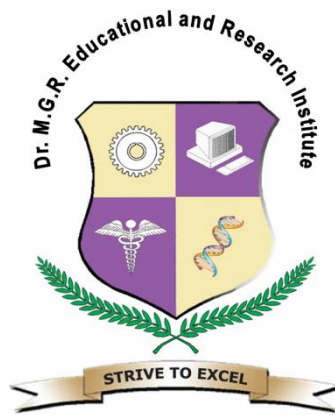


FACULTY OF ARCHITECTURE

(CA / 5 / Academic – TN41 dt. 28.07.11)

Dr. M.G.R
EDUCATIONAL & RESEARCH INSTITUTE
UNIVERSITY

(Declared U/s. 3 of UGC Act 1956)



M.Arch
Landscape Architecture
SYLLABUS – 2021

BOS MEETING DATE: 21.04.2021

Sponsored by,
Dr. M.G.R. Educational and Research Institute Trust,
Chennai – 600 095

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(Declared as Deemed -to- University, u/s. 3 of UGC Act 1956)

M.ARCH**Landscape Architecture-2021****SEMESTER - I**

Code No	COURSE TITLE	L	T	P/S	C
THEORY					
MAR21L001	Geology & Soils	2	0	0	2
MAR21L002	Hydrology and Water Management	2	0	0	2
MAR21L003	Theory of Landscape Architecture-I	2	0	0	2
MAR21L004	Landscape ecology and planning	2	0	0	2
THEORY CUM PRACTICAL					
MAR21L005	Plant Systems and Horticultural practices	2	0	4	3
MAR21L006	Landscape Construction-I	2	0	4	3
STUDIO					
MAR21LI01	Intensive Pre-requisite Study	0	0	2	1
MAR21LL01	Landscape Architecture Studio-I Professional Communication -I	0	0	12	5
Total Credit		12	0	24	20

SEMESTER - II

Code No	COURSE TITLE	L	T	P/S	C
THEORY					
MAR21L007	Theory of Landscape Architecture-II	2	0	0	2
MAR21L008	Landscape Resources-I	2	0	0	2
MAR21L009	Sustainability & Energy Conservation in Landscape Architecture	2	0	0	2
MAR21L010	Planting Design	3	0	0	3
THEORY CUM PRACTICAL					
MAR21L011	Remote Sensing, Land Information Systems and GIS	2	0	4	3
MAR16L012	Advanced Landscape Construction -II	2	0	4	3
STUDIO					
MAR16LL02	Landscape Architecture Studio-II Professional Communication-II	0	0	12	6
Total Credit		13	0	20	21

SEMESTER - III

Code No	COURSE TITLE	L	T	P/S	C
THEORY					
MAR21L013	Urban Landscape Design	2	0	0	2
	Elective - I	2	0	0	2
MAR21L014	Landscape Economics, Estimation and Landscape Management	3	0	0	3
MAR21L015	Research Methodologies In Architecture	2	0	0	2

STUDIO					
MAR21LL03	Dissertation	0	0	6	3
MAR21LL04	Landscape Architecture Studio-III Professional Communication-III	0	0	12	6
Total Credit		8	0	18	18

SEMESTER -IV

Code No	COURSE TITLE	L	T	P/S	C
THEORY					
MAR21L016	Professional Practice of Landscape Architecture	2	0	0	2
	Elective - II	2	0	0	2
STUDIO					
MAR21LL05	Landscape Architecture Studio-IV (Thesis) Professional Communication-IV	0	0	24	12
Total Credit		4	0	24	16

ELECTIVES

Code No	COURSE TITLE	L	T	P/S	C
THEORY					
MAR21LE01	Landscape Resources-II	2	0	0	2
MAR21LE02	Landscape Project Management and Management	2	0	0	2
MAR21LE03	Climate, Built Form & Landscape	2	0	0	2
MAR21LE04	Landscape Assessment and Landscape Conservation	2	0	0	2

Total No of Credits: 75

* Varies between 12 – 15 hrs duration and weeks.

** Undeterminable Number of Hours, It may be 25 – 30 hrs duration/ week.

Minimum marks for passing in each subject – 50%

Weightage for Internal Exam – 50%

Weightage for University Exam – 50%

For Landscape Construction, STUDIO Project & Dissertation – Internal Assessment – 50%

– External Viva – 50%

SEMESTER - I**MAR21L001****GEOLOGY & SOILS****L T P C
2 0 0 2**

Theory

UNIT I**6**

Earth in space; origin and interior of the earth.

Early history of the Earth. The origin of life and meaning of fossils as keys to the past.

Earthquakes: causes and effects, seismic microzonation, seismic zones of India.

UNIT II**8**

Minerals and Metals.

Rocks: Igneous, Sedimentary, Metamorphic.

Isostasy, plate tectonics, crustal deformation and mountain building.

UNIT III**8**

Structural geology: dip, strike, folds, faults, joints, unconformities. Stratigraphy: principles, stratigraphy and geology of India.

UNIT IV**8**

Application of geological information in the interpretation of landscapes on maps and in the field.

The relationships between geology, soils and vegetation: Practical examples.

TOTAL: 30 PERIODS**REFERENCES:**

1. I.P. Abrol and V.V.Dhruva Narayana, Technologies for Wasteland Development, ICAR, New delhi, 1990.
2. Arthur.V.Strahler, Physical Geography, Second edition, John Wiley and sons Inc.,1951.

MAR21L003**THEORY OF LANDSCAPE ARCHITECTURE - I****L T P C
2 0 0 2**

Theory

UNIT I**6**

Dialogue on developing an analytical approach to the study of theory; developing an attitude towards critique and evaluation of choices for design decisions in varied contexts of space and time. Appreciation of scale in terms of garden, landscape and nature.

An outline of the chronology of development and evolution of landscape and garden design in relation to art, architecture and city planning from the earliest period to the present day: towards a comprehensive and inclusive vision of Landscape Architecture.

UNIT II**8**

Changing perceptions of man's relationship with nature in various phases of history; responses and attitudes to nature and landscape resources as a function of this perception.

Environmental and Behavioral theories: Entropy, Prospect and Refuge, Defensible space etc. An introduction to social and cultural dimensions of landscape.

UNIT III**8**

Ancient Indian traditions; siting of structures, complexes and cities; symbolic meanings and sacred value attributed to natural landscapes; traditional landscapes such as ghats, gardens, kunds, sacred groves etc. Landscape in myth and poetry.

The comparative analysis of examples of landscape separated in time and space: siting, relationship to surroundings, use of landscape elements, function, scale, symbolism, etc. Illustrative range of examples from various geographic locations and periods, highlighting aspects of Form, Space and Order.

UNIT IV**8**

Development of landscape design and gardens till the early 19th century: Detailed study of selected examples from Eastern, Central and Western traditions;

Ancient Heritage : Mesopotamia, Egypt, Greece, Rome

Western Civilization : Europe; Italy, France, and England

The middle-east : The Persian tradition and its far reaching influence

Eastern Civilisation : China and Japan

Ancient and medieval period in India; Mughal and Rajput Landscapes.

Influences and linkages across cultures and traditions, e.g Chinese tradition and the English Landscape style, influence of Persian traditions towards the West and East.

Colonial landscape development in India

TOTAL: 30 PERIODS

REFERENCES:

1. Geoffrey and Susan Jellicoe, The landscape of Man, Thames & Hudson Publication, 1995
2. Robert Holden, New landscape Design, Lawrence king publishing, UK, 2003
3. Penelope Hill, Contemporary history of garden design, Birkhauser publishers, 2004
4. Elizabeth Barlow Rogers, Landscape Design – A Cultural &Architectural History, Hary & Abram inc. publishers, 2001.
5. Phillip Pregill & Nancy Volkman, Landscapes in History, Van Nostrand publishers, 1993.
6. Jonas Lehrman, Earthly Paradise- Garden and courtyard in Islam, Thames and Hudson,1980.
7. G.B.Tobey, A history of American Landscape architecture, American elsevier Publishing Co.,NY, 1973.
8. Pieluigi Nicholin, Francesco Repishti, Dictionary of today's landscape designers, Skira Editores P.A, 2003.

MAR21L005**PLANT SYSTEMS AND HORTICULTURAL PRACTICES****L T P C
2 0 4 3**

Theory +Practical

UNIT I CHARACTERISTICS OF PLANT MATERIALS 10

Classification of plant kingdom, rules of nomenclature and identification. Plant processes, water relation, mineral nutrition, photosynthesis and respiration. Stem, root and leaf relationship, growth and flowering, response to stimuli and modification. Plant multiplication and adaptation.

Output: *Plant identification Report* - Nomenclature, classification, identification of selected horticultural plants

UNIT II FLORISTIC REGIONS OF INDIA 10

Different floristic regions and forest types of India. Dominant, endemic, occasional, prevalent species in select types.

Output: *Report and seminar-* Compilation of the various aspects contributing to the characterization of the selected phyto-geographical region

UNIT III PLANT PROPAGATION 20

Nursery establishment and plant propagation. Establishment and maintenance of grass, shrubs and trees with respect to ground preparation, planting and transplanting, protection of plants during and after planting. Workshop to gain hands on experience on various planting techniques.

Output: *Report and seminar-* Site visit and hands on training on establishment of soft scape and maintenance. Various propagation techniques and plant protection.

UNIT IV HORTICULTURAL PRACTICE & MAINTENANCE 20

Plant nutrition and supplements. Fertilizers and Manures- types, methods of applications, advantages and disadvantages. Common plant pests, diseases and their control, insecticides and their application, weed control. Sustainable practices in pest management and weed control. Water budgeting . Leaf Area Index calculation for various plant species of India.

Maintenance methodology, maintenance economics and maintenance details for all soft landscape. Equipment for landscape maintenance.

Output: *Report and Sheets-* Report on plant growth and nutrition. Landscape development of a given area and Estimation and Budget for soft scape, lawn, shrubs and trees. LAI and other morphological traits for different species Water budgeting for plant growth and maintenance.

TOTAL: 60 PERIODS**REFERENCES:**

1. Raunkier.C., the Life forms of Plants and statistical plant geography, 1934.

2. Venkateswaralu.V.A., Text book of Botany, Vol III, Guntur.
3. Lawrence.H.M., Taxonomy of vascular plants, Oxford, IBH, 1964.
4. Rao.K.N.R. and Krishnamurthy.K.N., Angiosperms, S.Viswanathan Printers and publishers.
5. G.S.Puri, Forest types of India.

MAR21LI01

INTENSIVE PRE-REQUISITE STUDY

L T P C
0 0 2 1

Practical

Intensive pre-requisite field study an introductory course in landscape systems, the principles of design, and basic skills in two- and three-dimensional landscape design representation.

The course will include site visits and field trips.

Coursework may include studies of selected topics, drawing assignments, critical analysis and site reports.

TOTAL: 15 PERIODS

MAR21LL01

**LANDSCAPE ARCHITECTURE STUDIO -I
PROFESSIONAL COMMUNICATION - I**

**L T P C
0 0125**

Studio

Readings in Landscape Architecture

Introductory exercises in Art, Architecture & Landscape

Urban and Rural Landscape appraisal

Landscape Analysis and Site Planning for medium sized sites (upto 2 Ha)

Landscape Design of small recreational or civic spaces.

Professional communication: Specific and focused exercises to develop language skills in verbal and written communication on subjects related to design, art and aesthetics and urban and rural environment.

SEMESTER - II**MAR21L007****THEORY OF LANDSCAPE ARCHITECTURE - II****L T P C
2 0 0 2**

Theory

UNIT I**6**

Nineteenth Century Europe: The socio-cultural impact of industrialization and urbanization; its effect on public health legislation and the development of new landscape types, public parks and facilities for sports.

Open space development in its urban design and planning context. Early industrial towns and the Garden City movement.

UNIT II**8**

USA: Further evolution of the public park as a major component of urban landscape. The work of F.L. Olmsted and other pioneers. Park-Systems and suburban development centered on open space. The Modern Movement: changing concepts of space and the relationship of architecture and landscape illustrated through studies of selected works of the modern masters.

Post-war development in Europe: New Towns in England and the concept of Landscape Structure.

Landscape Urbanism; Examples of open space development in new towns and urban renewal to illustrate the close conceptual relationship between town planning, urban design and landscape architecture (e.g. Haussmann's Paris, Lutyen's Delhi).

The influence of Ian McHarg on mid and late 20th Century landscape architecture. The work of selected twentieth century landscape architects, in the west as well as in India.

UNIT III**8**

Contemporary concepts and concerns: "Green" Architecture and Energy-Saving site planning and Landscape Architecture;

Cultural landscapes, their definition, identification, characteristics and polices; Landscape inventory and conservation of historical landscape

Artistic sensibility in Landscape Architecture, land art; new developments in urban landscape design.

UNIT IV**8**

The Indian Context: Understanding contemporary attitudes to open space design in India: ancient horticultural tradition, Mughal influence, British colonial influence. Trends in landscape design in India in the late 20th and the first decade of the 21st Century; the search for a theoretical basis. Development and evolution of the landscape profession in India.

TOTAL: 30 PERIODS**REFERENCES:**

1. Garden Cullen, The concise Townscape, Architectural press, London.
2. Kevin Lynch, Image of City, Cambridge, MA, 1961.
3. Henry F. Arnold, Trees in Urban Design, Van Nostrand Reinhold Company.
4. Matthew carmona, Tim Heath, Public places – Urban spaces, Architectural press, 2003.
5. Michael Hough, Cities and natural process, Routledge, 1995.
6. Donald Watson, Alan plattns, Roberta shibley, Time savers standards for urban design, McGraw hill, 2003.
7. Elements and total concept of urban landscape design, Graphic –sha publishing Co, 2001.
8. Tom turner, city as landscape, Eand FN spon, 1996.
9. Cliff Tandy, Handbook of urban Landscape, Architectural Press, 1970.
10. Penelope Hill, Contemporary history of garden design, Birkhauser publishers, 2004
11. Jonas Lehrman, Earthly Paradise- Garden and courtyard in Islam, Thames and Hudson,1980.
12. G.B.Tobey, A history of American Landscape architecture, American elsevier Publishing Co.,NY, 1973.
13. Pieluigi Nicholin, Francesco Repishti, Dictionary of today's landscape designers, Skira Editores P.A, 2003.

MAR21L008 **LANDSCAPE RESOURCES - I** **L T P C**
2 0 0 2

Theory

UNIT I **6**

Settlements and Landscape: Siting and evolution of cities in relation to regional landscape resources.

The role of landform, water systems, climate and vegetation. Illustrative studies of cities in India and elsewhere.

Microclimate: Definition and characteristics. The role of landscape components in modifying microclimate with respect to temperature, humidity, precipitation, air corridors, heat islands, wind speed etc., in cities.

UNIT II **8**

Evaluation of microclimate data.

Air pollution and Bio-meteorology; climatic comfort indices; heat transfer; meteorological instrumentation and plant injury; Types of air pollutants, sources and consequences. Air pollution and plants. Air pollution monitoring and quality criteria

UNIT III **8**

Threats to urban landscape resources; urban environmental issues such as solid waste management, air quality, conservation of water resources and vegetation cover.

The urban forest: It's ecological social and environmental dimensions. Ways of studying urban vegetation. Its role in the urban landscape.

UNIT IV **8**

Landscape heritage: Open space systems, cultural and sacred landscapes, their typology and role in the development of cities. Landscape resources specific to distinctive city types: for example: religious centers, historic cities, coastal or port cities, hill station etc.

City development Plans, Zonal Plans and structure plan. Development controls and their role in the conservation and creation of urban landscape.

TOTAL 30 PERIODS

REFERENCES:

1. Robert Brown and Jenny J Gillespie, Micro climatic landscape design – creating thermal comfort and energy efficiency, John Wiley, N.Y, 1995.
2. Anne Simon Moeffeet & Marie Schiller, Landscape design that saves energy, William Marison & Co, N.Y.
3. George Perkins Marsh, Man and Nature.
4. Bansal N.K. Minke.G, Climatic zones and rural housing in India, KFA, Julich, Federal republic of germany, 1988.
5. Baruch Givoni, Passive and low energy cooling of Building, Van Nostrand reinhold, Newyork, 1994.

MAR21L010**PLANTING DESIGN****L T P C****3 0 0 3**

Theory

UNIT I INTRODUCTION TO PLANTING DESIGN 10

Introduction to planting design. Plants as living materials, landscape architect's view of plants. Plants as structural, functional and decorative elements. Structural characteristics of plants. Spatial functions of plants, ground level planting, below knee height, knee to eye level, above eye level planting, tree planting.

UNIT II CREATING SPACES WITH PLANTS 10

Experience of spaces, use of planting to manipulate spatial experience, elements of spatial composition – enclosure, dynamics and focus. Plant associations. Plant communities, Designing with canopy layers – 3 layers, 2 layers and single layer. Plants as a part of integral habitats.

UNIT III VISUAL COMPOSITION IN PLANTING DESIGN 10

Subjective and objective responses to plant material. A study on form, shape, colour, texture, growth characteristics and suitability to different environments. Principles of visual composition- harmony and contrast, Balance, Emphasis, Sequence, Scale, Unity and variety in planting design.

UNIT IV PLANTING DESIGN FOR HABITAT CREATION & APPLICATIONS 15

Planting strategies and species for various types of habitats – wooded areas, grassland and meadows, wetlands, coastal edges, waterside and aquatic planting, slope retention, and plants for restoration of disturbed habitats.

Study of local plant materials, their botanical, common and regional names, growth characteristics and application in design. Visit to nurseries. Soft landscape working drawings, planting plans, specifications and estimation for various scale of projects.

TOTAL: 45 PERIODS**REFERENCES:**

1. Nick Robinson, The Planting Design Hand book, Gower Pub., 1998
2. Brian Hackett, Planting Design, McGraw hill, 1979.
3. Bose. T. K. and Choudhary, Tropical Garden Plants in Colour, Horticulture and Allied Publishers, 1991
4. Iyengar Gopaldaswamy, Complete Gardening in India, Gopaldaswamy Partha sarathy, 1991.
5. M.S. Randhawa, Flowering trees of India, National Book Trust , India, 1983.
6. Design with nature , By Ian McHang.

MAR21L 011	REMOTE SENSING, LAND INFORMATION SYSTEMS AND GIS	L T P C 2 0 4 3
Theory +Practical		
UNIT I		10
Remote Sensing, Land Information System & GIS		
Concept and Foundation of Remote Sensing		
Elements of Photographic System		
Types of Aerial Photographs:		
Vertical Photographs,, Oblique Photographs, Satellite Imagery		
UNIT II		10
Introduction to Air Photo Interpretation		
Photogrammetry for Map Making		
Introduction /Definition		
Geometric Elements of a Vertical Photograph		
Relief Displacement		
Ground Control for Aerial Photography		
Digital Image Processing		
UNIT III		20
Applications		
Geologic & Soil mapping		
Land-use / land cover Mapping a) Land use Classification		
Agriculture Applications		
Forestry Applications		
Water resource Applications:		
a) Water Pollution Detection b) Flood Damage Estimation		
Urban & Regional Planning Applications		
Wetland mapping		
Geographical Information Systems		
Definition		
Composition of Geographical Information System		
Computer Hardware Module		

GIS Software Module

Data Input, Data Storage, Data Output

Database Structures

UNIT IV

20

Presentations / Workshop

Application of GIS & Remote Sensing

Automated Mapping / Facility Management. (AM/FM)

3-D GIS Digital Elevation Model & Digital Terrain Model

Digital Image Processing and Editing; Error Detection and Correction

Geo Spatial Analysis : Turning Data into Meaningful information.

Comparison of Vector & Raster Methods

Internal G.I.S.

Network Analysis

Open GIS

TOTAL: 60 PERIODS

REFERENCES:

1. Brail K.R (1990) Integrating GIS into Urban Regional Planning, Alternative approaches for developing countries, regional development Dialogue, Vol.11, No.3 UNCRD, Japan, 1990.
2. Karen C.Hanna, GIS for Landscape Architects, ESRI press, 1999.
3. Andy Mitchell, GIS Analysis Volume 1. Geographic patterns and Relationships, ESRI Press 2005.
4. David Maquire and Michael Batty (Editors) GIS, Spatial Analysis and Modeling, ESRI Press, 2005.
5. Cynthia A. Brewer, Designing Better Maps: A Guide for GIS Users, ESRI Press

MAR16LL02

**LANDSCAPE ARCHITECTURE STUDIO - II
PROFESSIONAL COMMUNICATION - II**

**L T P C
0 0 12 6**

Studio

Exercise related to the application of ecological principles in a range of situations and directed towards understanding and proposing design possibilities in:

Urban Open Space systems

Rural Landscape

Heritage and Cultural Landscape

Professional Communication II : Advanced language skills in relation to technical writing and professional communications with agencies associate with planning and design, for example: Planning authorities, Statutory bodies, Clients, Contractors, other professionals.

MAR21L015**RESEARCH METHODOLOGIES IN ARCHITECTURE****L T P C
2 0 0 2****OBJECTIVES:**

- To make the students to distinguish various theoretical ideologies influencing the philosophy and values of architecture.
- To establish the sense of systematic inquiry in students mind to analyze and infer the issues and aspects relating to Architecture.

UNIT I INTRODUCTION**9**

Basic research issues and concepts- orientation to research process- types of research: historical, qualitative, co-relational, experimental, simulation and modeling, logical argumentation, case study and mixed methods- illustration using research samples

UNIT II RESEARCH PROCESS**9**

Elements of Research process: finding a topic- writing an introduction- stating a purpose of study- identifying key research questions and hypotheses- reviewing literature- using theory- defining, delimiting and stating the significance of the study, advanced methods and procedures for data collection and analysis- illustration using research samples

UNIT III RESEARCHING AND DATA COLLECTION**6**

Library and archives- Internet: New information and the role of internet; finding and evaluating sources- misuse- test for reliability- ethics
Methods of data collection- From primary sources: observation and recording, interviews structured and unstructured, questionnaire, open ended and close ended questions and the advantages, sampling- Problems encountered in collecting data from secondary sources

UNIT IV REPORT WRITING**6**

Research writing in general- Components: referencing- writing the bibliography - developing the outline- presentation; etc. Case studies illustrating how good research can be used from project inception to completion- review of research publications

TOTAL: 30 PERIODS**OUTCOMES:**

- The student will develop the skill to identify, decipher and interpret the issues relating to Architecture, based on research enquiry methods.
- The student will widen the information and will prepare the students for scientific method of researching and research process.

REFERENCES:

1. Linda Groat and David Wang; Architectural Research Methods;
2. Wayne C Booth; Joseph M Williams; Gregory G. Colomb; The Craft of Research, 2nd Edition; Chicago guides to writing, editing and publishing;
3. Iain Borden and Kaaterina Ruedi; The Dissertation: An Architecture Student's Handbook; Architectural Press; 2000
4. Ranjith Kumar; Research Methodology- A step by step guide for beginners; Sage Publications; 2005

MAR21LL03

DISSERTATION

L T P C
0 0 6 3

Seminar

Topics related to various aspects of Landscape Architecture would be chosen in consultation with faculty members, comprehensively researched, and findings presented in a series of seminars by individual students.

The materials would be documented and formally presented as a Dissertation at the end of the semester.

The dissertation would be of a length of between 3000 and 4000 words with illustrations, references, footnotes and annotations.

MAR21LL04

LANDSCAPE ARCHITECTURE STUDIO - III
PROFESSIONAL COMMUNICATION - III

L T P C
0 0 12 6

Studio

Relatively large scale exercise of analysis and proposals related to Landscape of:

- Institutional Campuses
- Urban civic spaces at urban design scale, and
- Transportation and interchange systems and complexes

Eco-Tourism projects.

Professional Communication III: Professional techniques in digital media.

MAR21LL05

**LANDSCAPE ARCHITECTURE STUDIO-IV (THESIS)
PROFESSIONAL COMMUNICATION - IV**

**L T P C
0 0 24 12**

Studio

Landscape Architecture thesis will consists of two parts:

- (a) Research oriented towards establishing a strong theoretical background for the chosen subject.
- (b) Application to a Landscape Planning or Landscape Design proposal with appropriate details.

Professional Communication III: Application of skills and techniques acquired in the past three semesters to specialized requirements of the Thesis, including the use of video or other digital multimedia for a short, specific exercise related to presentation of thesis work.

MAR21LE01**LANDSCAPE RESOURCES – II****L T P C
2 0 0 2**

Theory

UNIT I**6**

Overview of landscape resources at the national level.

National Environment Policy.

Developmental and Environmental issues associated with particular landscape regions: mountain and hill areas; deserts and wastelands; river and aquatic systems, coastal and estuarine regions, etc.

UNIT II**8**

The rural landscape: agriculture and forestry as competing uses, the impact of industry and power generation.

Forest types of India; introduction to Forest Policy and management of forest resources. Conservation Forestry, Agro-Forestry and Social Forestry.

UNIT III**8**

Significance of biodiversity, urban biodiversity, wildlife conservation.

Agricultural practices and the formation of traditional rural landscape. Illustrative examples from different climatic and geographic regions.

Factors associated with the location and functioning of extractive and manufacturing industry in the rural landscape.

UNIT IV**8**

Wetlands: definition, wetland values and conservations. Wastelands management. Land reclamation and rehabilitation.

Watersheds and the importance of watershed management. Resource conservation, land capability classification; mechanical, vegetative and agronomic measures in soil and water conservation.

Techniques and criteria for evaluation of regional landscape resources.

TOTAL: 30 PERIODS

MAR21LE02**LANDSCAPE PROJECT MANAGEMENT
AND MAINTENANCE****L T P C
2 0 0 2**

Theory

UNIT I**6****Regulations and Legal Aspects**

Codes, Standards, Bye laws and planning regulations applicable to building and landscape development. The role of statutory and regulatory bodies such as the Municipal Corporation, N.D.M.C, D.D.A and Urban Art commission etc.

UNIT II**8****Construction administration, Implementation process**

Sequence of activities from inception to completion: agencies involved at each stage, their professional relationships and obligations. Co-ordination of agencies and activities on site. Practical examples.

Budgetary control, progress evaluation and monitoring: various kinds of estimates, review and updating, simple examples of pert charts and bar diagrams.

Site documentation: importance of written records. Site instruction book, periodic reports, visual records, bar charts etc.

Techniques of inspection and quality control; visits to site under development.

UNIT III**8****Construction documents**

Contract Procedure; Criteria for selecting contractors: the process of calling tenders. Comparison of various kind of tenders with regard to objectives, utility and appropriateness.

Tender Documentation and evaluation of tender; negotiations with contractors.

Contract Documentation: Forms of contract; General and special conditions, specifications, Bill of quantities; significant clauses pertaining to defects, maintenance, arbitrations, etc.

Parties to the contract; their roles, contractual relationships and legal obligations.

UNIT IV**8****Landscape maintenance:**

Preparation of a maintenance plan: watering, fertilization, aeration, mulching, edging, pest control, pruning, and weed control. Design for irrigation, drainage, electrical etc, Methods and materials involved in maintenance of the landscape features. Maintenance bids and services involved.

Landscape Design Competitions: Types, Guidelines

TOTAL: 30 PERIODS

REFERENCES:

1. Walter Rogers, The Professional practice of landscape architecture, Van nostrand Reinhold, 1997.
2. John.L.Motloch, Introduction to Landscape design, 2001.
3. Jack.E.Ingels, Landscaping, Principles and Practices, Delmar publishersinc, 1992.
4. W.F.Hill, Landscape handbook of Tropical Landscape, Garden Art Press, 1995.
5. H.N.Tiwari, Environmental Law, Allahad law agency, 1997.
6. Rosencrany, a.Diwan, Noble.M, Environmental law and policy in India(Cases, Materials, and statutes), Tripathi Bombay, 1991.

MAR21LE03**CLIMATE, BUILT FORM & LANDSCAPES****L T P C****2 0 0 2**

Theory

UNIT I INTRODUCTION TO CLIMATE LANDSCAPE AND EVALUATION TOOLS 7

A brief introduction to the composition of atmosphere, elements of weather, temperature, precipitation, humidity, air pressure, wind patterns and radiation etc, Climate - micro, macro and crypto climate. Climatic zones of India. Study of urban and rural climate.

Soil classification and vegetation in the tropics. Landscaping in varied Indian climates. Impact of natural and manmade features on climate. Carbon neutral and negative concepts.

Evaluation of climatic data. Sources, methods of obtaining data, instruments and charts used for this purpose. Use of hand held instruments.

UNIT II MICRO CLIMATIC CONTROL 8

Impact of natural and man made elements on climate. Radiation, wind, temperature, humidity and precipitation modification. Sustainable micro climatic design. Integration of microclimatic information in design and case studies.

UNIT III ELEMENTS OF CLIMATE 8

Analysis of local site and climate and their consequences for built form & landscape. Particular attention to daylight, solar access and shading; ventilation; wind and precipitation; climate-adapted design of outdoor-indoor areas.

UNIT IV CLIMATIC ANALYSIS 7

Methods to analyse the various elements of local climate and site, and assess their consequences on built environment and its immediate outdoors. Earth for life approach.

TOTAL: 30 PERIODS**REFERENCES:**

1. Robert Brown and Jenny J Gillespie, Micro climatic landscape design – creating thermal comfort and energy efficiency, John Wiley, N.Y, 1995.
2. Anne Simon Moeffeet & Marie Schiller, Landscape design that saves energy, William Marison & Co, N.Y.
3. George Perkins Marsh, Man and Nature.
4. Bansal N.K. Minke.G, Climatic zones and rural housing in India, KFA, Julich, Federal republic of germany, 1988.
5. Baruch Givoni, Passive and low energy cooling of Building, Van Nostrand reinhold, Newyork, 1994.

**MAR21LE04 LANDSCAPE ASSESSMENT AND LANDSCAPE CONSERVATION L T P C
2002**

Theory

UNIT I

6

Environmental Impact Assessment and the Environmental Impact Statement: Theory and Practice. Illustrative examples from India and elsewhere to demonstrate the degree of effectiveness. The role of Environmental Legislation and the Ministry of Environment and Forests.

UNIT II

8

Landscape Assessment techniques;. Assessing the landscape value – landscape quality – aesthetic, heritage and sensitivity values. Models for assessing landscape resources – land use impact assessment models – model to assess the ecological values – Land Evolution and Site Assessment model (LESA) – Ecological modeling, Landscape visual Impact assessment (LVIA)

UNIT III

8

Case studies: The application of landscape assessment and evaluation techniques to large scale developments such as infrastructure and power projects, extractive and manufacturing industry, new towns and urban extensions, and developments for tourism and eco-tourism.

UNIT IV

8

The concept of Landscape restoration and Landscape Conservation: definitions and scope. Landscape Conservation: Priorities, Policies and Programmes. National parks and other protective designations. Biodiversity and Biosphere reserves. Endangered landscapes. Aspects of watershed management.

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4. H.N.Tiwari, Environmental Law, Allahad law agency, 1997.
5. Rosencrany, a.Diwan, Noble.M, Environmental law and policy in India(Cases, Materials, and statutes), Tripathi Bombay, 1991.

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Landscape Architects Series , By Archiworld .

Landscape World Series , By Archiworld .

Environment & Landscape Series , By Archiworld .

Landscape of man , By Jellicie.

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