भूमि एक संसाधन , भूअपघटन , मानवजनित भूसखलन मृदा अपरदन एवं मरुस्थलीकरण , प्रकृतिक संसाधनों के संरक्षण में व्यक्तिक भूमिका सतत जीवनचर्या के लिए संसाधनों का उपयुक्त उपयोग |

इकाई II – पारिस्थितिकी तंत्र

1. पारिस्थितिकी तंत्र की अवधारणा |
2. पारिस्थितिकी तंत्र की संरचना एवं कार्यप्रणाली |
3. उत्पादक , उपभोक्ता, अपघटक |
4. पारिस्थितिकी तंत्र में ऊर्जा प्रवाह |
5. पारिस्थितिकी अनुक्रमण |
6. खाद्य श्रृंखला , खाद्यजाल, एवं पारिस्थितिकी स्तूप |
7. **विषाणु**- COVID
8. एच आई वी/ एड्स ;कारण और पूर्वाधानद्ध
9. जलवायु परिवर्तन, वैविक ताप वृद्धि, अम्लवर्भा, ओजोनपरत क्षरण
10. फोटोकेमीकल स्मॉग |

इकाई III – जैव विविधता एव संरक्षण

1. परिचय – परिभाभा, जीनीय, प्रजातीय एवं पारिस्थितिकी विविधता |
2. जैवविविधता का महत्व, उपभोगीय उपयोगिता, उत्पादकीय उपयोगिता, सामाजिक नैतिक सौन्दर्य बोध एवं वैकल्पिक मूल्य |
3. जैवविविधता के तप्तस्थल |
4. जैवविविधता के खतरे : आवासक्षय, वन्यप्राणीयों का विकार , मानव वन्यप्राणियों के बीच विरोधाभास |
5. भारत की विलुप्तप्राय एवं स्थानिक प्रजातियाँ |
6. जैव विविधता का संरक्षण : स्व स्थानीय एवं पूर्व स्थानी संरक्षण |
7. परिभाभा, कारण, प्रभाव एवं नियंत्रण उपाय |
   - वायु प्रदूभाण
   - जल प्रदूभाण
   - मृदा प्रदूभाण
   - ध्वनि प्रदूभाण

GEO-301 ECONOMIC GEOGRAPHY-I

Max. Marks :75 **Min. Marks: 30**
Credit: 03 **Duration:2 ½ hrs**

Learning Outcomes:

On successful completion of the Course the student will be able to:

1. Analyze the impact of economic activities on environment.
2. Classify the different types of resources and practice conservation with possible solutions.
3. Critically evaluate the land use by location theory of Von Thunen and compare agricultural regions of the world.
4. Build competency and academic excellence for competition exams.
5. Hone & develop employability related skills for holistic development.

UNIT I

Introduction: Definition, Nature, Scope, its recent trends, its relation with allied subjects; Classification of economies-primary, secondary, tertiary

UNIT – II

Natural Resource Classification: Soil, Water and Forest as a Resource: Major Classification of Soils and Forests in the World.

UNIT – III

Agriculture: Concept of Land use; Agricultural Land Use Model of Von- Thunen; Major crops- rice, wheat, sugarcane, cotton, tea, coffee and rubber: essential conditions, world distribution and production. Whittlesey's classification of World Agricultural types; Food Security.

Reference Books:

- Alexander J. W. (1963). Economic Geography. Prentice-Hall Inc. New Jersey: Englewood Cliffs.
- Bagchi, S. and Smith H. L. (2006) Economic Geography. Past, Present and Future, Taylor and Francis.
- Clark, Gordon L., Feldman, M.P. and Gertler, M.S. (2000). The Oxford.
- Coe N. M., Kelly P. F. and Yeung H. W. (2007). Economic Geography. A Contemporary Introduction, Wiley-Blackwell.
- Combes, P.Mayer T. and Thisse, J. F. (2008). Economic Geography: The Integration of Regions and Nations, Princeton University Press.
- Durand L. (1961). Economic Geography. Crowell.
- Gautam, A. (2006). Aarthik Bhugol Ke Mool Tattava. Allahabad: Sharda Pustak Bhawan.
- Hartshorne. T.N. and Alexander. J.W. (1988). Economic Geography. New Delhi: Prentice Hall,
- Hodder B. W. and Roger, L. (1974). Economic Geography. Taylor and Francis.
- Siddhrath K. (2016). Economic geography. Delhi: Kitab mahal publication .
- Singh Kashi Nath and Siddiqui Ar. (2000). Economic Geography. Pragay Pustak Bhawan.
- Wheeler J. O. (1998) Economic Geography. Wiley.
- Willington D. E. (2008) Economic Geography. Husband Press.

Pedagogy

The students should be taken to the field to identify the economic activities practiced by people-may be in agriculture, industry, trade and commerce. The factors of localization may be explained to the students citing local examples. The students should be encouraged to consult current journals and magazines from library.

GEO- 301 आर्थिक भूगोल– I

अधिकतम अंक : 75 न्यूनतम अंक : 30

श्रेय 03 अवधि : 2½ घंटे

ईकाई I

परिचय: परिभाषा, प्रकृति, विषय क्षेत्र, नवीन प्रवृत्तियां, संबद्ध विषयों के साथ इसका संबंध; अर्थव्यवस्थाओं का वर्गीकरण-प्राथमिक, द्वितीयक, तृतीयक

ईकाई II

प्राकृतिक संसाधन वर्गीकरण: एक संसाधन के रूप में मिट्टी, जल और वन: विश्व में मिट्टी और वनों का प्रमुख वर्गीकरण।

ईकाई III

कृषि: भूमि उपयोग की अवधारणा; वॉन-थुनेन का कृषि भूमि मॉडल; प्रमुख फसलें- चावल, गेहूं, गन्ना, कपास, चाय, कॉफी और रबर: आवश्यक परीस्थिति, विश्व वितरण और उत्पादन। विश्व कृषि प्रकारों का व्हिट्लेसी का वर्गीकरण; खाद्य सुरक्षा।

सन्दर्भः–

- काशीनाथ सिंह : आर्थिक भूगोल के तत्व, वसुन्धरा प्रकाशन, गोरखपुर।
- पुरूषोत्तम जैन आर्थिक भूगोल, रस्तोगी प्रकाशन मेरठ।
- नेगी, वी.एस. : संसाधन भूगोल।

GEO-302 GEOGRAPHY OF INDIA-I

Max. Marks :75 **Min. Marks: 30**
Credit: 03 **Duration: 2 ½ hrs**

Learning Outcomes:

On successful completion of the Course the student will be able to:

1. Identify physiographic regions of India and schematize the river systems of India.
2. Describe factors affecting Indian monsoon system.
3. Classify the major metallic and non metallic minerals of India.
4. Build competency and academic excellence for competition exams.

UNIT I

India: Physiographic Division; Drainage: Himalayan and Peninsular River Systems.

UNIT-II

Regional and seasonal variations of climate – Monsoon: Factors Affecting, Role of Jet Streams, El-Nino, La-Nina; Climatic regions of India; Soil types, their distribution; Vegetation: types, distribution and conservation.

UNIT-III

Major Minerals: Metallic-Iron, Manganese, Copper, Bauxite, Gold; Non-Metallic Minerals - Mica, Limestone; Atomic Minerals and Conservation.

Reference Books:

- Deshpande, C. D. (1992). India. A Regional Interpretation. New Delhi: ICSSR.
- Johnson, B. L. C., ed. (2001). Geographical Dictionary of India. Vision Books, New Delhi.
- Mandal, R. B. (1990). Patterns of Regional Geography. An International Perspective. Vol. 3 – Indian Perspective.
- Galina, S. and Sengupta, P. (1967). Economic Regionalization of India. Census of India
- Sharma, T. C. (2003). India: Economic and Commercial Geography. New Delhi: Vikas Publ.
- Singh R. L. (1971) India: A Regional Geography, National Geographical Society of India.
- Singh, Jagdish (2003) India: A Comprehensive & Systematic Geography. Gorakhpur: Gyanodaya Prakashan.
- Spate, O. H. K. and Learmonth, A. T. A. (1967). India and Pakistan: A General and Regional Geography. Methuen.
- Tirtha, Ranjit (2002). Geography of India. Jaipur: Rawat Publications.
- Pathak, C. R. (2003). Spatial Structure and Processes of Development in India. Kolkata: Regional Science Association.
- Tiwari, R.C. (2007). Geography of India. Allahabad: Prayag Pustak Bhawan.
- Sharma, T.C. (2013). Economic Geography of India. Jaipur: Rawat Publication.

Pedagogy: Large-scale maps and illustrations through slide projectors/epidiascope, video-shows of the specific themes are advisable to create interest amongst the students. The student teacher interaction should be encouraged. The students should also be motivated to read daily newspapers to relate events, areas and places from regional geographical perspective.

GEO- 302 भारत का भूगोल- I

अधिकतम अंक : 75 न्यूनतम अंक : 30

श्रेय : 03 अवधि : 2½ घंटे

ईकाई I

भारत: भौतिक विज्ञान विभाग; प्रवाह तंत्र: हिमालय और प्रायद्वीपीय नदी प्रणाली।

ईकाई II

जलवायु के क्षेत्रीय और मौसमी बदलाव - मानसून: प्रभावित करने वाले कारक, जेट धाराओं की भूमिका, अल-नीनो, ला-नीना; भारत के जलवायु क्षेत्र; मिट्टी के प्रकार, उनका वितरण; वनस्पति: प्रकार, वितरण और संरक्षण।

ईकाई III

प्रमुख खनिज: धातु खनिज-लौह, मैंगनीज, तांबा, बॉक्साइट, सोना; गैर धातु खनिज - अभ्रक, चूना पत्थर; परमाणु खनिज और संरक्षण।

सन्दर्भः–

- वी.के तिवारी : भारत का वृहत भूगोल, हिमालय पबलिकेशन।
- मामोरिया एवं जैन : भारत का वृहत भूगोल, साहित्य भवन, आगरा।
- सुरेश चन्द्र बंसल, भारत का वृहत भूगोल।

GEO-303 PRACTICAL: INTERPRETATION OF TOPOGRAPHICAL MAPS

Max. Marks: 50 **Min Marks: 20**

Credits: 02 **Duration: 3 hrs**

Written Test	20 Marks
Lab Work	10 Marks
Record Work	10 Marks
Viva	10 Marks

Learning Outcomes:

On successful completion of the Course the student will be able to:

1. Develop understanding of the Topographical landscapes in consonance to Survey of India Toposheets and asses their regional differentiations.
2. Hone & develop employability related skills for holistic development.

Interpretation of Topographical Map.

a. Primary Information (About Indexing, latitude and longitude explanations and administrative setup)

b. Arrangement and Identification of Toposheets of India.

c. Conventional signs and symbols;

d. Methods of representing relief on map contours level colouring spot heights, benchmarks.

e. Identification of relief features on a map through contours –conical hill, plateau, ridge, v-shaped valley, escarpment, cliff, waterfall, types of slopes (uniform, undulating, convex and concave, gentle and steep); Interpretation of Relief, Drainage, Settlements, Land-use, Vegetation and Transport network on Toposheets.

Pedagogy: The elements of practical geography will be conveyed to students through charts, map and diagrams for effective learning. Stuents will be making a practical file abd will learn to use instruments available in the geography lab.

GEO- 303 प्रायोगिक: स्थलाकृतिक मानचित्रो का अध्ययन

अधिकतम अंक : 50 न्यूनतम अंक : 20

श्रेय : 02 अवधि : 3 घंटे

Written Test	20 Marks
Record Work	10 Marks
Viva	10 Marks

स्थलाकृतिक मानचित्र की व्याख्या।

1. प्राथमिक जानकारी (इंडेक्सिंग, अक्षांश और देशांतर स्पष्टीकरण और प्रशासनिक सेटअप के बारे में)
2. भारत की टोपोशीट की व्यवस्था और पहचान।
3. पारंपरिक संकेत और प्रतीक;
4. मानचित्र पर राहत का प्रतिनिधित्व करने के तरीके समोच्च स्तर रंग स्पॉट ऊंचाई, बेंचमार्क।
5. आकृति के माध्यम से मानचित्र पर राहत सुविधाओं की पहचान - शंक्वाकार पहाड़ी, पठार, रिज, v-आकार की घाटी, ढलान, चट्टान, झरना, ढलानों के प्रकार (समान, लहरदार, उत्तल और अवतल, कोमल और खड़ी); राहत, जल निकासी, बस्तियों, भूमि उपयोग की व्याख्या,Toposheets पर वनस्पति और परिवहन नेटवर्क।

Course Structure in Semester – IV

Paper Code	Nomenclature of the Paper	Contact Hours Per Week	Credits	Total Marks		Max. Marks	Min. Pass Marks	Duration
				CIA	ESE			
Geo-401	Economic Geography –II	03	03	25	50	75	30	2½ hrs
Geo-402	Geography of India- II	03	03	25	50	75	30	2½ hrs
Geo-403	Practical: Map Projections	04	02	10	40	50	20	3 hrs

GEO-401 ECONOMIC GEOGRAPHY-II

Max. Marks: 75 **Min. Marks: 30**
Credit: 03 **Duration: 2 ½hrs**

Learning Outcomes:

On successful completion of the Course the student will be able to:

1. Categorize ferrous and non ferrous minerals and identify their distribution on a world map.
2. Relate factors affecting localization of industries and discuss the major industries of the world.
3. Identify the influence of geographical factors in the development of trade and transport.
4. Build competency and academic excellence for competition exams.
5. Hone & develop employability related skills for holistic development.

UNIT I

Minerals: Ferrous and Non-Ferrous - major distribution and production (Iron ore, Manganese, Aluminum, Bauxite, Copper, Mica and Gold); Power Resources: Coal, Petroleum, Natural Gas, Atomic Energy, Solar, Tidal, Wind and Hydroelectricity.

UNIT – II

Classification on the basis of raw material, size and ownership; Major industries of the world- Iron and steel, Textile-Cotton and Woolen, Chemicals, Cement, Paper, Ship Buildings.

UNIT – III

Transport: Factors affecting, Major water, land and air transport; Impact of COVID on global economy.

Reference Books:

- Alexander, J. W. (1988). Economic Geography. New Delhi: Prentice-Hall.
- Bryson, J., Henry, N., Keeble, D. and Martin, R. (eds.) (1999). The Economic Geography Reader: Producing and Consuming Global Capitalism. John Wiley and Sons.
- Clark,G. L., Gertler, M. S. and Feldman, M. P. (eds.) (2000). The Oxford Handbook of Economic Geography. Oxford University Press, USA.
- Coe, N. (2007). Economic Geography. A Contemporary Introduction. Massachusetts: Blackwell Publishers. Inc.
- Gautam, A. (2006). Aarthik Bhugol Ke Mool Tattava. Allahabad: Sharda Pustak Bhawan.
- Guha, J. S. and Chattoraj, P.R. (2002). A New Approach to Economic Geography: A Study of Resources. Kolkata: The World Press Private Limited.
- Hanink, D. M. (1997). Principles and Applications of Economic Geography: Economy, Policy, Environment. New York: John Wiley and Sons. Inc.
- Hartshorne, T. A. and Alexander, J. W. (1988). Economic Geography (3rd revised edition) Englewood Cliff, New Jersey:Prentice Hall .
- Hudson, R. (2005).Economic Geographies. Circuits, Flows and Spaces. London: Sage Publications.
- Knowles, R, Wareing, J. (2000). Economic and Social Geography Made Simple. New Delhi: Rupa and Company.
- Sokal, Martin (2011). Economic Geography of Globalization: A short Introduction. Cheltenham, UK: Edward Elgar.

Pedagogy : The students should be taken to the field to identify the economic activities practiced by people-may be in agriculture, industry, trade and commerce. The factors of localization may be explained to the students citing local examples. The students should be encouraged to consult current journals and magazines from library.

GEO- 401 आर्थिक भूगोल – II

अधिकतम अंक : 75 न्यूनतम अंक : 30

श्रेय 03 अवधि : 2½ घंट

ईकाई I

खनिज: लौह और अलौह - प्रमुख वितरण और उत्पादन (लौह अयस्क, मैंगनीज, एल्यूमीनियम, बॉक्साइट, तांबा, अभ्रक और सोना); विद्युत संसाधन: कोयला, पेट्रोलियम, प्राकृतिक गैस, परमाणु ऊर्जा, सौर, ज्वार, पवन और जलविद्युत।

ईकाई II

कच्चे माल, आकार और स्वामित्व के आधार पर वर्गीकरण; विश्व के प्रमुख उद्योग- लोहा और इस्पात, कपड़ा-सूती और ऊनी, रसायन, सीमेंट, कागज, जहाज निर्माण।

ईकाई III

परिवहन: प्रभावित करने वाले कारक, प्रमुख जल, भूमि और वायु परिवहन; वैश्विक अर्थव्यवस्था पर COVID **का प्रभाव ।**

सन्दर्भः–

- काशीनाथ सिंह : आर्थिक भूगोल के तत्व, वसुन्धरा प्रकाशन, गोरखपुर।
- पुरूषोत्तम जैन आर्थिक भूगोल, रस्तोगी प्रकाशन मेरठ।
- नेगी, वी.एस. : संसाधन भूगोल।

GEO-402 GEOGRAPHY OF INDIA-II

Max. Marks :75 **Min. Marks: 30**

Credit: 03 **Duration: 2 ½hrs**

Learning Outcomes:

On successful completion of the Course the student will be able to:

1. Identify conventional and non conventional sources of energy.
2. Classify major industrial regions and major crops of India.
3. Interpret the spatial distribution pattern of population in India and classify planning regions.

4. Build competency and academic excellence for competition exams.

UNIT I

Conventional sources of energy: Coal, Petroleum, Natural Gas (Origin, Distribution and Production); Non-Conventional Sources of Energy: Solar, Wind, Tidal and Bio Gas, Nuclear Energy- Distribution and Production, their conservation.

UNIT-II

Agricultural Crops: Rice, Wheat, Sugar Cane, Cotton, Jute, Tea, Coffee (Essential conditions required and their production); Green Revolution; Industries: Iron and steel, textile, cement, paper and pulp; Major Industrial regions of India.

UNIT-III

Population: distribution, growth and density; Urbanization: Smart city concept; National Population Policy of India, Impact of Covid in India on labour migration.

Reference Books:

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

Pedagogy : Large-scale maps and illustrations through slide projectors/epidiascope, video-shows of the specific themes are advisable to create interest amongst. The students. The student teacher interaction should be encouraged. The students should also be motivated to read daily newspapers to relate events, areas and places from regional geographical perspective.

GEO- 402 भारत का भूगोल II

अधिकतम अंक : 75 न्यूनतम अंक : 30

श्रेय : 03 अवधि : 2½ घंट

ईकाई-I

ऊर्जा के पारंपरिक स्रोत: कोयला, पेट्रोलियम, प्राकृतिक गैस (उत्पत्ति, वितरण और उत्पादन); ऊर्जा के गैर पारंपरिक स्रोत: सौर, पवन, ज्वार और जैव गैस, परमाणु ऊर्जा- वितरण और उत्पादन, उनका संरक्षण।

ईकाई-II

कृषि फसलें: चावल, गेहूं, गन्ना, कपास, जूट, चाय, कॉफी (आवश्यक परिस्थितियाँ और उनका उत्पादन); हरित क्रांति; उद्योग: लोहा और इस्पात, कपड़ा, सीमेंट, कागज और लुगदी; भारत के प्रमुख औद्योगिक क्षेत्र।

ईकाई-III

जनसंख्या: वितरण, विकास और घनत्व; शहरीकरण: स्मार्ट सिटी अवधारणा; भारत की राष्ट्रीय जनसंख्या नीति, श्रमिक प्रवास पर भारत में कोविड का प्रभाव।

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सन्दर्भः–

- वी.के तिवारी : भारत का वृहत भूगोल, हिमालय पबलिकेशन।
- मामोरिया एवं जैन : भारत का वृहत भूगोल, साहित्य भवन, आगरा।
- सुरेश चन्द्र बंसल, भारत का वृहत भूगोल।

GEO-403 PRACTICAL: MAP PROJECTIONS

Max. Marks: 50 **Min Marks: 20**
Credits: 02 **Duration: 3 hrs**

Written Test	20 Marks
Lab Work	10 Marks
Record Work	10 Marks
Viva	10 Marks

Learning Outcomes:

On successful completion of the Course the student will be able to:

1. Enhance the knowledge about the size and shape of the Earth
2. Know Mathematical references to locate points on the Earth surface.
3. Classify map projections and explain the use of particular projections for mapping purposes.
4. Build competency and academic excellence for competition exams.
5. Hone & develop employability related skills for holistic development.

Map projections:

1. Maps – Grids of latitude and longitudes.
2. The globe and maps – their merits and demerits.
3. Classification of map projections.
4. Map projection –Basis, identification and uses:

(a) Zenithal Equi-distant, Equal area, Orthographic, Stereographic, Gnomonic Projection

(b) Cylindrical Equal – Area, Equi- distant, Mercator's Projection.

(c) Conical Projection with one standard parallel.

Reference Books:

- Gupta, K.K. and Tyagi, V. C. (1992) Working with Map. New Delhi: Survey of India. DST.
- Mishra, R.P. and Ramesh, A. (1989) Fundamentals of Cartography. New Delhi: Concept.
- Monkhouse, F. J. and Wilkinson, H. R. (1973). Maps and Diagrams. London: Methuen.
- Rhind, D. W. and Taylor, D. R. F., (eds.) (1989) Cartography: Past, Present and Future. International Cartographic Association.
- Robinson, A. H. (2009). Elements of Cartography. New York: John Wiley and Sons.
- Sarkar, A. (2015). Practical geography. A systematic approach. New Delhi: Orient Black Swan Private Ltd.
- Sharma J. P. (2010). Prayogic Bhugol. Meerut: Rastogi Publishers.
- Sharma, J P. (2010). Prayogtmak Bhugol ki Rooprekha. Meerut:
- Rastogi Publications.
- Singh, R. L. & Dutta, P. K. (2012) Prayogatmak Bhugol. Allahabad:
- Central Book Depot.
- Singh, R. L. & Rana, P. B. (1991). Prayogtmak Bhugol ke Mool Tatva. New Delhi: Kalyani Publishers.
- Singh R. L. and Singh R. P. B. (1999). Elements of Practical Geography. Kalyani Publishers.

Pedagogy: The elements of practical geography will be conveyed to students through charts, map and diagrams for effective learning. Stuents will be making a practical file abd will learn to use instruments available in the geography lab.

GEO – 403 प्रायोगिक: मानचित्र प्रक्षेपण

अधिकतम अंक : 50 न्यूनतम अंक : 20

श्रेय 03 अवधि : 3 घंटे

Written Test	20 Marks
Record Work	10 Marks
Viva	10 Marks

मानचित्र प्रक्षेप:

1. मानचित्र - अक्षांश और देशांतर के ग्रिड।
2. ग्लोब और मानचित्र - उनके गुण और अवगुण।
3. मानचित्र अनुमानों का वर्गीकरण।
4. मानचित्र प्रक्षेपण-आधार, पहचान और उपयोग:

   क) जेनिथल इक्वि-दूर, समान क्षेत्र, ऑर्थोग्राफिक, स्टीरियोग्राफिक, ग्नोमोनिक प्रक्षेपण

   ख) बेलनाकार समान - क्षेत्र, सम-दूरी, मर्केटर का प्रक्षेपण।

   ग) एक मानक समानांतर के साथ शंक्वाकार प्रक्षेपण।

Course Structure in Semester – V

Paper Code	Nomenclature of the Paper	Contact Hours Per Week	Credits	Total Marks		Max. Marks	Min. Pass Marks	Duration
				CIA	ESE			
GEO-501	Environmental Geography	03	03	25	50	75	30	2½ hrs
GEO-502	**A.** Regional Geography of The World - I (Asia, Europe & Australia) **OR** **B.** Regional Geography of South Asia-I	03	03	25	50	75	30	2½ hrs
GEO-503	Plane table Survey and Prismatic Compass Survey	04	02	10	40	50	20	3 hrs

GEO-501 ENVIRONMENTAL GEOGRAPHY

Max. Marks :75 **Min.Marks:30**

Credit : 03 **Duration: 2 ½hrs**

Learning Outcomes:

On successful completion of the Course the student will be able to-

1. Recall and relate the elements of environment which are impacting the climate and present surroundings.
2. Justify the fundamentals of ecology and the dynamic ecosystem.
3. Prioritize the importance and the need to conserve biodiversity.
4. Build competency and academic excellence for competition exams.

UNIT I

Definition, Scope and Importance of Environment Geography; Elements of Environment: Physical and Cultural; Relation between Man and Nature; Deforestation, Forest policy of India.

UNIT - II

Water as a Resource: Surface and Ground water, its use and over-utilization; Disasters related: Floods, Drought, Dams- Case study of Kariba dam (Zimbabwe) and Tehri dam (India); Environmental effects of extracting and using mineral resources.

UNIT - III

Energy as a Resource: Renewable and Non-Renewable; Land as a Resource; Soil erosion and Desertification; Development of non conventional energy resources according to five-year plans in India.

Reference Books:

- Chandna, R. C. (2002). Environmental Geography. Ludhiana: Kalyani.

- Gautam, A. (2013). Environmental geography. Allahabad: Sharda pustak bhawan.
- Mal, Suraj. and Singh, R.B. (2009). Biogeography and Biodiversity. Jaipur: Rawat Publication.
- Singh, Savindra (2001) Paryavaran Bhugol. Allahabad : Prayag Pustak Bhawan (in Hindi)
- Singh, S. (1997). Environmental Geography. Allahabad: Prayag Pustak Bhawan.
- UNEP. (2007). Global Environment Outlook: GEO4: Environment For Development, United Nations Environment Programme.

Pedagogy : The students are sensitized towards nature conservation and environmental protection. They are made aware about the resource available to mankind and their justifiable use. The major issues related to pollution and resource depletion and anthropogenic impact on natural environment are discussed giving relevant examples.

GEO 501 पर्यावरण भूगोल

अधिकतम अंक : 75 **न्यूनतम अंक : 30**

श्रेय : 03 **अवधि : 2½ घंटा**

इकाई– I

पर्यावरण भूगोल की परिभाषा, विषय क्षेत्र और महत्व; पर्यावरण के तत्व: भौतिक और सांस्कृतिक; मनुष्य और प्रकृति के बीच संबंध; वनोन्मूलन, भारत की वन नीति।

इकाई– II

संसाधन के रूप में जल: सतही और भूजल, इसका उपयोग और अधिक उपयोग; आपदा संबंधित: बाढ़, सूखा, बांध-करिबा बांध (जिम्बाब्वे) और टिहरी बांध (भारत) का अध्ययन; खनिज संसाधनों का निष्कर्षण और उपयोग के पर्यावरणीय प्रभाव।

इकाई– III

संसाधन के रूप में ऊर्जा: नवीकरणीय और गैर-नवीकरणीय; संसाधन के रूप में भूमि; मृदा अपरदन और मरुस्थलीकरण; भारत में पंचवर्षीय योजनाओं के अनुसार गैर-पारंपरिक ऊर्जा संसाधनों का विकास।

सन्दर्भः–

- सवेन्द्र सिंह : पर्यावरण भूगोल, इलाहाबाद।
- अलका गौतम : पर्यावरण भूगोल।
- बाकरे, बाकरे एवं वाधवा : पर्यावरण अध्ययन, रस्तोगी प्रकाशन, मेरठ।
- तेली, बी.एल एवं नाटाणी : पर्यावरण अध्ययन, कॉलेज बुक डिपो जयपुर।

GEO-502 : (A) - Regional Geography of World- I (Asia, Europe And Australia)

Max. Marks : 75 **Min. Marks: 30**

Credit: 03 **Duration: 2 ½ hrs**

Learning Outcomes:

On successful completion of the Course the student will be able to-

1. Develop geographical understanding of Asia and analyze its economic development.
2. Develop geographical understanding of Europe and analyze its economic development.
3. Develop geographical understanding of Australia and analyze its economic development.
4. Build competency and academic excellence for competition exams.

UNIT I

Asia: Major Physiographic Divisions; Drainage : Yangtze, Hwang Ho, Mekong, Brahmaputra River Systems; Climate; Natural Vegetation; Agriculture Belts; Minerals: Iron, Copper, Zinc, Bauxite, Tin, Uranium, Limestone, Manganese; Power: Coal, Petroleum and Natural Gas; Industries: Iron and Steel, Engineering, , Sugar, Textiles; Spatial distribution of Population.

UNIT II

Europe: Major Physiographic Divisions; Drainage: Rhine, Volga, Danube, Thames River Systems; Climate; Natural Vegetation; Agriculture Belts; Minerals: Iron, Copper, Zinc, Bauxite, Uranium, Limestone, Manganese; Power: Coal, Petroleum and Natural Gas; Industries: Iron and Steel, Automobiles, Textiles, Chemical, Ship-building; Spatial distribution of Population.

UNIT II

Australia: Major Physiographic Divisions; Drainage: Murray & Darling River Systems; Climate; Natural Vegetation; Agriculture; Minerals: Iron, Copper, Zinc, Bauxite, Uranium, Gold; Power: Coal, Petroleum and Natural Gas; Industries: Iron and Steel, Dairy, Tourism; Spatial distribution of Population.

Reference Books:

- Blij, H. J. (1971). Geography: Regions and Concepts. John Wiley and Sons.
- Claval, P.L. (1998). An Introduction to Regional Geography. Oxford and Massachusetts: Blackwell Publishers.
- Friedmann, J. and Alonso, W. (1975). Regional Policy. Readings in Theory and Applications. Massachusetts: MIT Press.
- Gore, C. G., Köhler, G., Reich, U.P. and Ziesemer, T. (1996). Questioning Development; Essays on the Theory, Policies and Practice of Development Intervention. Metropolis: Marburg.
- Gore, C. G. (1984). Regions in Question: Space, Development Theory and Regional Policy. London: Methuen.
- Haynes, J. (2008). Development Studies. Polity Short Introduction Series.
- Johnson, E. A. J. (1970). The Organization of Space in Developing Countries. Massachusetts: MIT Press.
- Peet, R. (1999). Theories of Development. New York: The Guilford Press.
- Saxena, H.M. (2016). World Regional Geography. Jaipur: Rawat Publication.
- UNDP (2001-04). Human Development Report. Oxford University Press.
- World Bank (2001-05). World Development Report. New York: Oxford University Press.

Pedagogy : Large-scale maps and illustrations through slide projectors/epidiascope, video-shows of the specific themes are advisable to create interest amongst. the students. The student teacher interaction should be encouraged. The students should also be motivated to read daily newspapers to relate events, areas and places from regional geographical perspective.

GEO 502(A) विश्व का प्रादेशिक भूगोल– I (एशिया, यूरोप और ऑस्ट्रिया)

अधिकतम अंक : 75 **न्यूनतम अंक : 30**

श्रेय 03 **अवधि : 2½ घंटे**

इकाई– I

एशिया रू प्रमुख भौतिक विभाजन; प्रवाह तंत्र: यैंग्ट्सी, ह्वांग हो, मेकांग, ब्रह्मपुत्र नदी प्रणाली; जलवायु; प्राकृतिक वनस्पति; कृषि पेटी; खनिज: **लौह**, तांबा, जस्ता, बॉक्साइट, टिन, यूरेनियम, चूना पत्थर, मैंगनीज; ऊर्जा संसाधन: कोयला, पेट्रोलियम और प्राकृतिक गैस; उद्योग: **लौह** और इस्पात, इंजीनियरिंग, चीनी, कपड़ा; जनसंख्या का स्थानिक वितरण।

इकाई– II

यूरोपः प्रमुख भौतिक विभाजन; प्रवाह तंत्र: राइन, वोल्गा, डेन्यूब, **थेम्स** नदी प्रणाली; जलवायु; प्राकृतिक वनस्पति; कृषि पेटी; खनिज : लोहा, तांबा, जस्ता, बॉक्साइट, यूरेनियम, चूना पत्थर, मैंगनीज; ऊर्जा संसाधन : कोयला, पेट्रोलियम और प्राकृतिक गैस; उद्योग : **लौह** और इस्पात, ऑटोमोबाइल, कपड़ा, रसायन, जहाज निर्माण; जनसंख्या का स्थानिक वितरण।

इकाई– III

ऑस्ट्रेलिया : प्रमुख भौतिक विभाजन; प्रवाह तंत्र: मरे और डार्लिंग नदी प्रणाली; जलवायु; प्राकृतिक वनस्पति; कृषि; खनिज : **लौह**, तांबा, जस्ता, बॉक्साइट, यूरेनियम, सोना; ऊर्जा संसाधन : कोयला, पेट्रोलियम और प्राकृतिक गैस; उद्योग: **लौह** और इस्पात, डेयरी, पर्यटन; जनसंख्या का स्थानिक वितरण।

सन्दर्भः–

- डॉ. जगदीश सिंह एवं डॉ. वी.पी. राव. तीन दक्षिणी महाद्वीप, वसुन्धरा प्रकाशन, गोरखपुर।
- निगम एम.एन : तीन दक्षिणी महाद्वीप।
- एम.एस.डी. कौशिक : भौगोलिक विचारधाराएं एवं विधि तंत्र।
- बनवारी लालः उत्तरी अमेरिका का भूगोल।

GEO-502(B) REGIONAL GEOGRAPHY OF SOUTH ASIA-I

Max. Marks :75 **Min. Marks: 30**
Credit: 03 **Duration: 2 ½hrs**

Learning Outcomes:

On successful completion of the Course the student will be able to-

1. Develop geographical understanding of Physiography and climate of South Asia.
2. Develop geographical understanding of demography of South Asia.
3. To develop the understanding of migration and urbanization in South Asia.
4. Build competency and academic excellence for competition exams.

UNIT I

Delimiting the south Asian Countries, major physiographic units, drainage, climate, soils, natural vegetation.

UNIT II

Population growth density and distribution, Demographic Characteristics sex ratio, birth-rates, death-rates, infant mortality rates, literacy rates, rural-urban proportion.

UNIT III

Urbanization and growth of cities, internal and International migrations, Factors responsible for the migration and consequences of migration.

Reference Books:

- Cressey G. B. (1951): Asia's Land and Peoples, Mcgraw Hill Book Company
- Farmer B. H. 91983): Introduction of south Asia, Methuen, London.
- Johnson B. L. C. (1983): South Asia, Meinmenn Education Book Ltd., London.
- Robinson H (1978): Monsoon Asia, Mac Donald & Evans Ltd., Estever.
- Spate O. H. K (1972): India, Pakistan and Ceylon, Methuen, London.

Pedagogy: Large-scale maps and illustrations through slide projectors/epidiascope, video-shows of the specific themes are advisable to create interest amongst. the students. The student teacher interaction should be encouraged. The students should also be motivated to read daily newspapers to relate events, areas and places from regional geographical perspective.

GEO 502(B) दक्षिण एशिया का प्रादेशिक भूगोल – I

अधिकतम अंक: 75 **न्यूनतम अंक: 30**
श्रेय 03 **अवधि : 2½ घंटे**

इकाई– I

दक्षिण एशियाई देशों का परिसीमन, प्रमुख भौतिक इकाइयों, **प्रवाह**, जलवायु, मिट्टी, प्राकृतिक वनस्पति ।

इकाई– II

जनसंख्या वृद्धि, घनत्व और वितरण, जनसांख्यिकीय लक्षण लिंग अनुपात, जन्म–दर, मृत्यु–दर, शिशु मृत्यु दर, साक्षरता दर, ग्रामीण–शहरी अनुपात ।

इकाई– III

शहरीकरण और शहरों का विकास, आंतरिक और अंतर्राष्ट्रीय प्रवास, प्रवासन के परिणाम और **उत्तरदायी** कारक। कारक।

सन्दर्भः–

- निगम एम.एन : तीन दक्षिणी महाद्वीप।

- एम.एस.डी. कौशिक : भौगोलिक विचारधाराएं एवं विधि तंत्र।

GEO-503 Practical: Plane Table Survey And Prismatic Compass Survey

Max. Marks: 50 **Min Marks: 20**
Credits: 02 **Duration: 3 hrs**

Written Test	20 Marks
Field Work	10 Marks
Record Work	10 Marks
Viva	5+5 = 10 Marks

Learning Outcomes:
On successful completion of the Course the student will be able to-

1. Demonstrate survey techniques of creating field plans using Plane table and prismatic compass survey method.
2. Hone & develop employability related skills for holistic development.

Field Surveys:
Plane table Survey: Importance, Instruments used, Methods: Radiation, Intersection, Resection (Two- and Three-point Problems). Mechanical method, Llano's, Bessel's and Trial and Error.
Prismatic Compass Survey: Importance, Instruments used, Methods: Radiation, Intersection, Traversing (Open and Closed), Correction of Bearing and Removal of closing error- Bowditch.
*Note: Student has to complete three exercises of field survey with at least 10 objects each.

Reference Books:

- Misra, R.P. & Ramesh, (1986). Fundamentals of Cartography. New Delhi: McMillan Co.
- Pal, S.K. (1998). Statistics for Geoscientists Techniques & Applications. New Delhi.
- Robinson, A.H. et al. (1995). Elements of Cartography. U.S.A.: John Wiley & Sons.
- Sarkar, A.K. (1997). Practical Geography: A Systematic Approach. Calcutta: Oriental Longman.
- Singh, R.L. (2014). Elements of Practical Geography. Kalyani Publications.
- Sharma, J.P. (2014). Practical Geography. Rastogi Publication.

Pedagogy: The elements of practical geography will be conveyed to students through charts, map and diagrams for effective learning. Stuents will be making a practical file abd will learn to use instruments available in the geography lab.

GEO-503 प्रायोगिक: सम–पटल और प्रिज्मीय कम्पास सर्वेक्षण

अधिकतम अंक: 50 **न्यूनतम अंक: 20**

श्रेय 03 **अवधिः 3 घंटे**

Written Test	20 Marks
Record Work	10 Marks
Viva	10 Marks

सम–पटल सर्वेक्षण : विकिरण विधि, प्रतिच्छेदन एवं पुनःस्थिति निर्धारण– द्विबिन्दु एवं त्रिबिन्दु समस्याएँ, यांत्रिक विधियाँ, लानोज, बैसल, प्रयास व त्रुटि सुधार विधि।
प्रिज्मीय कम्पास सर्वेक्षण : महत्व, उपकरण विधियाँ– विकिरण, प्रतिच्छेदन तथा चलन (बन्द एवं खुला चलन), दिकमानो का संशोधन एवं त्रुटि निवारण की विधियाँ– बाउडिच, आलेखी एवं गणितीय विधि, डब्ल्यू सी.बी, आर. बी. एवं अन्त ।

Course Structure in Semester – VI

Paper Code	Nomenclature of the Paper	Contact Hours Per Week	Credits	Total Marks		Max. Marks	Min. Pass Marks	Duration
				CIA	ESE			
GEO-601	Geographical Thoughts	03	03	25	50	75	30	2½ hrs
GEO-602	**A.** Regional Geography of The World–II (North America, South America & Africa) **OR** **B.** Regional Geography of South Asia-II	03	03	25	50	75	30	2½ hrs
GEO-603	Report writing based on Field Visits	04	02	10	40	50	20	3 hrs

GEO-601 GEOGRAPHICAL THOUGHTS

Max. Marks: 75 **Min. Marks: 30**
Credit: 03 **Duration: 2 ½ hrs**

Learning Outcomes:

On successful completion of the Course the student will be able to-

1. Know and understand Geography of Vedic Age.
2. Enumerate the contributions of Greek, Roman, Arab, French, German, British and American Geographers.
3. Critically examine the concept of Dualism in Geography.

UNIT I

The nature and scope of geography; Geography of Vedic and Puranic Age: Dwipa, Ocean, River and Mountain systems; Development of modern geography in India; Ancient classical Geography: Contribution of Greeks and Romans.

UNIT II

Dark Age; Contribution of Arab Geographers: Ibn-Batuta, Al-Biruni, Al-Masudi, Ibn-Khaldun and Al-Idrisi; German school of Geography: Contribution of Humboldt, Ritter and Ratzel; French School of Geography: Contribution of Blache and Brunhes; British and American school of Geography: Contribution of Mackinder, Herbertson, Miss E. Semple, Huntington and Davis.

UNIT III

Dualism in Geography: Determinism and Possibilism, Physical and Human, Systematic and Regional; Major concepts in Geography: Neo-Determinism, Terrestrial unity, Areal differentiation; Remote Sensing and GIS: Use and Importance.

Reference Books:

- Arentsen, M., Stam, R. and Thuijis, R. (2000). Postmodern Approaches to Space. ebook.
- Bhat, L.S. (2009) .Geography in India. (Selected Themes). Pearson.
- Bonnett, A. (2008).What is Geography?. Sage.
- Dikshit, R. D. (1997). Geographical Thought: A Contextual History of Ideas. Prentice– Hall India.
- Hartshone, R. (1959). Perspectives of Nature of Geography. Rand MacNally and Co.
- Holt-Jensen, A. (2011). Geography. History and its Concepts: A Students Guide. SAGE.
- Johnston, R. J., (Ed.). Dictionary of Human Geography. Routledge.
- Johnston, R. J. (1997) Geography and Geographers. Anglo-American Human Geography since 1945. London: Arnold.
- Kapur, A. (2001). Indian Geography Voice of Concern. Concept Publications
- Martin, G. J. (2005). All Possible Worlds: A History of Geographical Ideas. Oxford.
- Soja, E. (1989). Post-modern Geographies. Jaipur and New Delhi: Rawat Publications.

Pedagogy: Students should be acquainted with the different elements of geography, various philosphies and contributions made by various geographers of different schools. They should be motivated to interact amaongst themselves to explore more in geography.

GEO 601 भौगोलिक विचारधाराये

अधिकतम अंक: 75 **न्यूनतम अंक: 30**

श्रेय 03 **अवधि : 2½ घंटे**

इकाई– I

भूगोल की प्रकृति और विषय क्षेत्र; वैदिक और पुराणिक युग का भूगोल: द्वीप, महासागर, नदी और पर्वत प्रणाली ; भारत में आधुनिक भूगोल का विकास ; प्राचीन **प्रतिष्ठित** भूगोल: यूनानियों और रोमियों का योगदान।

इकाई– II

अंधकार युग ; अरब भूगोलवेत्ताओं का योगदान: इब्न–बतूता, अल–बिरूनी, अल–मसुदी, इब्न–खालदून और अल–इदरीसी ; भूगोल का जर्मन स्कूल: हम्बोल्ट, रिटर और रैटज़ेल का योगदान ; फ्रांसीसी भूगोल स्कूल: ब्लाश और ब्रुंश का योगदान ; ब्रिटिश एंड अमेरिकन स्कूल ऑफ़ जियोग्राफी: मैकिन्डर, हर्बरटसन, मिस ई. सेम्पल, हंटिंगटन और डेविस का योगदान।

इकाई– III

भूगोल में द्वैतवाद ;निश्चयवाद और संभववाद , भौतिक और मानव, व्यवस्थित और क्षेत्रीय; भूगोल में प्रमुख अवधारणाएँ : नव–निश्चयवाद, स्थलीय एकता, क्षेत्रीय विभिन्नता; रिमोट सेंसिंग और जीआईएस: उपयोग और महत्व।

सन्दर्भ:

- हुसैन माजिद : भौगोलिक विचारधाराओं का इतिहास, रावत पबलिकेशन, जयपुर।
- कौशिक, एस.डी : भौगोलिक विचारधारा एवं विधि तंत्र, रस्तोगी प्रकाशन, मेरठ।
- जैन, एस.एम : भौगोलिक चिन्तन का विकास, साहित्य भवन

GEO-602(A) Regional Geography of World-II (North America, South America And Africa)

Max. Marks :75 **Min. Marks: 30**

Credit: 03 **Duration: 2 ½hrs**

Learning Outcomes:

On successful completion of the Course the student will be able to-

1. Develop geographical understanding of North America and analyze its economic development.
2. Develop geographical understanding of South America and analyze its economic development.
3. Develop geographical understanding of Africa and analyze its economic development.
4. Build competency and academic excellence for competition exams.

UNIT I

North America: Major Physiographic Divisions; Drainage: Mississippi, St. Lawrence, Colorado River Systems; Climate; Natural Vegetation; Agriculture Belts; Minerals: Iron, Copper, Zinc, Bauxite, Uranium, Limestone, Manganese; Power: Coal, Petroleum and Natural Gas; Industries: Iron and Steel, Engineering & Textiles, Industries; Spatial distribution of Population.

UNIT II

South America: Major Physiographic Divisions; Drainage: Amazon, Orinoco, and Paraguay River Systems; Climate; Natural Vegetation; Agriculture; Minerals: Iron, Copper, Zinc, Bauxite, Limestone, Manganese; Power: Coal, Petroleum and Natural Gas; Industries: Iron and Steel, Engineering, Agro-based; Spatial distribution of Population.

UNIT III

Africa: Major Physiographic Divisions; Drainage: Nile, Congo, Niger River Systems; Climate; Natural Vegetation; Agriculture; Minerals: Iron, Copper, Zinc, Bauxite, Uranium, Gold; Power: Coal, Petroleum and Natural Gas; Industries: Iron, Copper, Diamond, Oil, Gold; Spatial distribution of Population.

Reference Books:

- Di Blij, H. and Muller, O. (1993).Geography: Regions and Concepts. New York: John Wiley and Sons.
- Jackson, R. H. and Husman, L. E. (1991).World Regional Geography: Issues for Today. New York: John Wiley and Sons.
- Jones, P. and Bryan, P. (1954). North America: An Historical, Economic and Regional Geography. London: Methuen and Company Ltd.
- Rai, G. (2007). Vishwa Ka Pradeshik Bhugol. Mishra Trading Corporation.

- Saxena, H.M. (2016).World Regional Geography. Rawat Publication.
- Sharma, P. R. (ed.). (1991). Perspectives on Third World Development. Varanasi: Rishi Publication.
- Stamp, L. D. (1976). Asia: A Regional and Economic Geography. London: Methuen.

Pedagogy: Large-scale maps and illustrations through slide projectors/epidiascope, video-shows of the specific themes are advisable to create interest amongst the students. The student teacher interaction should be encouraged. The students should also be motivated to read daily newspapers to relate events, areas and places from regional geographical perspective.

GEO 602 (A) विश्व का प्रादेशिक भूगोल- II(उत्तर अमेरिका, दक्षिण अमेरिका और अफ्रीका)

अधिकतम अंक: 75 **न्यूनतम अंक: 30**

श्रेय 03 **अवधि : 2½ घंटे**

इकाई– I

उत्तरी अमेरिका: प्रमुख भौतिक विभाजन; प्रवाह तंत्र: मिसिसिपी, सेंट लॉरेंस, कोलोराडो **नदी प्रणाली**; जलवायु; प्राकृतिक वनस्पति; कृषि पेटी; खनिज: **लौह**, तांबा, जस्ता, बॉक्साइट, यूरेनियम, चूना पत्थर, मैंगनीज; ऊर्जा संसाधन: कोयला, पेट्रोलियम और प्राकृतिक गैस; उद्योग: **लौह** और इस्पात, इंजीनियरिंग और कपड़ा, उद्योग; जनसंख्या का स्थानिक वितरण।

इकाई– II

दक्षिण अमेरिका: प्रमुख भौतिक विभाजन; प्रवाह तंत्र: अमेज़ॅन, ओरिनोको, और पैराग्वे नदी प्रणाली; जलवायु; प्राकृतिक वनस्पति; कृषि; खनिज: **लौह**, तांबा, जस्ता, बॉक्साइट, चूना पत्थर, मैंगनीज; ऊर्जा संसाधन: कोयला, पेट्रोलियम और प्राकृतिक गैस; उद्योग: **लौह** और इस्पात, इंजीनियरिंग, कृषि-आधारित; जनसंख्या का स्थानिक वितरण।

इकाई– III

अफ्रीका: प्रमुख भौतिक विभाजन; प्रवाह तंत्र : **नील, कांगो, नाइजर नदी प्रणाली; जलवायु; प्राकृतिक वनस्पति; कृषि; खनिज: लौह, तांबा, जस्ता, बॉक्साइट, यूरेनियम, सोना;** ऊर्जा संसाधन: **कोयला, पेट्रोलियम और प्राकृतिक गैस; उद्योग: लौह, तांबा, हीरा, तेल, सोना; जनसंख्या का स्थानिक वितरण।**

सन्दर्भ:–

- डॉ. जगदीश सिंह एवं डॉ. वी.पी. राव. तीन दक्षिणी महाद्वीप, वसुन्धरा प्रकाशन, गोरखपुर।
- निगम एम.एन : तीन दक्षिणी महाद्वीप।
- एम.एस.डी. कौशिक : भौगोलिक विचारधाराएं एवं विधि तंत्र।
- बनवारी लाल: उत्तरी अमेरिका का भूगोल।

GEO-602(B) Regional Geography of South Asia

Max. Marks :75 **Min. Marks: 30**

Credit: 03 **Duration:2½ hrs**

Learning Outcomes:

On successful completion of the Course the student will be able to-

1. Develop geographical understanding of agricultural practices of South Asia.
2. Develop geographical understanding of mineral resources and analyze its economic development.
3. Develop the understanding of role of SAARC in the development of South Asia.
4. Build competency and academic excellence for competition exams.

UNIT–I

Agricultural practices and cropping patterns; potentiality, utilization, distribution and consumption of energy resources.

UNIT–II

Mineral resources and its distribution, impact of globalization, Regional patterns of agro–based and forest–based industries, Industrial Regions.

UNIT–III

Problems of development–Environmental, Social, Economic and Political, Significance and objectives of Planning in the Region, Role of SAARC nations: Role of India as a centre of power in South Asia and Indian Ocean.

Reference Books:

- Cressey G. B. (1951): Asia's Land and Peoples, Mcgraw Hill Book Company
- Farmer B. H. 91983): Introduction of south Asia, Methuen, London.
- Johnson B. L. C. (1983): South Asia, Meinmenn Education Book Ltd., London.
- Robinson H (1978): Monsoon Asia, Mac Donald & Evans Ltd., Estever.
- Spate O. H. K (1972): India, Pakistan and Ceylon, Methuen, London.
- Schwaratzburg J. E.: Historical Atlas of South Asia.

Pedagogy : Large-scale maps and illustrations through slide projectors/epidiascope, video-shows of the specific themes are advisable to create interest amongst. the students. The student teacher interaction should be encouraged. The students should also be motivated to read daily newspapers to relate events, areas and places from regional geographical perspective.

GEO - 602(B) दक्षिण एशिया का प्रादेशिक भूगोल – II

अधिकतम अंक: 75 **न्यूनतम अंक: 30**

श्रेय 03 **अवधि : 2½ घंटे**

इकाई– I

कृषि पद्धतियाँ और क्रॉपिंग पैटर्न; ऊर्जा संसाधनों की क्षमता, उपयोग, वितरण और खपत।

इकाई– II

खनिज संसाधन और उसका वितरण, वैश्वीकरण का प्रभाव, कृषि आधारित और वन आधारित उद्योगों के क्षेत्रीय पैटर्न, औद्योगिक क्षेत्र।

इकाई– III

विकास की समस्याएं–पर्यावरण, सामाजिक, आर्थिक और राजनीतिक, क्षेत्र में योजना के महत्व और उद्देश्य, सार्क देशों की भूमिका: दक्षिण एशिया और हिंद महासागर में शक्ति के केंद्र के रूप में भारत की भूमिका ।

सन्दर्भः–

- डॉ. जगदीश सिंह एवं डॉ. वी.पी. राव. तीन दक्षिणी महाद्वीप, वसुन्धरा प्रकाशन, गोरखपुर।
- निगम एम.एन : तीन दक्षिणी महाद्वीप।
- एम.एस.डी. कौशिक : भौगोलिक विचारधाराएं एवं विधि तंत्र।
- बनवारी लालः उत्तरी अमेरिका का भूगोल।

GEO-603 PRACTICAL: Report Writing Based on Field Survey

Max. Marks: 50 **Min Marks: 20**

Credits: 02 **Duration: 3 hrs**

Learning Outcomes:

On successful completion of the Course the student will be able to-

1. Construct, Formulate and analyze questionnaires for data collection and field survey to help them understand the importance of ecological, historical or industrial hotspots of regional importance.
2. Hone & develop employability related skills for holistic development.

Field Work	10 Marks
Report writing	20 Marks
Written	10 Marks
Presentation ad Viva	10 Marks

FILED SURVEY: REPORT WRITING BASED ON FIELD VISITS OF AN INDUSTRIAL CENTRE, HERITAGE SITE LIKE FORTS, IRRIGATION PROJECT, NATIONAL PARK etc

- Technique of Field work conduction: Types of data, Primary data collection: Sampling, Preparation of a questionnaire. Significance of field work in Geographical studies.
- Data Analysis and Report writing with the help of suitable diagrams.
- The students are required to give a project presentation with report submission on assigned problem involving field investigations.

Note:

* Assessment of practical record and viva voce will be done by an external examiner. The report should not be less than 30 pages.

Reference Books:

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

Pedagogy: The students wiil be exposed to the specific field work . They will be motivated to collect data, compile and analyse data. They will understand the concept of survey.

GEO-603 प्रायोगिक भूगोल: क्षेत्र सर्वेक्षण पर आधारित रिपोर्ट लेखन

अधिकतम अंक: 50 **न्यूनतम अंक: 20**

श्रेय 03 **अवधि: 3 घंटे**

Field Work	10 Marks
Report writing	20 Marks
Written	10 Marks

परिष्कृत सर्वेक्षण: एक औद्योगिक केन्द्र, हेरिटेज साइट लाइक्स, सिंचाई परियोजना, राष्ट्रीय पार्क आदि के स्थलों पर आधारित निर्यात

- फील्ड कार्य चालन की तकनीक: डेटा के प्रकार, प्राथमिक डेटा संग्रह: नमूनाकरण, एक प्रश्नावली की तैयारी। भौगोलिक अध्ययन में क्षेत्र कार्य का महत्व।
- उपयुक्त आरेखों की मदद से डेटा विश्लेषण और रिपोर्ट लेखन।
- छात्रों को फील्ड जांच से संबंधित सौंपी गई समस्या पर रिपोर्ट प्रस्तुत करने के साथ एक परियोजना प्रस्तुति देने की आवश्यकता होती है।

ध्यान दें:

* व्यावहारिक रिकॉर्ड और वाइवा वॉइस का आकलन एक बाहरी परीक्षक द्वारा किया जाएगा। रिपोर्ट 30 पृष्ठों से कम नहीं होनी चाहिए।