



Guru Jambheshwar University of Science and Technology
Hisar-125001, Haryana
(‘A+’ NAAC Accredited State Govt. University)



Scheme of Examination for Integrated Five Years Programme
[Single Major- Scheme- C]

Name of the Programme: Integrated B.Sc. (Hons/Hons with Research)-M.Sc. Geography

According to National Education Policy-2020

FIRST YEAR

w.e.f 2024-25

SEMESTER-I								
Type of Course	Course Code	Nomenclature of Paper/Course	Credits	Contact Hours	Internal Marks	External Marks	Total Marks	Duration of Exam (Hrs)
Discipline Specific Course	24GEO0101T	Geomorphology	3	3	20	50	70	2.5
	24GEO0101P	Geomorphology Lab	1	2	10	20	30	2
	24GEO0102T	Fundamental of Resource Geography	3	3	20	50	70	2.5
	24GEO0102P	Fundamental of Resource Geography Lab	1	2	10	20	30	2
Minor Course/ Vocational Course	To be opted from Pool of MIN		3	3	20	50	70	2.5
			1	2	10	20	30	2
Multi-disciplinary Course	To be opted from Pool of MDC		3	3	25	50	75	2.5
Ability Enhancement Course	To be opted from Pool of AEC		2	2	15	35	50	2
Skill Enhancement Course	To be opted from Pool of SEC		3	3	25	50	75	2.5
Value Added Course	To be opted from Pool of VAC		2	2	15	35	50	2
			22	25	170	380	550	

SEMESTER-II								
Type of Course	Course Code	Nomenclature of Paper/Course	Credits	Contact Hours	Internal Marks	External Marks	Total Marks	Duration of Exam (Hrs)
Discipline Specific Course	24GEO0201T	Cartographic Techniques in Geography	3	3	20	50	70	2.5
	24GEO0201P	Cartographic Techniques in Geography Lab	1	2	10	20	30	2
	24GEO0202T	Human Geography	3	3	20	50	70	2.5
	24GEO0202P	Human Geography Lab	1	2	10	20	30	2
Minor Course/ Vocational Course	To be opted from Pool of MIN		3	3	20	50	70	2.5
			1	2	10	20	30	2
Multi disciplinary Course	To be opted from Pool of MDC		3	3	25	50	75	2.5
Ability Enhancement Course	To be opted from Pool of AEC		2	2	15	35	50	2
Skill Enhancement Course	To be opted from Pool of SEC		3	3	25	50	75	2.5
Value Added Course	To be opted from Pool of VAC		2	2	15	35	50	2
			22	25	170	380	550	

Note: The student opting for exit after first year must complete internship of 4 credits (120 Hrs) to get UG Certificate.



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Scheme of Examination for Integrated Five Years Programme
[Single Major- Scheme- C]

Name of the Programme: Integrated B.Sc. (Hons/Hons with Research)-M.Sc. Geography

According to National Education Policy-2020

SECOND YEAR (Batch 2023 onwards)
W.e.f. 2024-25

SEMESTER-III								
Type of Course	Course Code	Nomenclature of Paper/Course	Credits	Contact Hours	Internal Marks	External Marks	Total Marks	Duration of Exam (Hrs)
Discipline Specific Course	24GE00301T	Bio-Geography	3	3	20	50	70	2.5
	24GE00301P	Bio-Geography Lab	1	2	10	20	30	2
	24GE00302T	Economic Geography	3	3	20	50	70	2.5
	24GE00302P	Economic Geography Lab	1	2	10	20	30	2
Minor Course/ Vocational Course	To be opted from Pool of MIC		4	4	30	70	100	3
Multi-disciplinary Course	To be opted from Pool of MDC		3	3	25	50	75	2.5
Ability Enhancement Course	To be opted from Pool of AEC		2	2	15	35	50	2
Skill Enhancement Course	To be opted from Pool of SEC		3	3	25	50	75	2.5
Value Added Course	To be opted from Pool of VAC		2	2	15	35	50	2
			22	24	170	380	550	

SEMESTER-IV								
Type of Course	Course Code	Nomenclature of Paper/Course	Credits	Contact Hours	Internal Marks	External Marks	Total Marks	Duration of Exam (Hrs)
Discipline Specific Course	24GE00401T	Ecosystem and Environment	3	3	20	50	70	2.5
	24GE00401P	Ecosystem and Environment Lab	1	2	10	20	30	2
	24GE00402T	Introduction to Social Geography	3	3	20	50	70	2.5
	24GE00402P	Introduction to Social Geography Lab	1	2	10	20	30	2
	24GE00403T	Population Geography	4	4	30	70	100	3
Vocational Course	To be opted from Pool of VOC		2	2	15	35	50	2
			2	4	15	35	50	2
Discipline Specific Course (I)	24GE00404T	Geography of Tourism	4	4	30	70	100	3
Value Added Course	To be Opted from Pool of VAC		2	2	15	35	50	2
Ability Enhancement Courses	To be Opted from Pool of AEC		2	2	15	35	50	2
			24	27	180	420	600	

Note: The student opting for exit after second year must complete internship of 4 credits (120 Hrs) to get UG Diploma.



Guru Jambheshwar University of Science and Technology
Hisar-125001, Haryana
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Scheme of Examination for Under Graduate Programme
Courses offer for the Pools of (MIC, MIN, MDC, SEC and VAC)
According to National Education Policy-2020
FIRST YEAR

SEMESTER-I								
Type of Course	Course Code	Nomenclature of Paper/Course	Credits	Contact Hours	Internal Marks	External Marks	Total Marks	Duration of Exam (Hrs)
Minor Course/ Vocational Course	24MIN0107T	Geography of India	3	3	20	50	70	2.5
	24MIN0107P	Geography of India Lab	1	2	10	20	30	2
Minor Course/ Vocational Course	24MIC0107T	Geography of India	2	2	15	35	50	2
Multi- disciplinary Course	24MDC0117T	Basics of Remote Sensing Technology	3	3	25	50	75	2.5
Skill Enhancement Course	24SEC0117T	Geography of Start-ups and Innovation	3	3	25	50	75	2.5
Value Added Course	24VAC0103T	Disaster Management	2	2	15	35	50	2
SEMESTER-II								
Type of Course	Course Code	Nomenclature of Paper/Course	Credits	Contact Hours	Internal Marks	External Marks	Total Marks	Duration of Exam (Hrs)
Minor Course/ Vocational Course	24MIC0207T	Physical Geography	2	2	15	35	50	2
Minor Course/ Vocational Course	24MIN0207T	Physical Geography	3	3	20	50	70	2.5
	24MIN0207P	Physical Geography Lab	1	2	10	20	30	2
Multi disciplinary Course	24MDC0217T	Concepts of GIS Technology	3	3	25	50	75	2.5
Skill Enhancement Course	24SEC0217T	Concepts of Disaster Management	3	3	25	50	75	2.5
Value Added Course	24VAC0203T	Geography of Social Well-Being	2	2	15	35	50	2

SECOND YEAR

SEMESTER-III								
Type of Course	Course Code	Nomenclature of Paper/Course	Credits	Contact Hours	Internal Marks	External Marks	Total Marks	Duration of Exam (Hrs)
Minor Course/ Vocational Course	24MIC0307T	Geography of Haryana	4	4	30	70	100	3
Multi-disciplinary Course	24MDC0317T	General Geography	3	3	25	50	75	2.5
Skill Enhancement Course	24SEC0317T	Town Planning	3	3	25	50	75	2.5
Value Added Course	24VAC0303T	Geography in Everyday Life	2	2	15	35	50	2
SEMESTER-IV								
Type of Course	Course Code	Nomenclature of Paper/Course	Credits	Contact Hours	Internal Marks	External Marks	Total Marks	Duration of Exam (Hrs)
Vocational Course	24VOC0407T	World Regional Geography-I	2	2	15	35	50	2
	24VOC0407P	World Regional Geography-I Lab	2	4	15	35	50	2
Value Added Course	24VAC0303T	Geography in Everyday Life	2	2	15	35	50	2

Geography
Geomorphology (Semester-I)
Discipline Specific Course (DSC)

Course Code: 24GE00101T

45 Hrs (3 Hrs/week)

Credits: 3

Time: 2.5 Hours

Marks for External: 50

Marks for Internal: 20

Total Marks: 70

***Note:** The examiner is requested to set nine questions in all; selecting two questions from each unit and one compulsory question (Question No.1 based on entire syllabus will consist of five short answer type questions each of two marks). The candidate is required to attempt five questions in all selecting one from each unit and the compulsory Question No.1. All questions carry equal marks.*

Objective: This paper deals with fundamentals and properties of physical features of earth.

UNIT- I

1. Nature and scope of Geomorphology, Origin of the Earth
2. Interior of the Earth, Geological Time Scale

UNIT-II

3. Theory of Isostasy, Theory of Continental Drift
4. Theory of Plate Tectonics, Rocks and Their Types

UNIT- III

5. Earthquakes and Volcanoes, Weathering, causes and its types
6. Earth movements and resultant landforms.

UNIT -IV

7. Cycle of Erosion, Theory of M. Davis and W. Penck
8. Land forms Associated with River and Underground Water
Glaciers, Aeolian Topography and Coastal

Geography
Geomorphology Lab (Semester-I)
Discipline Specific Course (DSC)

Course Code: 24GEO0101P
30 Hrs (2 Hrs/week)
Credit: 1
Time: 2 Hours

Marks for External: 20
Marks for Internal: 10
Total Marks: 30

Note: - *There will be three questions in all and candidate has to attempt two exercises. Distribution of marks for evaluation:*

External Marks evaluation:

(Exercise = 10

File record = 5

Viva-Voce = 5 marks)

Total -20

Practical Record: A project file of at least 10 exercises on the below mentioned themes:

Profiles:

1. Longitudinal
2. Transverse
3. Serial
4. Projected
5. Super-imposed
6. Compact

Cross-section of Contours:

1. Conical Hill
2. V-shaped Valley/Spur
3. Volcanic Hill
4. Gorge
5. Water-fall
6. Ox-bow lake
7. River Terrace
8. Over-hanging clips

Books Suggested:

1. Bloom AL. 2002. Geomorphology: A systematic Analysis of late Cenozoic landforms. Prentice-Hall Private Limited, New Delhi.
2. Embleton, C and Thornorne. J. 1979. Process in Geomorphology. London, Edward Arnold.
3. Kale VS and Gupta A. 2001. Introduction to Geomorphology. Orient Longman, Hyderabad.
4. Ritter DF., Kochel RC. and Miller JR. 1995. Process Geomorphology. Dubuque, WinC. Brown Publishers.
5. Sharma HS and Kale VS 2009. Geomorphology in India, Prayag Pustak Bhawan, Allahabad.
6. Sharma, VK. 2010. Introduction to Process Geomorphology. Taylor and Francis's, London.
7. Sharma, VK. 1992. Earth's Surface Processes and Forms. Tata McGraw Hill Publications, New Delhi.
8. Singh S. 2002. Geomorphology, Prayag Pustak Bhawan, Allahabad.
9. Strahler AH. 2013. Introducing Physical Geography, Wiley and Sons, New York.
10. Thornbury, WD. 2004. Principles of Geomorphology, John Wiley Sons, New York.

Course outcomes:

At the end of the course, the students would be able to:

- : Development of understanding about the fundamental concepts of geomorphology.
- : Enrichment of knowledge about tectonic activities and hill slope relationship.
- : Familiarization with the processes and patterns shaping the landforms.
- : Understanding of environmental management using principles of applied geomorphology

Geography
Fundamentals of Resource Geography (Semester-I)
Discipline Specific Course (DSC)

Course Code: 24GE00102T
45 Hrs (3 Hrs/week)
Credits: 3
Time: 2.5 Hours

Marks for External: 50
Marks for Internal: 20
Total Marks: 70

***Note:** The examiner is requested to set nine questions in all; selecting two questions from each unit and one compulsory question (Question No.1 based on entire syllabus will consist of five short answer type questions each of two marks). The candidate is required to attempt five questions in all selecting one from each unit and the compulsory Question No.1. All questions carry equal marks.*

Unit-I

1. Nature, scope, and importance of resource geography.
2. Concepts of resource: exploitation, accumulation, poverty and resource degradation.

Unit-II

3. Classification of resources: renewable and non-renewable, biotic and abiotic resources.
4. Relationship between natural resources and development process. Role of technology in natural resource development.

Unit-III

5. Distribution, utilization, problem and management of land and water resources.
6. Distribution, utilization, problem and management of forest and mineral resources.

Unit-IV

7. Models of natural resources process: Zimmermann's primitive and Kirk's decision models.
8. Sustainable development; Policies and challenges of natural resource management.

Geography
Fundamentals of Resource Geography Lab (Semester-I)
Discipline Specific Course (DSC)

Course Code: 24GEO0102P
30 Hrs (2 Hrs/week)
Credit: 1
Time: 2 Hours

Marks for External: 20
Marks for Internal: 10
Total Marks: 30

Note: - *There will be three questions in all and candidate has to attempt two exercises. Distribution of marks for evaluation:*

External Marks evaluation:

(Exercise = 10 File record

= 5

Viva-Voce = 5 marks)

Total -20

Practical Record: A project file of at least 08 exercises on the below mentioned themes:

1. Preparation of land use/land cover map of an area from topographical sheet (1 exercise).
2. Mapping of coal fields of India (1 exercises).
3. Mapping of Industrial clusters of India (1 exercises).
4. Decadal changes in country-wise production of coal and iron ore with comparative decadal changes (2 exercises).
5. Various sources of renewable and non-renewable energy in India (1 exercise)
6. Mapping of important minerals in India (1 exercise)
7. Mapping of important minerals in World (1 exercise)

Suggested Readings:

1. Barbier, Edward B (2005) Natural Resources and Economic Development, Cambridge University Press.
2. Borton, I and RW Kates (1984) Readings in Resource Management and Conservation, University of Chicago Press, Chicago.
3. Bruce, Mitchell (1989) Geography and Resource Analysis, John Wiley and Son, New York.
4. Eliot Hurst, ME (1972) A Geography of Economic Behavior: An Introduction, Duxbury Press, California.
5. Fabricius, C and Eddie Koch (2004) Rights, Resources and Rural Development: Community based Natural Resource Management in Southern Africa, Earthscan, London.
6. Guha, JL and PR Chattroj (1994) Economic Geography-A

Study of Resources, The World Press Pvt. Ltd. Calcutta.

7. Martino, R L (1969) Resource Management. McGraw Hill Book Co., London.
8. Negi, BS (2000) Geography of Resources, Kedar Nath and Ram Nath, Meerut.
9. Owen, Oliver (1971) Natural Resource Conservation: An Ecological Approach, McMillan, New Delhi.
10. Raja, M (1989) Renewable Resources, Development, Concept Publication, New Delhi.
11. UNDP & World Resource Institute (2005) The Wealth of the Poor-Managing Ecosystems to Fight Poverty, World Resources Institute, Washington, DC.
12. Zimmermann, E. W. (1951) World Resources and Industries, Harper and Brothers, New Delhi.

Course outcomes:

At the end of the course, the students would be able to:

- : provides knowledge about the fundamental concepts of economic geography.
- : Acquisition of knowledge about resources and their conservation.
- : Enrichment of knowledge about distribution of crops, minerals and energy resources
- : Acquaintance with global industries, transport, communication and trade

Geography
Geography of India (Semester-I)
Minor Core (MIN)

Course code: 24MIN107T

45 Hrs (3 Hrs /week)

Credits: 3

Time: 2.5 Hrs

Marks for External: 50

Marks for Internal Exam: 20

Total Marks: 70

***Note:** The examiner is requested to set nine questions in all; selecting two questions from each unit and one compulsory question (Question No.1 based on entire syllabus will consist of five short answer type questions each of two marks). The candidate is required to attempt five questions in all selecting one from each unit and the compulsory Question No.1. All questions carry equal marks.*

Objectives: To describe various geographical aspects of land, people and economy of Indian subcontinent

UNIT-I

1. Physical divisions and drainage system.
2. Climate, soils and natural vegetation

UNIT-II

3. Agricultural crops: major crops and cropping pattern, green revolution and its impacts.
4. Development of irrigation sources canals and tube wells

UNIT-III

5. Population: distribution, density and growth.
6. Population composition: sex ratio, rural and urban, literacy, work force, language and religion

UNIT-IV

7. Resources: Production and distribution of iron ore, coal, petroleum, hydro power, solar and thermal power.
8. Industries: iron and steel, sugar and cotton textile; transport and communication.

Geography
Geography of India Lab (Semester-I)
Minor Core (MIN)

Course Code: 24MIN107P
30 Hrs (2 Hrs/week)
Credit: 1
Time: 2 Hours

Marks for External: 20
Marks for Internal: 10
Total Marks: 30

Note: - *There will be three questions in all and candidate has to attempt two exercises. Distribution of marks for evaluation:*

External Marks evaluation:

(Exercise = 10 File record

= 5

Viva-Voce = 5 marks)

Total -20

Practical Record: A project file of at least 08 exercises on the below mentioned themes:

1. Identification and delineation of watershed of major rivers on map.
2. Land use pattern of India (pie chart)
3. Occupational structure of India (pie chart)
4. Distribution and population density map of India (choropleth and dot method)
5. Age and sex structure (pyramid diagram)
6. Identification of the major industrial region of India by cartogram.
7. Rainfall deviation diagram of at least 20 years.
8. Cropping intensity and irrigation intensity (bivariate method)

Geography
Geography of India (Semester-I)
Minor Core (MIC)

Course code: 24MIC0107T

30 Hrs (2 Hrs /week)

Credits: 2

Time: 2 Hrs

Marks for External: 35

Marks for Internal Exam: 15

Total Marks: 50

***Note:** The examiner is requested to set five questions in all, selecting two questions from each unit and one compulsory question (Question No.1 based on entire syllabus will consist of six short answer type questions each of two and half marks). The candidate is required to attempt two questions in all selecting one from each unit carry ten marks and the compulsory Question No.1.*

Objectives: To describe various geographical aspects of land, people and economy of Indian sub continent

UNIT-I

1. Physical divisions and drainage system.
2. Climate, soils and natural vegetation
3. Agricultural crops: major crops and cropping pattern, green revolution and its impacts.
4. Development of irrigation sources canals and tube wells

UNIT-II

5. Population: distribution, density and growth.
6. Population composition: rural and urban, literacy, work force, language and religion
7. Resources: Production and distribution of iron ore, coal, petroleum, hydro power, solar and thermal power.
8. Industries: iron and steel, sugar and cotton textile

Suggested Readings:

1. Dubey, R. N., 1974: Economic Geography of India, Kitab Mahal, Allahabad
2. Hussain Majid (2015): Geography of India, Mc Graw Hill Education.
3. Joshi, H. L., 1990: Industrial Geography of India, Rawat Publications, Jaipur
4. Nag, P. and Sengupta, S., 1992: Geography of India, Concept publications. Co., New Delhi.
5. Singh, R. L.: India: A Regional Geography, N.G.S.I., Varanasi, 1971
6. Sharma, T. C. and Coutinho, O. 1988: Economic and Commercial Geography of India. Vikas Publishing House Pvt. Ltd, New Delhi.
7. Singh, S. and Saroha, J. 2019. Geography of India, Mc Graw Hill Education.

*Course outcomes****At the end of the course, the students would be able to:***

- : Provides understanding about the physical structure of India.
- : Enrichment of understanding about spatial organization of agriculture and irrigation systems.
- : Acquaintance with geographical distribution and production of major resources.
- : Enhancement of knowledge about spatial distribution of industries and international trade of India.

Geography
Basics of Remote-sensing Technology (Semester-I)
Multi-Disciplinary Course (MDC)

Course Code: 24MDC0117T

45 Hrs (3 Hrs/week)

Credits: 3

Time: 2.5 Hours

Marks for External: 50

Marks for Internal: 25

Total Marks: 75

Note: The examiner is required to set seven questions in all. The first question will be compulsory consisting of five short questions covering the entire syllabus (two and half marks each). In addition, six more questions will be set comprising two questions from each unit. The students shall be required to attempt three questions in all selecting one question from each unit in addition to the compulsory Question No. 1. All questions shall carry equal marks (12.5 marks each).

Unit-I

Definition; History of Remote Sensing, Electromagnetic Radiation (EMR), Characteristics, Electromagnetic Spectrum (EMS), Energy Interaction in The Atmosphere, Energy Interactions with The Earth's Surface. Atmospheric Windows, Types of Remote Sensing with Respect to Wavelength Regions.

Sensor and Platforms. Types of Platforms and Sensors Airborne Remote Sensing, Space Borne Remote Sensing, Orbital Elements of Satellite, Sensor Types Characteristics: Active and Passive Remote Sensing, Imaging Systems, Non-Imaging Sensors, Characteristics of Optical Sensors; Resolution

Unit-II

Remote Sensing Satellites and Data Products: Overview of Different Satellite and Sensors for Earth Observations- Coarse, Medium and High- Resolution Missions (IRS Mission, Landsat Series; SPOT: Ikonos, Quickbird; ASTER; Sentinel; Aqua and Terra (MODIS); SAR and Future Missions.

Unit-III

Image Interpretation: types of images- Panchromatic, False and True colour combination and elements of image interpretation. Various Application of Optical remote sensing in the field of Land & water Resources, and Forest Resources

Recommended Readings:

1. Lillesand, T., Kiefer, R. W., & Chipman, J. (2014). Remote Sensing and Image Interpretation.
2. John Wiley & Sons. Rees, W. G. (2012). Physical Principles of Remote Sensing. Cambridge University Press.
3. Jensen, J. R. (2009). Remote Sensing of the Environment: An Earth Resource Perspective 2/E. Pearson Education India.
4. Sabins, F. F. (2007). Remote Sensing: Principles and Applications. Waveland Press
5. Avery, T.E. and Berlin, G. I.(1992) Fundamentals of Remote Sensing and Air Photo Interpretation. 514 Ed, Macmillan, New York, USA.
6. Aggarwal, C.S. And Garg, P. K. (2000) Remote Sensing. A.H. Wheeler & Co. Ltd, New Delhi.
7. Campbell, J. B. (2002) Introduction to Remote Sensing. 3rd ed., Taylor & Francis, New
Part B-Contents of the Course

Geography
Geography of Startups and Innovation (Semester-I)
Skill Enhancement Course (SEC)

Course Code: 24SEC0117T

45 Hrs (3 Hrs/week)

Credits: 3

Time: 2.5 Hours

Marks for External: 50

Marks for Internal: 25

Total Marks: 75

Note: The examiner is required to set seven questions in all. The first question will be compulsory consisting of five short questions covering the entire syllabus (two and half marks each). In addition, six more questions will be set comprising two questions from each unit. The students shall be required to attempt three questions in all selecting one question from each unit in addition to the compulsory Question No. 1. All questions shall carry equal marks (12.5 marks each).

Unit-I

1. Introduction to the start-ups and innovations. Meaning, Definition and significance, overview of start-ups ecosystem in India.
2. Classification of start-ups, Patterns of Spatio-Temporal distribution of start-ups in India.
3. Role of Geography in start-ups and Innovations.

Unit-II

4. Theories of Industrial Location: Weber, Smith and Losch.
5. Drivers of Start-ups and Innovations: Economic, Physical and political, Challenges faced by start-ups in India.
6. Role of start-ups in Local and National Economy

Unit-III

7. Local Resources/ Raw Materials: Nature, Types, Availability and Spatial Distribution.
8. Suitable start-ups in local area based on available raw material and resources: Types, Process of setting start-ups, Eligibility and requirements, and related Regulatory Framework in India.
9. Government programs and policies promoting start-up ecosystem in India.
10. Innovations and Recent developments in Agriculture and Allied Activities.

Geography
Disaster Management (Semester-I)
Value Added Course (VAC)

Course code: 24VAC0103T
30 Hrs (2 Hrs /week)
Credits: 2
Time: 2 Hrs

Marks for External: 35
Marks for Internal Exam: 15
Total Marks: 50

***Note:** The examiner is requested to set five questions in all, selecting two questions from each unit and one compulsory question (Question No.1 based on entire syllabus will consist of six short answer type questions each of two and half marks). The candidate is required to attempt two questions in all selecting one from each unit carry ten marks and the compulsory Question No.1.*

Unit-I

1. Natural hazards and disasters: definition approaches of study; classification of Disasters.
2. Disaster profile of India and world.
3. Flood: factors, vulnerability, consequences and management.

Unit-II

4. Drought: Definition, nature, mitigation measures and management
5. Covid-19 a case study

Geography
Cartographic Techniques in Geography (Semester-II)
Discipline Specific Course (DSC)

Course code: 24GEO0201T
45 Hrs (3 Hrs /week)
Credits: 3
Time: 2.5 Hrs

Marks for External: 50
Marks for Internal Exam: 20
Total Marks: 70

***Note:** The examiner is requested to set nine questions in all, selecting two questions from each unit and one compulsory question (Question No.1 based on entire syllabus will consist of five short answer type questions each of two marks). The candidate is required to attempt five questions in all selecting one from each unit and the compulsory Question No.1.*

UNIT-I

1. Nature and scope of cartography, historical and recent development.
2. Drawing instruments: properties and characteristics; drawing techniques.

UNIT-II

3. Scale: types, significance and applications.
4. Maps: classification, characteristics, significance and limitations.

UNIT-III

5. Basic concepts of surveying and survey equipment's coordinate system and map: magnetic and true north and rectangular.
6. Techniques of map enlargement and reduction; map producing agencies in India (GSI, SOI, FSI, NATMO, NBBSLUP, NRSC, AISSLUP and IMD).

UNIT-IV

7. Methods and representation of climatic data.
8. Methods and representation of socio-economic data.

Geography
Cartographic Techniques in Geography Lab (Semester-II)
Discipline Specific Course (DSC)

Course Code: 24GEO0201P
30 Hrs (2 Hrs/week)
Credit: 1
Time: 2 Hours

Marks for External: 20
Marks for Internal: 10
Total Marks: 30

Note: - *There will be three questions in all and candidate has to attempt two exercises.*

Distribution of marks for evaluation:

External Marks evaluation:

(Exercise = 10

File record = 5

Viva-Voce = 5 marks)

Total -20

Practical Record: A project file on the below mentioned themes:

1. Graphical representation of scales (2 exercises)
2. Construction of thematic maps (3 exercises)
3. Representation of data by one, two and three-dimensional diagrams (3 exercise).

Suggested Readings:

1. Mishra, R.P. and Ramesh, A. 1999. Fundamentals of Cartography, Concept Publishing Company, New Delhi
2. Monk house, F.J. and Wilkinson, H.R. 1980. Maps and Diagrams. B. I. Publications, New Delhi
3. Singh, R. L. 1986. Elements of Practical Geography. Kalyani Publishers, New Delhi.

Geography
Human Geography (Semester-II)
Discipline Specific Course (DSC)

Course code: 23GEO0202T
45 Hrs (3Hrs /week)
Credits: 3
Time: 2.5 Hrs

Marks for External: 50
Marks for Internal Exam: 20
Total Marks: 70

***Note:** The examiner is requested to set six questions in all, selecting two questions from each unit and one compulsory question (Question No.1 based on entire syllabus will consist of five short answer type questions each of two and half marks). The candidate is required to attempt any three questions in all selecting one from each unit and the compulsory Question No.1.*

Unit-I

1. Definition, nature, scope of Human geography.
2. Development of human geography, branches and relation with other social sciences.

Unit-II

3. Human race: Meaning, classification of races and their global distribution
4. Religion: Meaning, classification of religion and their global distribution

Unit-III

4. Organization of space: central place theory, industrial location model and agricultural location model
5. Population: Distribution, density, growth and Composition

UNIT-IV

7. World pattern of development: economy and polity
8. World pattern of Migration: streams and determinants

Geography
Human Geography Lab (Semester-II)
Discipline Specific Course (DSC)

Course Code: 23GE00202P
30 Hrs (2 Hrs/week)
Credit: 1
Time: 2 Hours

Marks for External: 20
Marks for Internal: 10
Total Marks: 30

Note: - *There will be three questions in all and candidate has to attempt two exercises.*

Distribution of marks for evaluation:

External Marks evaluation:

(Exercise = 10 File

record = 5

Viva-Voce = 5 marks)

Total -20

Practical Record: A project file of at least 08 exercises on the below mentioned themes

1. Composition of major religions of world (1 exercise).
2. Methods of representing population distribution and density (2 exercises).
3. Flow diagram of migration streams of world population (1 exercise).
4. Plotting of isotims and isodapane (2 exercises).
5. Spatial and temporal growth of world population (2 exercise).

Geography
Physical Geography (Semester-II)
Minor Core (MIN)

Course Code: 24MIN0207T

45 Hrs (3 Hrs/week)

Credits: 3

Time: 2.5 Hours

Marks for External: 50

Marks for Internal: 20

Total Marks: 70

***Note:** The examiner is requested to set nine questions in all; selecting two questions from each unit and one compulsory question (Question No.1 based on entire syllabus will consist of five short answer type questions each of two marks). The candidate is required to attempt five questions in all selecting one from each unit and the compulsory Question No.1. All questions carry equal marks.*

Objective: Physical Geography is an important aspect to understand the physical aspects of earth.

Unit -I

1. Interior of the earth, geological time scale, rocks and their types.
2. Theory of isostasy, continental drift and plate tectonic; earthquakes and volcanoes.

Unit - II

3. Degradational processes: weathering, mass wasting and resultant landforms.
4. Landforms generated by following geomorphic agents: river, under-ground water, wind and glacier.

Unit - III

5. Weather and climate: Atmosphere-composition and structure.
6. Atmospheric temperature, pressure and moisture: measurement and distribution.

Unit - IV

7. Surface configuration of ocean floors: surface relief of the Pacific, Atlantic and Indian Ocean.
8. Circulation of oceanic waters: current of the Pacific, Atlantic and Indian Ocean

Geography
Physical Geography Lab (Semester-II)
Minor Core (MIN)

Course Code: 24MIN0207P
30 Hrs (2 Hrs/week)
Credit: 1
Time: 2 Hours

Marks for External: 20
Marks for Internal: 10
Total Marks: 30

Note: - *There will be three questions in all and candidate has to attempt two exercises.*

Distribution of marks for evaluation:

External Marks evaluation:

(Exercise = 10

File record = 5

Viva-Voce = 5 marks)

Total -20

Practical Record: A project file of at least 8 exercises on the below mentioned themes:

1. Identification and collection of rock samples: granite, basalt, laterite, limestone, shale, sandstone, conglomerate, slate, phyllite, schist, gneiss, quartzite (1 exercise).
2. Extraction of physiographic information from Survey of India 1:50000 topographical maps of mountain, plateau and plain regions (2 exercises).
3. Measurement of weather elements using analogue instruments: temperature (maximum, minimum and mean) relative humidity, rainfall and preparation of climograph, hythergraph and hyetograph (3 exercises).
4. Interpretation of a daily weather map of India: Pre- Monsoon, Monsoon and Post-Monsoon (2 exercises).

Geography
Physical Geography (Semester-II)
Minor Core (MIC)

Course Code: 24MIC0207T

30 Hrs (2 Hrs/week)

Credits: 2

Time: 2 Hours

Marks for External: 35

Marks for Internal: 15

Total Marks: 50

***Note:** The examiner is requested to set five questions in all, selecting two questions from each unit and one compulsory question (Question No.1 based on entire syllabus will consist of six short answer type questions each of two and half marks). The candidate is required to attempt two questions in all selecting one from each unit carry ten marks and the compulsory Question No.1.*

Objective: Physical Geography is an important aspect to understand the physical aspects of earth.

Unit -I

1. Interior of the earth, geological time scale, rocks and their types.
2. Theory of continental drift and plate tectonic; earthquakes and volcanoes.
3. Degradational processes: weathering, mass wasting and resultant landforms.
4. Landforms generated by following geomorphic agents: river, under-ground water, wind.

Unit - II

5. Weather and climate: Atmosphere-composition and structure.
6. Atmospheric temperature, pressure and moisture: measurement and distribution.
7. Surface configuration of ocean floors: surface relief of the Pacific, Atlantic and Indian Ocean.
8. current of the Pacific, Atlantic and Indian Ocean

Recommended Books/e-resources/LMS:

1. Barry, RG and Chorley, RJ (1998) Atmosphere, Weather and Climate, Routledge, London.
2. Bunnett, RB (1987) Physical Geography in Diagrams, Pearson Education, New Delhi.
3. Critchfield, H (2002) General Climatology, Prentice-Hall of India, New Delhi.
4. Kale, V and Gupta, A (2001) Element of Geomorphology, Oxford University Press, Calcutta.
5. Khullar, DR (2014) Physical Geography, Kalyani Publishers, New Delhi.
6. Monkhouse, FJ (1960) Principles of Physical Geography. Hodder and Stoughton, London.
7. Singh, S (1998) Geomorphology, Prayag Publication, Allahabad.
8. Singh, S (2012) Physical Geography, Prayag Publication, Allahabad.
9. Thornbury, WD (1969) Principles of Geomorphology, John Wiley and Sons, New York.
10. Trewartha, GT (1981) An Introduction to Climate, Mc-Graw Hill, New York

Geography
Concepts of GIS Technology (Semester-II)
Multi-Disciplinary Course (MDC)

Course code: 24MDC0217T
45 Hrs (3 Hrs /week)
Credits: 3
Time: 2.5 Hrs

Marks for External: 50
Marks for Internal Exam: 25
Total Marks: 75

***Note:** The examiner is requested to set seven questions in all, selecting two questions from each unit and one compulsory question (Question No.1 based on entire syllabus will consist of five short answer type questions each of two and half marks). The candidate is required to attempt any three questions in all selecting one from each unit and the compulsory Question No.1.*

Unit - I

Introduction to GIS: Definitions and historical development of GIS; Components of GIS; Scope; Interdisciplinary Relations; Data Structure in GIS (Raster and Vector); DBMS: GIS Data Types: Spatial and Non-Spatial Data/ Attribute data, Coordinate System and Map Projection & datum.

Unit - II

Spatial Data Analysis; Concept of Topological Analysis; Overlay Analysis; Network Analysis; Neighborhood; Interpolation; Data Integration; Spatial Join and Query; Connectivity; Proximity Analysis; Buffering; Neighborhood, GIS Software and WEB GIS: Different type of GIS Software; Introduction to Open Source GIS;

Unit - III

Introduction to Global Positioning System: Definition; History and Development; GPS Satellite Constellations; GPS Segments: Space; Control; User; Signals & Codes; GPS Receivers; Operating Principle; GPS Applications in Various Fields; Concept of DGPS and WAAS; GNSS And Types (NAVSTAR; GLONASS; GALELIO); IRNSS.

Suggested Readings:

1. Burrough, P.A. and McDonnell, R. (1998). Principles of Geographic Information Systems. Oxford University Press, Oxford.
2. Bhatta Basudeb (2014). Remote Sensing and GIS. Oxford University Press, Oxford.
3. Chang, K.T. (2003). Introduction to Geographic Information Systems. Tata McGraw Hill Publications Company, New Delhi.
4. Demers, M. N. (2000). Fundamentals of Geographic Information Systems. John Wiley and Sons, Singapore
5. Heywood I, Cornelius S and Carver S. (2000). An Introduction to Geographical Information Systems, Longman, New York.

Geography
Concepts of Disaster Management (Semester-II)
Skill Enhancement Course (SEC)

Course Code: 24SEC0217T

45 Hrs (3 Hrs/week)

Credits: 3

Time: 2.5 Hours

Marks for External: 50

Marks for Internal: 25

Total Marks: 75

Note: The examiner is required to set seven questions in all. The first question will be compulsory consisting of five short questions covering the entire syllabus (two and half marks each). In addition, six more questions will be set comprising two questions from each unit. The students shall be required to attempt three questions in all selecting one question from each unit in addition to the compulsory Question No. 1. All questions shall carry equal marks (12.5 marks each).

Unit-I

1. Natural hazards and disasters: definition , approaches of study; classification ofDisasters.
2. Disaster profile of India and world
3. Concepts of disaster vulnerability and mitigation.

Unit-II

4. Preventive measures and preparedness for disasters.
5. Flood: factors, vulnerability, consequences and management.
6. Drought: Definition, nature, mitigation measures and management

Unit-III

7. Industrial disasters: major industrial disasters andtheir causes and consequences.
8. Epidemics: Causes and consequences.
9. Covid-19 a case study

Suggested Readings:

2. Coch, NK (1994) Geohazards: Natural and Human, Pearson, New Delhi.
3. Cutter, SL (2006) Hazards Vulnerability and Environmental Justice, Routledge, London.
4. Gupta, HK (2013) Disaster Management, University Press, New Delhi.
5. Kapur, A (2010) Vulnerable India: A Geographical Study of Disasters, Sage Publication, New Delhi.
6. Modh, S (2010) Managing Natural Disaster: Hydrological, Marine and Geological Disasters, Macmillan, New Delhi.
7. Pine, JC (2014) Hazards Analysis: Reducing the Impact of Disasters, CRC Press, New Delhi.
8. Sinha, A (2001) Disaster Management: Lessons Drawn and Strategies for Future, New United Press, New Delhi.
9. Smith, K (2013) Environmental Hazards: Assessing Risk and Reducing Disaster, Routledge, London.
10. Singh, RB (2006) Natural Hazards and Disaster Management: Vulnerability and Mitigation, Rawat Publications, New Delhi.
11. Singh, S (2000): Environmental Geography, Prayag Pustak Bhavan, Allahabad.
12. Stoltman, JP (2004) International Perspectives on Natural Disasters, Kluwer Academic Publications. Dordrecht.

Geography
Geography of Social Well-Being (Semester-II)
Value Added Course (VAC)

Course code: 24VAC0203T
30 Hrs (2 Hrs /week)
Credits: 2
Time: 2 Hrs

Marks for External: 35
Marks for Internal Exam: 15
Total Marks: 50

***Note:** The examiner is requested to set five questions in all, selecting two questions from each unit and one compulsory question (Question No.1 based on entire syllabus will consist of six short answer type questions each of two and half marks). The candidate is required to attempt two questions in all selecting one from each unit carry ten marks and the compulsory Question No.1.*

Unit-I

1. Meaning of development, Concept of Social well-being, Human development Index.
2. Quality of Life: nature of sustainable development goals and social well-being.

Unit-II

3. Education and Health Factors in Social Well-Being.
4. Food Security and Public Distribution system.

Geography
Bio- Geography (Semester-III)
Discipline Specific Course (DSC)

Course Code: 24GEO0301T

45 Hrs (3 Hrs/week)

Credits: 3

Time: 2.5 Hours

Marks for External: 50

Marks for Internal: 20

Total Marks: 70

***Note:** The examiner is requested to set nine questions in all; selecting two questions from each unit and one compulsory question (Question No.1 based on entire syllabus will consist of five short answer type questions each of two marks). The candidate is required to attempt five questions in all selecting one from each unit and the compulsory Question No.1. All questions carry equal marks.*

Objective: To introduce the student to the concept of biogeography, its components, interpretation and application; interaction between living organisms with climate and physical environment

UNIT- I

1. Nature, scope and significance of biogeography.
2. Basic ecological principles: energy flow, Hydrological cycle, Oxygen cycle, Carbon cycle and Nitrogen cycle, trophic levels and food web.

UNIT- II

3. Distribution of plant life on the earth and its relation to soil, climate and human activities.
4. Geographical distribution of animal life on the earth and its relation to vegetation types, climate and human activities.

UNIT -III

5. Soil system: meaning and importance, components and structure.
6. Soil profiles and Horizons, Factor affecting soil formation, classification of soil.

UNIT- IV

7. Biomes: - meaning and concept, types of Biomes, Major Biomes of World.
8. Bio-Reserves: meaning and functional pattern
9. Bio-diversity: meaning, concept, elements, Bio-diversity hotspots, wild-life conservation in India.

Geography
Bio- Geography Lab (Semester-III)
Discipline Specific Course (DSC)

Course Code: 24GEO0301P
30 Hrs (2 Hrs/week)
Credit: 1
Time: 2 Hours

Marks for External: 20
Marks for Internal: 10
Total Marks: 30

Note: - *There will be three questions in all and candidate has to attempt two exercises. Distribution of marks for evaluation:*

External Marks evaluation:

(Exercise = 10
File record = 5
Viva-Voce = 5 marks)
Total -20

Practical Record: A project file of at least 10 exercises on the below mentioned themes:

1. Identification of natural vegetation of neighborhood environment and interpretation of their characteristics.
2. Identification of wild animals of neighborhood environment and interpretation of their characteristics.
3. Mapping of forest types in India.
4. Trend in population of selected wild animal species.
5. Trends in flood frequency and casualties in India for at least 2-3 decades.
6. Mapping of national parks and sanctuaries of India by suitable method.
7. Mapping the ecological hot spots of the world and interpretation of their characteristics.
8. Mapping the water bodies based on topographical sheets of an area.
9. Mapping the frequency or intensity of earthquakes and casualties of a geographical area.
10. Variability in Rainfall in different climatic regions of India.

Books Recommended

1. Chandna R. C., (2002) Environmental Geography, Kalyani, Ludhiana.
2. Cox, C.D. and Moore, P.D. (1993) Biogeography: An Ecological and Evolutionary Approach, Blackwell.
3. Cunningham W. P. and Cunningham M. A., (2004) Principles of Environmental Science, McGraw hill, London.
4. Huggett, R.J. (1998) Fundamentals of Biogeography. Routledge, U.S.A.
5. Khushoo, T.N. and Sharma, M. (1991) Indian Geosphere-Biosphere Har-Anand Publication, Delhi.
6. Lillies, J. (1974) Introduction of Zoogeography, McMillan. London.
7. Mathur, H.S. (1998) Essentials of Biogeography, Anuj Printers, Jaipur.
8. MOEF (2006) National Environmental Policy-2006, Ministry of Environment and Forests, Government of India.
9. Odum, E. P. et al. (2005) Fundamentals of Ecology, Ceneage Learning India.
10. Pears, N. (1985) Basic Biogeography, Longman, London.

Course outcomes

At the end of the course, the students would be able to:

: understand the basic ecological principles.

: enrich understanding about distribution of plants and Animals' life on the earth.

: Aware about conservation of biotic resources and effects of industrial effluents on ecosystems.

: acquaint with environmental hazards and bio reserves.

Geography
Economic Geography (Semester-III)
Discipline Specific Course (DSC)

Course Code: 24GE00302T

45 Hrs (3 Hrs/week)

Credits: 3

Time: 2.5 Hours

Marks for External: 50

Marks for Internal: 20

Total Marks: 70

***Note:** The examiner is requested to set nine questions in all; selecting two questions from each unit and one compulsory question (Question No.1 based on entire syllabus will consist of five short answer type questions each of two marks). The candidate is required to attempt five questions in all selecting one from each unit and the compulsory Question No.1. All questions carry equal marks.*

Unit-I

1. Nature and scope of economic geography and its relationship with economics.
2. Classification of economic activities and their impact on environment.

Unit-II

3. Natural resources: types, bases of classification.
4. Utilization and conservation of natural resources.

Unit-III

5. World distribution of food crops (rice and wheat), commercial crops (cotton and sugarcane) and plantation crops (tea and coffee).
6. World distribution and production of coal, petroleum and natural gas, iron ore and bauxite.

Unit-IV

7. World distribution and production of iron and steel industry, textile industry, sugar industry and automobile industry.
8. International trade and transport and major oceanic trade routes.

Geography
Economic Geography Lab (Semester-III)
Discipline Specific Course (DSC)

Course Code: 24GEO0302P
30 Hrs (2 Hrs/week)
Credit: 1
Time: 2 Hours

Marks for External: 20
Marks for Internal: 10
Total Marks: 30

Note: - *There will be three questions in all and candidate has to attempt two exercises. Distribution of marks for evaluation:*

External Marks evaluation:

(Exercise = 10 File record = 5

Viva-Voce = 5 marks)

Total -20

Practical Record: A project file of at least 08 exercises on the below mentioned themes:

1. Choropleth mapping of country-wise variation in GDP and PCI (2 exercises).
2. Mapping of major ports of India (1 exercises).
3. Time series analysis of world food, commercial and plantation crops production and trade using polygraph method (2 exercises).
4. Representation of major crops of India using compound bar diagram (1 exercise)
5. Representation of decadal production petroleum and iron-ore in India (Compound bar diagram) (1 exercise).

Books Suggested:

1. Gautam, A. 2010. Advanced Economic Geography. Sharda Pustak Bhawan, Allahabad.
2. Hartshorne, T. A. and Alexander, J. W. 2001. Economic Geography. Prentice Hall of India. New Delhi.
3. Hudson, R. 2005. Economic Geography. Sage Publication, New Delhi.
4. Jones, C. F. and Drakenworld, G. G. Economic Geography. The Macmillan and Company. New York.
5. Knowled, R. and Wareing, J. 1992. Economic and Social Geography. Rupa and Company, Calcutta.
6. Knox, P. 2003. The Geography of World Economy. Arnold, London.
7. Saxena, H.M. 2013. Economic Geography. Rawat Publications, Jaipur.
8. Thomas, R.S. 1962. The Geography of Economic Activities. McGraw Hill, New York.

Course outcomes:

At the end of the course, the students would be able to:

- : provides knowledge about the fundamental concepts of economic geography.
- : Acquisition of knowledge about resources and their conservation.
- : Enrichment of knowledge about distribution of crops, minerals and energy resources
- : Acquaintance with global industries, transport, communication and trade

Geography
Geography of Haryana (Semester-III)
Minor-core (MIC)

Course code: 24MIC0307T
60 Hrs (4 Hrs/week)
Credits: 4
Time: 3 Hours

External exam- 70 Marks
Internal exam: 30 Marks
Total Marks: 100

***Note:** The examiner is requested to set five questions in all; selecting two questions from each unit and one compulsory question (Question No.1 based on entire syllabus will consist of seven short answer type questions each of two marks). The candidate is required to attempt four questions in all selecting one from each unit including compulsory Question No.1. All questions carry equal marks.*

Objective: To introduce the students with Physical, Natural, Demographic, Economic and Developmental elements of Haryana.

Unit-I

1. Haryana ; size, location , boundaries, relief and Drainage
2. Climate; Distribution Rainfall & Temperature, Monsoon and Climatic Region of Haryana
Drainage system and climate.

Unit-II

3. Haryana; Types of Soil; their Characteristics and Distribution
4. Haryana; Types of natural vegetation; their Distribution and Forest Resources.

Unit-III

5. Population: distribution, density and growth and Rural-Urban Population.
6. Migration and Urbanization in Haryana

Unit-IV

7. Haryana; Major Crops and Green Revolution
8. Haryana; Transport and Trade.

Suggested Readings:

1. Census of India (2001) Administrative Atlas of Haryana.
2. Deshpande CD (1992) India: A Regional Interpretation, ICSSR and Northern BookCentre.
3. FICCI (2007) State of Infrastructure in Haryana.
4. Singh, Jasbir (1976) Agricultural Geography of Haryana, Vishal Publishers, Kurukshetra.
5. Singh, R.L. (1971) India-A Regional Geography, National Geographical Society, Varanasi

Geography
General Geography (Semester-III)
Multi-Disciplinary Course (MDC)

Course Code: 24MDC0317T

45 Hrs (3 Hrs/week)

Credits: 3

Time: 2.5 Hours

Marks for External: 50

Marks for Internal: 25

Total Marks: 75

Note: The examiner is required to set seven questions in all. The first question will be compulsory consisting of five short questions covering the entire syllabus (two and half marks each). In addition, six more questions will be set comprising two questions from each unit. The students shall be required to attempt three questions in all selecting one question from each unit in addition to the compulsory Question No. 1. All questions shall carry equal marks (12.5 marks each).

Unit-I

1. Geography: Meaning and definition, branches; relation of geography with other disciplines
2. Solar system, Origin of earth, Interior of Earth
3. Formation of days, nights and seasons. Latitudes & longitudes and Time Zone of the World

Unit-II

4. Basic concepts of Earth Movement: Rotation and revolution;
5. Weathering: definitions and classification; Types of rocks: Igneous,
6. Endogenic movement : Earthquake and Volcano

Unit-III

7. Composition and structure of atmosphere, temperature and Atmospheric Pressure.
8. Winds systems, precipitation and Cyclones
9. Environmental Pollution (special reference to India)

Recommended Readings:

1. Bose, A. et. al. eds (2001) Population in India's Development, 1947-2000, Vikas, New Delhi.
2. Deshpande C. D. (1992) India: A Regional Interpretation, ICSSR, New Delhi.
3. Johnson, B. L. C., ed. (2001) Geographical Dictionary of India. Vision Books, New Delhi.
4. Mandal R. B. (ed.) (1990) Patterns of Regional Geography – An International Perspective. Vol. 3 – Indian Perspective.
5. Sdyasuk Galina and P Sengupta (1967) Economic Regionalisation of India, Census of India
6. Sharma, T. C. (2003) India - Economic and Commercial Geography. Vikas Publ., New Delhi.
7. Singh R. L. (1971) India: A Regional Geography, National Geographical Society of India.
8. Singh, Jagdish (2003) India - A Comprehensive & Systematic Geography, GyanodayaPrakashan, Gorakhpur.
9. Spate O. H. K. and Learmonth A. T. A. (1967) India and Pakistan: A General and Regional Geography, Methuen
10. Pathak, C. R. (2003) Spatial Structure and Processes of Development in India. Regional Science Assoc., Kolkata.
11. Tirtha, Ranjit (2002) Geography of India, Rawat Publs., Jaipur & New Delhi

Course outcomes:

At the end of the course, the students would be able to:

1. Understand the location, geographical expansion, and physiography.
2. Have acquaintance with the drainage and climate.
3. Enrich knowledge about peopling of the nation.
4. Internalize the concept of unity in diversity of our nation.

Geography
Town Planning (Semester-III)
Skill Enhancement Course (SEC)

Course Code: 24SEC0317T

45 Hrs (3 Hrs/week)

Credits: 3

Time: 2.5 Hours

Marks for External: 50

Marks for Internal: 25

Total Marks: 75

Note: The examiner is required to set seven questions in all. The first question will be compulsory consisting of five short questions covering the entire syllabus (two and half marks each). In addition, six more questions will be set comprising two questions from each unit. The students shall be required to attempt three questions in all selecting one question from each unit in addition to the compulsory Question No. 1. All questions shall carry equal marks (12.5 marks each).

Unit-I

1. Human Settlement: A brief history with its relevance in modern context.
2. Settlement System: Types and Functions.
3. Town and Country Planning Practices in India.

Unit-II

4. Town Planning: Definition, nature and scope.
5. Preparation of town plan: Statement of objectives, surveys and data collection for town planning with special reference to urban land surveys, formulation of policies, zoning, locational and space
6. Planning of transport and public utilities.

Unit-III

7. Problems of town planning in India.
8. Urban planning policies in Indian Five-Year Plans.
9. Indian town planning experiences- Master Plan of Delhi, Chandigarh

Suggested Readings:

1. Benjamin N.: *Cities made of boundaries : mapping social life in urban form*, London: UCL Press, 2018.
2. Bhardwaj, R.K.: *Urban Development in India*, National Book Trust, New Delhi, 1974.
3. Chapin, F.S. & Kaiser E.J., *Urban Landuse Planning*, Harper Bros., New York, 3rd Ed., 1985.
4. Hiraskar , G.K.: *Fundamentals of Town Planning*, Dhanpat rai publications, 2018
5. Jackson, J., *Surveys for Town and Country Planning*, Hutchinson Univ. Library, London, 1966.
6. Modak, V.N. and V.N. Ambedkar, *Town and Country Planning and Housing*, Oriental Longman, New Delhi, 1971.
7. TCPO, *Regional Planning Efforts in India*, Government of India, New Delhi, 1985.
8. Govt. of India, *Report of the National Commission on Urbanisation, Vols. I & II*, Ministry of Urban Development, New Delhi, 1988.

Geography
Geography in Everyday Life (Semester-III)
Value Added Course (VAC)

Course code: 24VAC0303T
30 Hrs (2 Hrs /week)
Credits: 2
Time: 2 Hrs

Marks for External: 35
Marks for Internal Exam: 15
Total Marks: 50

***Note:** The examiner is requested to set five questions in all, selecting two questions from each unit and one compulsory question (Question No.1 based on entire syllabus will consist of six short answer type questions each of two and half marks). The candidate is required to attempt two questions in all selecting one from each unit carry ten marks and the compulsory Question No.1.*

Unit-I

1. Study of Environment, Role of Geography in Planning and development.
2. Geography and Disaster, Geography and Cartography.

Unit-II

3. Atmosphere structure and composition.
4. Climate Change and Human-Being.

Geography
Ecosystem and Environment (Semester-IV)
Discipline Specific Course (DSC)

Course code: 24GEO0401T

45 Hrs (3 Hrs /week)

Credits: 3

Time: 2.5 Hrs

Marks for External: 50

Marks for Internal Exam: 20

Total Marks: 70

Note: The examiner is requested to set nine questions in all, selecting two questions from each unit and one compulsory question (Question No.1 based on entire syllabus will consist of five short answer type questions each of two marks). The candidate is required to attempt five questions in all selecting one from each unit and the compulsory Question No.1.

Objectives: The basic objectives of the course are to apprise the students about our environment, to understand its interrelationship with man and his linkages with other organisms, which vary in different biomes. Also to sensitize the students with the Environmental problems and degradations.

UNIT-I

1. Geography and ecosystem: fundamental concepts.
2. Concept of ecosystem: bases, types, components and function of ecosystem.
3. Energy flow in ecosystem: food chain, food web, trophic levels, ecological production and ecological pyramids.

UNIT-II

4. Biome: scheme of classification: factors affecting the distribution of biomes.
5. Salient features of the following biomes:
 - a. Tropical evergreen rain forest biome
 - b. Savanna biome
 - c. Monsoon biome
 - d. Temperate biome
 - e. Marine biome
 - f. Mountain biome
 - g. Desert biome
6. Ecosystem approach and its relevance in geography.
7. Ecological regions of India.
8. Man-environment relationship: classification of resources; use and ecological imbalance with reference to soils, forests and energy resources.

UNIT-III

9. Biodiversity and conservation: preservation and conservation of ecosystem through resource management.
10. Environmental issues: climate change, ozone depletion, global warming and global cooling
11. Concept of air, water, and noise pollution: level of problem, causes and measurement tools.

UNIT-IV

12. International efforts for environment management and conservation: The Stockholm Conference, the Earth Summit, Kyoto Protocol, Paris declaration and after. Solar Alliance and India's efforts
13. Environment Governance: environment policies and environmental legislation in India: prevention & protection Act of wild life, water, air, forest, environment protection and National Environment Tribunal Act.
14. Environmental management- concept, methods and approaches. Management of soil, forest and mineral resources; Disaster Management; Conservation of natural resources; Emerging environmental problems and issues in India, Environmental policies, programmes, awareness and movements in India

Geography
Ecosystem and Environment Lab (Semester-IV)
Discipline Specific Course (DSC)

Course Code: 24GEO0401P
30 Hrs (2 Hrs/week)
Credit: 1
Time: 2 Hours

Marks for External: 20
Marks for Internal: 10
Total Marks: 30

Note: - *There will be three questions in all and candidate has to attempt two exercises.*

Distribution of marks for evaluation:

External Marks evaluation:

(Exercise = 10

File record = 5

Viva-Voce = 5 marks)

Total -20

Practical Record: A project file on the below mentioned themes:

1. Environment Impact Assessment of any nearby industry, factory or similar area.
2. Studies on biological and other waste disposal mechanism of any nearby health centre or hospital.
3. To identify harmful wastes in any given waste or soil sample
4. To visit any nearby market area and quantification of daily waste generated from such areas.
5. A project report on Environmental Protection Act 1972

Suggested Readings:

1. Agarwal, A. and Sen, S. The Citizens Fifth Report. Centre for Science and Environment New Delhi 1999.
2. Bertalanffy, L. General Systems Theory, George Bragiller, New York, 1958.
3. Bodkin, E. Environmental Studies, Charles E. Merrill Pub Co., Columbus, Ohio, 1982.
4. Chandna, R.C.: Environmental Awareness, Kalyani Publishers, New Delhi, 1998.
5. Chorley, R.J., Geomorphology and General Systems Theory, U.S.G.S. Professional Paper, 500B, 1962.
6. Eyre, S.R. and Jones, G.R.J. Geography as Human Ecology, Edward Arnold, London, 1966.
7. Kormondy, E.J. Concepts of Ecology, Prentice Hall, 1989.
8. Mishra, S.P. and Pandey, S.N. (2016) Essential Environmental studies, Ane publications New Delhi.
9. Nobel and Wright: Environmental Science, Prentice Hall, New York 1996.
10. Odum, E.P. Fundamentals of Ecology, W.B. Saunders, Philadelphia, 1971.

Course outcomes:

At the end of the course, the students would be able to:

- : Familiarization with the concept and elements of ecosystem.
- : Enrichment of knowledge about the characteristics of different biomes.
- : Awareness about the inter-linkages between human artifacts and natural environment
- : Acquaintance about world environmental problems and policy framework

Geography
Introduction to Social Geography (Semester-IV)
Discipline Specific Course (DSC)

Course Code: 24GE00402T

45 Hrs (3 Hrs/week)

Credits: 3

Time: 2.5 Hours

Marks for External: 50

Marks for Internal: 20

Total Marks: 70

***Note:** The examiner is requested to set nine questions in all; selecting two questions from each unit and one compulsory question (Question No.1 based on entire syllabus will consist of five short answer type questions each of two marks). The candidate is required to attempt five questions in all selecting one from each unit and the compulsory Question No.1. All questions carry equal marks.*

Objective: Social Geography is an important aspect to understand the development of society and different social groups.

Unit - I

1. Social Geography: Nature, meaning and Development of Social Geography;
2. Philosophical bases of Social Geography: Positivism, Humanism and Feminism.

Unit - II

3. Towards a social geography of India; Concept of Social differentiation
4. Socio cultural regions of India, Socio-Cultural Regions of India; Linguistic Elements in India. Caste System in India.

Unit - III

5. Social Well-being : Concepts of social well being
6. Human Development Index. Human Development in India. Factors of social change.

Unit - IV

7. Gender Issues of social Well Being: Female Literacy, family Planning,
8. Women Health. Sex Ratio, Women Empowerment. Women Employment.

Geography

Introduction to Social Geography Lab (Semester-IV)

Discipline Specific Course (DSC)

Course Code: 24GE00402P

30 Hrs (2 Hrs/week)

Credit: 1

Time: 2 Hours

Marks for External: 20

Marks for Internal: 10

Total Marks: 30

Note: - *There will be three questions in all and candidate has to attempt two exercises.*

Distribution of marks for evaluation:

External Marks evaluation:

(Exercise = 10

File record = 5

Viva-Voce = 5 marks)

Total -20

Practical Record: A project file of at least 8 exercises on the below mentioned themes:

1. Computation and mapping of human development index(1 exercise)
2. Computation and mapping of gender development index(1 exercise).
3. Concentration of S.C. population: Location Quotient & dissimilarity index (2 exercises).
4. Graphical representation of income inequality: Lorenzcurve (2 exercises).
5. Construction of composite index by ranking and standardization method (2 exercises).

Recommended Books/e-resources/LMS:

1. Ahmad, A. (1993) Social Structure and Regional Development, Rawat Publications, Jaipur
2. Ahmad, A. (1999) Social Geography, Rawat Publications, Jaipur
3. Ahmad, A. (2012) Social Geography of India, Concept Publishing Company, New Delhi
4. Knox, P. L. (1975) Social Wellbeing- A Spatial Perspective, Oxford University Press, London
5. Pain, R., Barke, M., Fuller, D., Gough, J., MacFarlane, R. and Mowl, G. (2001) Introducing Social Geographies, Arnold and Oxford University Press, New York
6. Panelli, R. (2004) Social Geographies: From Difference to Action, Sage Publications, London
7. Sopher, D. (1980) An Exploration of India: Geographical Perspectives on Society and Culture, Cornell Press, New York
8. Smith, D.M. (1977) Human Geography: A Welfare Approach, Arnold Heinemann.
9. Smith, D.M. (1973) The Geography of Social Well-being in the United States. McGraw Hill, New York.

Course Outcomes:

1. Acquaint with social structure in spatial context.
2. Gain knowledge about ethnic and social groups in India.
3. Understand the social structure and religious diversity of India.
4. Be well versed with concept of well-being and its indicators

Geography
Population Geography (Semester-IV)
Discipline Specific Course (DSC)

Course code: 24GE00403T
60 Hrs (4Hrs /week)
Credits: 4
Time: 3 Hrs

Marks for External: 70
Marks for Internal Exam: 30
Total Marks: 100

***Note:** The examiner is requested to set nine questions in all, selecting two questions from each unit and one compulsory question (Question No.1 based on entire syllabus will consist of seven short answer type questions each of two marks). The candidate is required to attempt five questions in all selecting one from each unit and the compulsory Question No.1.*

Objectives: This course introduces the spatial distribution of population with causative factors. It also deals with various theories and concepts related with population. Study of population is an essential component in planning of various human related issues.

UNIT-I

1. Population Geography: Definition, nature and scope;
2. relationship with other disciplines –demography and population studies; sources of data with particular reference to India – census,vital or civil registration system,
3. Sample Registration System, Sample surveys with particular reference to NSSO and NFHS;
4. Problems of their reliability and comparability.

UNIT-II

5. Population Distribution and Growth: Factors affecting population distribution; Population growth -trends and determinants; spatial dimension of population growth in India;
6. Theories of population growth – pre-Malthusian views, Malthus' Theory
7. Views of socialist writers, optimum theory, demographic transition model.

UNIT-III

8. Components of population change: trends and patterns in fertility and mortality levels; Theories of fertility;
9. Migration: major international migrations; features of internal migration in India; Theories of migration; population composition and characteristics - age and sex composition, literacy, marital status and economic characteristics of population .
10. Population polices of Developed and Developing Countries.

UNIT-IV

11. Population and development: population growth and economic development; population growth and environmental quality; population control movement;
12. Population policies and its types; India's Population Policy: Post independence development – Reproductive and Child Health Programme.
13. Population problems and environmental implications.

Suggested Readings:

1. Bhende, A. A. and Kanitkar, T. (2011): Principles of Population Studies, Himalaya Publishing House, Mumbai.
2. Cassen, Robert & Bates, Lisa M. (1994): Population Policy: A New Consensus Overseas Development Council, Washington, D.C.
3. Chandna, R. C. (2016): Population Geography: Concepts, Determinants and Patterns, Kalyani Publishers, New Delhi.
4. Demko, G. J. and others (Eds.) (1971): Population Geography, Reader, McGraw- Hill Books Co., New York
5. Graff, M., and Bremner, J. (2014): A Practical Guide to Population and Development, Washington DC: Population Reference Bureau.
6. Hassan, I. (2020) Population Geography: A Systematic Exposition, Routledge, London.
7. May, J.F. (2012) World population policies: their origin, evolution, and impact, Washington DC: Springer.
8. Mahajan, N. (2014) Population Geography, R.K. publishers, Delhi.
9. Murray C. J. L., J. A. Salomon, C. D. Mathers and A. D. Lopez (2012), Summary Measures of Population Health: Concepts, Ethics, Measurement and Applications. WHO, Geneva.
10. Newbold, K Bruce (2016) Population geography: Tools and Issues.
11. Qazi, S.A (2010). Population Geography, APH publishers.

Course outcomes:

At the end of the course, the students would be able to:

- : Knowledge about population data base, methodological issues and mapping.
- : Familiarization with the dynamics of population and demographic dividends.
- : Enrichment of knowledge about population theories and models.
- : Awareness about population policies of different countries and relation between population and environment.

Geography
Geography of Tourism (Semester-IV)
Discipline Specific Course (DSC)

Course Code: 24GEO0404T

60 Hrs (4 Hrs/week)

Credits: 4

Time: 3 Hours

Marks for External: 70

Marks for Internal: 30

Total Marks: 100

***Note:** The examiner is requested to set nine questions in all; selecting two questions from each unit and one compulsory question (Question No.1 based on entire syllabus will consist of seven short answer type questions each of two marks). The candidate is required to attempt five questions in all selecting one from each unit and the compulsory Question No.1. All questions carry equal marks.*

Objective: Geography of Tourism is an important aspect to understand the development of tourism sector.

Unit - I

1. Tourists and tourism. Nature, scope, approaches and significance of tourism.
2. Travel and tourism through ages. Role of geography in tourism industry.

Unit - II

3. Types of tourism and its importance. Development of tourism in India and other major tourist countries.
4. Trends of international and domestic tourism. Tourism motivation and tourism demand.

Unit - III

5. Tourism infrastructure; transport, accommodation, hospitality and other facilities.
6. Positive and negative impact of tourism: economic, political, socio-cultural and environmental

Unit - IV

7. For sustainable development: Carrying capacity a tool development
8. Tourism planning and policies..

Recommended Books/e-resources/LMS:

1. Bhatia, A. K., (1991) International Tourism: Fundamentals and Practices, Sterling Publishers, New Delhi.
2. Dhar, P.N. (2006) International Tourism: Emerging Challenges and Future Prospects. Kanishka, New Delhi.
3. Kaul R. N. () Dynamics of Tourism: Sterline Publisher Ltd.
4. Shinde S.B. () Geography of Tourism, Phadke Prakashan, Kolhapur.
 5. Hall, M. and Stephen, P. (2006) Geography of Tourism and Recreation – Environment, Place and Space, Routledge, London.
6. Kamra, K. K. and Chand, M. (2007) Basics of Tourism: Theory, Operation and Practise, Kanishka Publishers, Pune.
7. Muluk, Musmade, Doke, More, (2021) Geography of Tourism-I, Nirali Publication, Pune.
8. Page, S. J. (2011) Tourism Management: An Introduction, Butterworth-Heinemann USA. Chapter 2.
9. Singh Jagbir (2014) “Eco-Tourism” Published by - I.K. International Pvt. Ltd. S-25, Green Park Extension, Uphaar Cinema Market, New Delhi, India (www.ikbooks.com).

Geography
World Regional Geography-I (Semester-IV)
Vocational Course (VOC)

Course Code: 24VOC0407T

30 Hrs (2 Hrs/week)

Credits: 2

Time: 2 Hours

Marks for External: 35

Marks for Internal: 15

Total Marks: 50

***Note:** The examiner is requested to set five questions in all; selecting two questions from each unit and one compulsory question (Question No.1 based on entire syllabus will consist of five short answer type questions each of three marks). The candidate is required to attempt three questions in all selecting one from each unit and the compulsory Question No.1. All questions carry equal marks.*

Objective: World Regional Geography is an important aspect to understand the geographical features in world.

Unit - I

1. Geography: Nature, meaning and Development of Geography;
2. Philosophical bases of Geography
3. Asia: Physiography, drainage, climate and natural vegetation
4. Asia: Population : Distribution and Composition and Economy

Unit - II

5. Africa: Physiography, drainage, climate and natural vegetation
6. Africa: Population : Distribution and Composition and Economy
7. Europe: Physiography, drainage, climate and natural vegetation
8. Europe: Population : Distribution and Composition and Economy

Geography
World Regional Geography-I Lab (Semester-IV)
Vocational Course (VOC)

Course Code: 24VOC0407P
60 Hrs (4 Hrs/week)
Credit: 1
Time: 2 Hours

Marks for External: 35
Marks for Internal: 15
Total Marks: 50

Note: - *There will be three questions in all and candidate has to attempt two exercises.*

Distribution of marks for evaluation:

External Marks evaluation:

(Exercise = 10

File record = 10

Viva-Voce = 15 marks)

Total -35

Practical Record: A project file of at least 16 exercises on the below mentioned themes:

1. Representation of Crop Calendar using Erograph (2 exercise)
2. Locating the megalopolis of Asia and Europe on World Map(4 exercise).
3. Analysis the extreme rainfall indices (4 exercise).
4. Mapping and demarcation of different size and shape of watersheds (4 exercise)
5. Distribution of Population by Dot Method (2 exercise).

Suggested Books:

1. Cole, J.: Geography of the World's Major Regions, Routledge, London, 1996.
2. Cole, J.P. : Latin America – Economic and Social Geography, Butterworth U.S.A., 1975.
3. Deblij, H.J. : Geography : Regions and Concepts, John Wiley, New York, 1994.
4. Dickinson, J. Petal : The Geography of the Third World, Routledge, London, 1996.
5. Gourou. P. : The Tropical World, Longman, London, 1980.
6. Jackson, R.H. & Hudman. L.E. : World Regional Geography : Issues for Today, John Wiley, NewYork, 1991.
7. Kolb. A. : East Asia – Geography of the Cultural Region, Methuen, London, 1977.
8. Minshull. G.N. : Western Europe, Hoddard & Stoughton, New York, 1984.
9. Patterson, J.H. : Geography of Canada and the United States, Oxford University Press, 1985.
10. Songquiao. Z. : Geography of China, John Wiley, New York, 1994.
11. Ward P.W. & Miler, A. : World Regional Geography : A Question of Place, John Wiley, New York.

Geography
Geography in Everyday Life (Semester-IV)
Value Added Course (VAC)

Course code: 24VAC0303T
30 Hrs (2 Hrs /week)
Credits: 2
Time: 2 Hrs

Marks for External: 35
Marks for Internal Exam: 15
Total Marks: 50

***Note:** The examiner is requested to set five questions in all, selecting two questions from each unit and one compulsory question (Question No.1 based on entire syllabus will consist of six short answer type questions each of two and half marks). The candidate is required to attempt two questions in all selecting one from each unit carry ten marks and the compulsory Question No.1.*

Unit-I

1. Study of Environment, Role of Geography in Planning and development.
2. Geography and Disaster, Geography and Cartography.

Unit-II

3. Atmosphere structure and composition.
4. Climate Change and Human-Being.