

**DEPARTMENT OF ARCHITECTURE  
ANNA UNIVERSITY, CHENNAI**

**VISION OF DEPARTMENT OF ARCHITECTURE**

The Department of Architecture is committed to excellence in the field of architectural education and the discipline of architecture through its pedagogical, research, extension and outreach activities, directed towards the betterment of the world that we inhabit, in all realms shaped by architecture. It shall uphold universal moral and ethical values in all endeavours that it undertakes and be exemplary in creating positive transformations.

**MISSION OF DEPARTMENT OF ARCHITECTURE**

The Mission of the Department of Architecture is

- To tap and strengthen the innate potential of each student and deepen their knowledge/skills in order to enable them to self-actualise as well as become catalysts for positive change.
- To contribute to immediate context, larger society and the world through knowledge creation and dissemination.
- To engage and extend the expertise of the department in addressing and solving of issues/problems related to the built environment.
- To actively interact and collaborate with professionals, educational institutions and other related organisations at all scales in order to collectively further the cause of appropriate architecture.



*Attested*

  
DIRECTOR  
Centre for Academic Courses  
Anna University, Chennai-600 025

<b>REGULATIONS 2019</b>
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**CHOICE BASED CREDIT SYSTEM**  
**M.Arch (Landscape Architecture) Full-Time Programme**

**1. PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)**

- I. Become a landscape architect with ability to design open spaces, find environmentally suitable solutions and become a landscape planner capable of promoting sustainable development of natural resources.
- II. Find gainful employment in landscape architectural firms / infrastructure firms / environmental solutions providers through offering of specialized knowledge.
- III. Be a part of organisations that influence policy and decision making through contributing in-depth knowledge in relevant fields of study.
- IV. Become a teacher/researcher with ability to apply critical, investigative and analytical thinking towards future society.
- V. Become a thinker and entrepreneur who can anticipate and project future transformations in the environment.

**2. PROGRAMME OUTCOMES (POs)**

After going through two years of study, our M. Arch (Landscape) graduates will exhibit ability to:

PO#	Programme Outcome
1.	Independently carry out research / investigation and design development work to solve practical problems of built environment.
2.	Write and present a substantial technical report/research document.
3.	Demonstrate a degree of mastery in the area of landscape architecture.
4	Resolve landscape architectural problems with due consideration to environmental and urban issues.
5	Bring contemporary tools/ methods/ approaches to analyse situations and explore design.
6	Identify, decipher and interpret issues relating to Landscape Architecture as well as collect, critically analyse and present information in a logical and clear manner.

**PEO / PO Mapping**

PROGRAMME EDUCATIONAL OBJECTIVES	PROGRAMME OUTCOMES					
	PO1	PO2	PO3	PO4	PO5	PO6
<b>I</b>			✓	✓	✓	✓
<b>II</b>			✓	✓	✓	
<b>III</b>	✓	✓	✓			
<b>IV</b>	✓	✓				✓
<b>V</b>	✓		✓			✓

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## Mapping of Course Outcome and Programme Outcome

Year	Sem ester	Course Name	PO1	PO2	PO3	PO4	PO5	PO6
I	1	Geology and Watershed Management				✓		
		Planting and Horticultural Practices				✓		
		Theory of Landscape Architecture		✓				✓
		Design and Detailing of Basic Landscape Elements	✓		✓			
		Site Planning and Design Studio	✓		✓			
		Elective I				✓		
	2	Planting Design				✓	✓	
		Urban Landscape Design				✓	✓	
		Design and Detailing of Complex Landscape Elements	✓		✓			
		Urban Landscape Design Studio	✓		✓			
		Elective II				✓	✓	
Elective III					✓			
II	3	Research Methodologies for Human Environment		✓				✓
		Application of GIS in Landscape Planning			✓	✓	✓	
		Pre-Thesis	✓	✓	✓			✓
		Regional Landscape Planning Studio	✓			✓		✓
		Elective IV			✓	✓	✓	
	4	Thesis	✓	✓	✓			✓

PROGRESS THROUGH KNOWLEDGE

*Attested*

*[Signature]*

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Anna University, Chennai-600 025

**ANNA UNIVERSITY, CHENNAI**  
**UNIVERSITY DEPARTMENTS**  
**M.ARCH (LANDSCAPE ARCHITECTURE)**  
**REGULATIONS - 2019**  
**CHOICE BASED CREDIT SYSTEM**  
**CURRICULUM AND SYLLABUS FOR I TO IV SEMESTERS**  
**SEMESTER I**

Sl. No.	COURSE CODE	COURSE TITLE	CATE GORY	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS
				L	T	P/S		
<b>THEORY</b>								
1.	LN5101	Geology and Watershed Management	PCC	3	0	0	3	3
2.	LN5102	Planting and Horticultural Practices	PCC	3	0	0	3	3
3.	LN5103	Theory of Landscape Architecture	PCC	3	0	0	3	3
4.		Program Elective I	PEC	3	0	0	3	3
5.		Audit Course I*	AC	2	0	0	2	0
6.	LN5101	Geology and Watershed Management	PCC	3	0	0	3	3
<b>THEORY CUM STUDIO</b>								
7..	LN5111	Design and Detailing of Basic Landscape Elements	PCC	1	0	4	5	3
<b>STUDIO</b>								
8..	LN5121	Site Planning and Design Studio	PCC	0	0	12	12	6
<b>TOTAL</b>				<b>15</b>	<b>0</b>	<b>16</b>	<b>31</b>	<b>21</b>

\*Audit Course is Optional

**SEMESTER II**  
**(Prerequisite - Pass in Site Planning and Design Studio)**

Sl. No.	COURSE CODE	COURSE TITLE	CATE GORY	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS
				L	T	P/S		
<b>THEORY</b>								
1.	LN5201	Planting Design	PCC	3	0	0	3	3
2.	LN5202	Urban Landscape Design	PCC	3	0	0	3	3
3.		Program Elective II	PEC	3	0	0	3	3
4.		Program Elective III	PEC	3	0	0	3	3
5.		Audit Course II*	AC	2	0	0	2	0
<b>THEORY CUM STUDIO</b>								
6..	LN5211	Design and Detailing of Complex Landscape Elements	PCC	1	0	4	5	3
<b>STUDIO</b>								
7.	LN5221	Urban Landscape Design Studio	PCC	0	0	12	12	6
<b>TOTAL</b>				<b>15</b>	<b>0</b>	<b>16</b>	<b>31</b>	<b>21</b>

\*Audit Course is Optional

**SEMESTER III**  
**(Prerequisite - Pass in Urban Landscape Design Studio)**

SI. No.	COURSE CODE	COURSE TITLE	CATEGORY	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS
				L	T	P/S		
<b>THEORY</b>								
1.	AA5351	Research Methodologies for Human Environment	RMC	3	0	0	3	3
2.		Program Elective IV	PEC	3	0	0	3	3
<b>THEORY CUM STUDIO</b>								
3.	LN5311	Application of GIS in Landscape Planning	PCC	2	0	2	4	3
<b>STUDIO</b>								
4.	LN5321	Pre-Thesis	RMC	0	0	6	6	3
5.	LN5322	Regional Landscape Planning Studio	PCC	0	0	12	12	6
6.	LN5323	*Internship Training	EEC	X	X	X	X	2
<b>TOTAL</b>				<b>8</b>	<b>0</b>	<b>20</b>	<b>28</b>	<b>20</b>

\* 4 weeks in Summer Vacation between II and III Semesters

**SEMESTER IV**  
**(Prerequisite- Pass in Regional Landscape Planning Studio & Pre-Thesis, 40 Credits)**

SI. No.	COURSE CODE	COURSE TITLE	CATEGORY	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS
				L	T	P/S		
<b>STUDIO</b>								
1.	LN5421	Thesis	EEC	0	0	24	24	12
<b>TOTAL</b>				<b>0</b>	<b>0</b>	<b>24</b>	<b>24</b>	<b>12</b>

**TOTAL CREDITS:74**

### PROGRAM CORE COURSES (PCC)

Sl. No.	COURSE CODE	COURSE TITLE	CATE GORY	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS
				L	T	P/S		
1.	LN5101	Geology and Watershed Management	PCC	3	0	0	3	3
2.	LN5102	Planting and Horticultural Practices	PCC	3	0	0	3	3
3.	LN5103	Theory of Landscape Architecture	PCC	3	0	0	3	3
4.	LN5111	Design and Detailing of Basic Landscape Elements	PCC	1	0	4	5	3
5.	LN5121	Site Planning and Design Studio	PCC	0	0	12	12	6
6.	LN5201	Planting Design	PCC	3	0	0	3	3
7.	LN5202	Urban Landscape Design	PCC	3	0	0	3	3
8.	LN5211	Design and Detailing of Complex Landscape Elements	PCC	1	0	4	5	3
9.	LN5221	Urban Landscape Design Studio	PCC	0	0	12	12	6
10.	LN5311	Application of GIS in Landscape Planning	PCC	2	0	2	4	3
11.	LN5322	Regional Landscape Planning Studio	PCC	0	0	12	12	6

### PROGRAM ELECTIVE COURSES (PEC)

Sl. No.	COURSE CODE	COURSE TITLE	CATE GORY	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS
				L	T	P/S		
<b>ELECTIVE I</b>								
1.	LN5001	Sustainability and Energy Conservation in Landscape Architecture	PEC	3	0	0	3	3
2.	LN5002	Environmental Planning and Legislation	PEC	3	0	0	3	3
3.	LN5003	Landscape Resources	PEC	3	0	0	3	3
<b>ELECTIVE II</b>								
1.	LN5004	Universal Design	PEC	3	0	0	3	3
2.	LN5005	Traditional and Contemporary Landscapes	PEC	3	0	0	3	3
3.	LN5006	Landscape Graphics	PEC	3	0	0	3	3
<b>ELECTIVE III</b>								
1.	LN5007	Landscape Assessment	PEC	3	0	0	3	3
2.	LN5008	Landscape Urbanism	PEC	3	0	0	3	3
3.	LN5009	Cultural Landscapes and Landscape Conservation	PEC	3	0	0	3	3

<b>ELECTIVE IV</b>								
1.	LN5010	Landscape Management	PEC	3	0	0	3	3
2.	LN5011	Landscape Ecology and Planning	PEC	3	0	0	3	3
3.	LN5012	Professional Practice of Landscape Architecture	PEC	3	0	0	3	3

#### **RESEARCH METHODOLOGY COURSES (RMC)**

SI. No.	COURSE CODE	COURSE TITLE	CATEGORY	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS
				L	T	P/S		
1.	AA5351	Research Methodologies for Human Environment	RMC	3	0	0	3	3
2.	LN5321	Pre-Thesis	RMC	0	0	6	6	3

#### **EMPLOYABILITY ENHANCEMENT COURSES (EEC)**

SI. No.	COURSE CODE	COURSE TITLE	CATEGORY	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS
				L	T	P/S		
1.	LN5323	*Internship Training	EEC	X	X	X	X	2
2.	LN5421	Thesis	EEC	0	0	24	24	12

#### **AUDIT COURSES (AC)**

**Registration for any of these courses is optional to students**

SI. No	COURSE CODE	COURSE TITLE	CATEGORY	PERIODS PER WEEK			CREDITS	SEMESTER
				L	T	P		
1.	AX5091	English for Research Paper Writing	AC	2	0	0	0	1/2
2.	AX5092	Disaster Management	AC	2	0	0	0	
3.	AX5093	Sanskrit for Technical Knowledge	AC	2	0	0	0	
4.	AX5094	Value Education	AC	2	0	0	0	
5.	AX5095	Constitution of India	AC	2	0	0	0	
6.	AX5096	Pedagogy Studies	AC	2	0	0	0	
7.	AX5097	Stress Management by Yoga	AC	2	0	0	0	
8.	AX5098	Personality Development Through Life Enlightenment Skills	AC	2	0	0	0	
9.	AX5099	Unnat Bharat Abhiyan	AC	2	0	0	0	
<b>Total Credits:</b>							0	

## SUMMARY

S.No	Subject Area	Credits per Semester				Credits Total
		I	II	III	IV	
1	PCC	18	15	9	-	42
2	PEC	3	6	3	-	12
3	RMC	-	-	6	-	6
4	EEC	-	-	2	12	14
	<b>Total</b>	<b>21</b>	<b>21</b>	<b>20</b>	<b>12</b>	<b>74</b>
5	Non-Credit	Audit Course I	Audit Course II			



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**OBJECTIVES**

- To give introduction to soil formation, characteristics of land formation and its influence on landscape.
- To give detailed knowledge on the formation of landforms.
- To introduce basic hydrology and its link with various landscape elements.

**UNIT I INTRODUCTION 6**

Geomorphic process: Epigenic or Exogenic process – Weathering, Erosion, Mass wasting, Fluvial cycle, Groundwater, Wind, Seas and Oceans, Glaciers. Major processes and associated landforms: Tectonic, fluvial, Aeolian, coastal, karst, and glacial topography.

**UNIT II GEOMORPHOLOGY 7**

Evolution of land forms: Land forms produced by geomorphic process and theories of Plate tectonics.

Stratigraphy: principles, stratigraphy and geology of India. Man's intervention into Ecology and Environment case studies in India, Suitability of land for various developments.

**UNIT III SOIL CHARACTERISTICS AND ANALYSIS 10**

Soil properties soil classification, soils of India.

Soil use and Management: A) Soil survey and field mapping. Basics of Soil Testing and Analysis. B) land capability classifications (a) Soil evaluation and land-use planning. (b) Soil and water conservation. (c) Soil fertility and plant nutrition. (d) Soil degradation control, remedial actions and reclamation techniques, Role of remote sensing in soil mapping.

**UNIT IV HYDROLOGY 10**

Rainfall regime with specific reference to the Indian region. Characteristics and management of drainage basins: Introduction to watersheds. Types of Flow: channel and over-land. Occurrence and movement of ground water. Water bearing properties of geological formation. Sea water intrusion in Coastal areas. Rainwater Harvesting for urban agglomerations.

**UNIT V WATER MANAGEMENT 12**

Application of geological information in the interpretation of landscapes on maps and in the field. Identifying land forms and land use through remote sensing for Landscape Applications.

The relationships between geology, soil, hydrology and vegetation: Practical examples.

**TOTAL: 45 PERIODS****OUTCOME**

- Familiarity with characteristics of landforms, causes and effects.
- Knowledge about soil characteristics, causes and effects and modifications.
- Knowledge about methods of analysis of soils.
- Knowledge about water management

**REFERENCES**

- P.Abrol and V.V.DhruvaNarayana, 'Technologies for Wasteland Development', ICAR, New Delhi, 1990.
- Arthur.V.Strahler, 'Physical Geography' -3rd Edition, John Wiley and Sons Inc, 2005.
- William D. Thornbury, 'Principles of Geomorphology', John Wiley and Sons Inc, 1954. *Attested*

**OBJECTIVES**

- To give introduction to the characteristics of Plant materials, which are an important part of soft landscape, international nomenclature, used for plants and their associations.
- To promote understanding of the factors that regulate the growth and characteristics of plant.

**UNIT I CHARACTERISTICS OF PLANT MATERIALS 9**

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.

**UNIT II FLORISTIC REGIONS OF INDIA 9**

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

**UNIT III PLANT PROPAGATION 9**

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.

**UNIT IV HORTICULTURAL PRACTICE 9**

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.

**UNIT V LANDSCAPE MAINTENANCE 9**

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

**TOTAL: 45 PERIODS****OUT COME**

- Knowledge of binomial nomenclature of plants.
- Familiarity with aspects of plant growth and propagation, thereby having understanding of maintenance requirement of plants.

**REFERENCES**

- Raunkier.C, 'The Life Forms of Plants and Statistical Plant Geography', Oxford Clarendon Press,1934.
- Venkateswaralu.V.A, 'Textbook of Botany'-Vol III, Guntur.
- Lawrence.H.M, 'Taxonomy of Vascular Plants', Oxford, IBH, 1964.
- Rao.K.N.R. and Krishnamurthy.K.N, 'Angiosperms', S.Viswanathan Printers and Publishers.
- G.S.Puri, 'Forest Types of India', The Indian forester, 1960.

*Attested*

**OBJECTIVES**

- To give understanding of a broad range of contemporary and historic theories that influence design and planning.
- To give 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.

**UNIT I ATTITUDE TO NATURE AND WORLD VIEW 9**

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. Worldviews and their impact upon design (modernism and modernist design, postmodernism and its varied design manifestations)

**UNIT II SOCIAL AND CULTURAL DIMENSIONS OF LANDSCAPE 9**

Overview of social, behavioral, and cultural theories and writings as they are applied to. Environmental and Behavioral theories: Entropy, Prospect and Refuge, Defensible space etc. An introduction to social and cultural dimensions of landscape.

**UNIT III FORM, SPACE AND ORDER 9**

Place-making (sense of place theories, role of cultural geography research in design, regional issues). 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 INERT MEANING OF LANDSCAPE 9**

Historic landscape preservation issues (cultural landscapes, adaptive reuse, restoration approaches, and management theories). Ancient traditions; siting of structures, complexes and cities; symbolic meanings and sacred value attributed to natural landscapes.

**UNIT V DEVELOPMENT OF LANDSCAPE DESIGN 9**

Development of landscape design and gardens till the early 19th century, Influences and linkages across cultures and traditions.

**TOTAL: 45 PERIODS****OUTCOME**

- Ability to engage analytical approach to the study of theory and developing an attitude towards critiquing and evaluating choices for design decisions in varied contexts.
- An appreciation of scale in terms of landscape and nature.

**REFERENCES**

- Pregill Philip and Nancy Volkman, 'Landscapes in History, Design and Planning in the Western Tradition', John Wiley and Sons Inc, New York, 1999.
- Swaffield, Simon, 'Theory in Landscape Architecture', University of Pennsylvania Press, Philadelphia, 2002.
- Birnbaum, Charles A and Robin Karson, 'Pioneers of American Landscape Design', McGraw Hill, New York, 2000.
- Francis, Mark and Randolph T. Hester, Jr, 'The Meaning of Gardens'. The MIT Press, Cambridge, 1993.
- Tishler, William H, 'American Landscape Architecture, Designers and Places', American Society of Landscape Architects, Preservation Press, 1999.

*Attested*



## REFERENCES:

- Strom Steven, 'Site engineering for landscape Architects'-6th Edition, John Wiley and sons Inc, 2013.
- Charles.W.Harris& Nicholas T. Dines, 'Time Saver Standards for Landscape Architecture'-2nd Edition, Mc. Graw Hill, 1998.
- Michael Littlewood,'Landscape Detailing' Volume I –IV, Architectural Press, 1993.
- Robert Brown and Jenny J Gillespie, 'Micro Climatic Landscape Design– Creating Thermal Comfort and Energy Efficiency', John Wiley, N.Y, 1995.

**LN5121**

**SITE PLANNING AND DESIGN STUDIO**

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

## OBJECTIVES

- To give introduction to landscape design.
- To give Introductory exercises in art, architecture and landscape.
- To give knowledge about landscape analysis and site planning for medium sized sites.
- To enable landscape Design of small recreational or civic spaces.

## CONTENT

Appreciation of basic landscape design issues and elements. Simple site planning, use of hard and soft landscape materials for defining and structuring the open spaces. Landscape design in relation to architecture.

## OUTCOME

- Exposure to the process of site study and analysis.
- Understanding of site planning process
- Ability to undertake landscape design of small projects primarily involving site planning and design.

**TOTAL:180 PERIODS**

## REFERENCES

- Swaffield Simon,'Theory in Landscape Architecture', University of Pennsylvania Press, Philidelphia, 2002.
- Charles. W.Harris& Nicholas T. Dines,'Time Saver Standards for Landscape Architecture'-2nd Edition, Mc. Graw Hill, 1998.
- Nick Robinson,'The Planting Design Hand book' -3rd Edition, Gower Pub, Routledge, 2016.
- Strom Steven, 'Site Engineering for Landscape Architects'-6th Edition, John Wiley and sons Inc, 2013.

**LN5201**

**PLANTING DESIGN**

**L T P/S C  
3 0 0 3**

## OBJECTIVES

- To learn about the various aspects of designing plants.
- To learn in detail about the applications of planting design in practice.

*Attested*

- UNIT I INTRODUCTION TO PLANTING DESIGN 9**  
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 9**  
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 9**  
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 9**  
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.
- UNIT V APPLICATIONS IN PRACTICE 9**  
Study of local plant materials, their botanical, common and regional names, growth characteristics and application in design. Visit to nurseries. Introduction to soft landscape working drawings, planting plans, specifications and estimation.

**TOTAL: 45 PERIODS**

**OUTCOME**

- Knowledge about basics of planting design
- Knowledge about applications of planting design

**REFERENCES**

- Nick Robinson, 'The Planting Design Hand book', 3<sup>rd</sup> Edition, Routledge, 2016.
- Brian Hackett, 'Planting Design', McGraw Hill, 1979.
- Bose. T. K. and Choudhary, 'Tropical Garden Plants in Colour', Horticulture and Allied Publishers, 1991.
- Iyengar Gopaldaswamy, 'Complete Gardening in India', Gopaldaswamy Parthasarathy, 1991.
- M.S. Randhawa, 'Flowering Trees of India', National Book Trust, India, 1983.

**LN5202 URBAN LANDSCAPE DESIGN L T P/S C**  
**3 0 0 3**

**OBJECTIVE:**

- To expand the student's knowledge on landscape within urban areas and open spaces in urban context.

**UNIT I INTRODUCTION 6**  
City and pattern – hierarchy of streets and squares – spatial organization and land use – road net works and basic services. Open spaces with in urban environment.



<b>UNIT II</b>	<b>URBAN SPACES</b>	<b>9</b>
Cultural, social and aesthetic value of urban spaces and its perception, Imageability, Townscape elements. Urban space enhancement.		
<b>UNIT III</b>	<b>OPEN SPACE SYSTEM</b>	<b>9</b>
Open space development in urban design context. Evolution of public park as a major component of urban landscape. Open space development in new towns. Park systems, water fronts. Green infrastructure. Urban ecology, urban water sheds.		
<b>UNIT IV</b>	<b>ELEMENTS IN URBAN LANDSCAPE</b>	<b>12</b>
Design of public parks, roads, green ways, parkways, promenade and plaza. Public art. Plant selection criteria, furnishings and lighting of public space, maintenance and management of public spaces and parks,		
<b>UNIT V</b>	<b>CASE STUDIES</b>	<b>9</b>
Contemporary urban landscape issues. Case studies-Study, understanding and analysis of known examples at the national and international levels.		

**TOTAL: 45 PERIODS**

**OUTCOME**

- Knowledge about the types, characteristics and elements of urban open spaces.
- Understanding of issues related to and design of urban landscape design.

**REFERENCES**

- Gordon Cullen, 'The Concise Townscape', Architectural Press, London, 1961
- Kevin Lynch, 'Image of City', MIT Press, Cambridge, 1961.
- Henry F. Arnold, 'Trees in Urban Design', Van Nostrand Reinhold Company, 1980
- Matthew Carmona, Tim Heath, 'Public Places – Urban Spaces', Routledge, 2012.
- Michael Hough, 'Cities and Natural Process', Routledge, 1995.
- Donald Watson, Alan Platts, Robert Shibley, 'Time Savers Standards for Urban Design', McGraw Hill Education, 2003.
- Graphic-sha, Ed 'Elements and Total Concept of Urban Landscape Design', Graphic-Sha Publishing Co, 2001.
- Tom Turner, 'City as Landscape', E & FN Spon, 1996.
- Cliff Tandy, 'Handbook of Urban Landscape'-2<sup>nd</sup> Edition, Architectural Press, 1971.

PROGRESS THROUGH KNOWLEDGE

<b>LN5211</b>	<b>DESIGN AND DETAILING OF COMPLEX LANDSCAPE ELEMENTS</b>	<b>L T P/S C</b>
		<b>1 0 4 3</b>

**OBJECTIVES:**

- To train the students in the design, detailing and drawing of landscape elements.

<b>UNIT I</b>	<b>PLAY AREA, TERRACE LANDSCAPING AND WATER FEATURES</b>	<b>35</b>
Design of play areas -Tot lots to play grounds. Design and detail of play equipments. Considerations, design and detail for terrace landscaping, concept of green roof - intensive and extensive- green walls. Design of water features such as swimming pools, cascades, fountains etc., and their technical requirements. Consideration for design and detail. Water bodies and natural ponds. Design of irrigation system. Landscape area types, objectives and design, water needs and sources, application, methods of installation. Control systems, scheduling and maintenance		

**UNIT II STORM WATER MANGEMENT & WATER RESOURCES PLANNING 15**

Drainage – surface drainage, calculation of surface run off, design of surface and storm water drainage, design of swales and gutters. Water shed and their characteristics, urban storm water drainage systems, protection of natural water bodies, water retention structures, water harvesting techniques and devices.

**UNIT III PLANTING DESIGN FOR SPECIAL SITUATIONS 15**

Basis for planting selection and design for buffers- for screening, pollution control, noise control and others. Design of planting for treatment of pollution- waste land, dump-yard and artificial wetlands

**UNIT IV MICRO CLIMATE CONTROL 10**

The role of landscape components in modifying microclimate with respect to temperature, humidity, precipitation, air corridors, heat islands, wind speed etc., in cities. Study of vegetation, landforms and water as modifiers of microclimate and application in design.

**TOTAL: 75 PERIODS**

**OUTCOME**

- Ability to detail and draw landscape elements and features.
- Knowledge about water management through landscape design.
- Ability to detail of site elements like earthwork, hard landscape and outdoor furniture.

**REFERENCES:**

- David Sauter, 'Landscape Construction'-3<sup>rd</sup> Edition, Cengage Learning, 2010.
- Michael Little wood, 'Landscape Detailing' Volume I-IV, Architectural Press, 1993.
- Roger Narboni, 'Lighting the Landscapes- Art Design technologies', Birkhauser, Switzerland, 2004.
- Strom Steven, 'Site Engineering for Landscape Architects'-6<sup>th</sup> Edition, John Wiley and Sons Inc.,2013.
- Charles.W.Harris & Nicholas T. Dines, 'Time Saver Standards for Landscape Architecture'-2<sup>nd</sup> Edition, McGraw-Hill Education,1997
- Jack E. Ingles, 'Landscaping – Principles & Practices'-7<sup>th</sup> Edition, Delmar Cengage Learning, 2009



**LN5221**

**URBAN LANDSCAPE DESIGN STUDIO**

**L T P/S C**

**0 0 12 6**

**OBJECTIVE:**

- To train students in landscape design in relatively large-scale urban areas through exercise of analysis and proposals

**CONTENT**

Understanding the function and structuring of outdoor spaces in an urban context. Design in relation to existing context. Integration of various infrastructure and services such as traffic, irrigation and lighting in landscape design. Training in master plan development for complex spaces such as Campus landscape, transportation infrastructure, large parks and public recreational spaces.

**TOTAL:180 PERIODS**

*Attested*



## OUTCOME

- An understanding of the function and structuring of outdoor spaces.
- Ability to design urban landscape.

## REFERENCES

- Swaffield, Simon, 'Theory in Landscape Architecture', University of Pennsylvania Press, 2002.
- Charles. W.Harris& Nicholas T. Dines, 'Time Saver Standards for Landscape Architecture'-2<sup>nd</sup> Edition, McGraw-Hill Education, 1997.
- Nick Robinson, 'The Planting Design Handbook'-3<sup>rd</sup> Edition, Routledge, 2016
- Donald Watson, Alan Platts, Robert Shibley, 'Time Savers Standards for Urban Design', McGraw Hill Education, 2003.
- Jack E. Ingles, 'Landscaping - Principles & Practices'-7<sup>th</sup> Edition, Delmar Cengage Learning, 2009.

**AA5351**                      **RESEARCH METHODOLOGIES FOR HUMAN ENVIRONMENT**                      **L T P/S C**  
**3 0 0 3**

## OBJECTIVES

- To give introduction to the importance of critical inquiry as a way of gaining knowledge and adding to it through research.
- To give exposure to the various forms of research and research methodologies/ processes.
- To help engage this understanding in the specific field of human environment research.

**UNIT I**                      **INTRODUCTION**                      **9**  
Basic research issues and concepts. Orientation to research process. Types of research: historical, qualitative, co-relational, experimental, simulation and modelling, 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**                      **9**  
Library and archives. Internet: New information and the role of internet. Finding and evaluating sources. Misuse. Test for reliability. Ethics.  
Methods of data collection- Primary sources: observation and recording, interviews structured and unstructured, questionnaire, open ended and close ended questions and the advantages, sampling. Collecting data from secondary sources.

**UNIT IV**                      **REPORT WRITING**                      **9**  
Research writing in general and its components. Developing the outline, referencing, writing the bibliography, presentation, etc.

**UNIT V**                      **CASE STUDIES**                      **9**  
Case studies illustrating how good research can be, from project inception to completion. Review of research publications.

*Attested*  
**TOTAL: 45 PERIODS**

## OUTCOME

- Skill to identify, decipher and interpret issues relating to architecture based on research enquiry methods.
- Knowledge of different methods of conducting research and research writing.

## REFERENCES

- Linda Groat and David Wang, 'Architectural Research Methods', 2nd edition, John Wiley and Sons Inc, Hoboken, New Jersey, US, 2013.
- Wayne C Booth, Joseph M Williams Gregory G. Colomb, 'The Craft of Research', 3rd Edition, Chicago Guides to Writing, Editing and Publishing, 2008.
- Iain Borden and Katerina Ruedi, 'The Dissertation: An Architecture Student's Handbook', Edition 2, Architectural Press, 2005
- Ranjith Kumar, 'Research Methodology - A Step by Step guide for Beginners', 4th Edition, Sage Publications, 2014.
- John W Creswell, 'Research Design: Qualitative, Quantitative and Mixed Methods Approaches', Sage Publications, 2013.
- JA Smith, P Flowers, M Larkin, 'Interpretative Phenomenological Analysis: Theory, Method and Research (English), I Edition, Sage Publications, 2009.

LN5311

## APPLICATION OF GIS IN LANDSCAPE PLANNING

LT P/S C  
2 0 2 3

### OBJECTIVES:

- To introduce concept of GIS as the platform being increasingly used worldwide for landscape planning and restoration projects.
- To train the students in the application of GIS in Landscape design.

### UNIT I INTRODUCTION TO MAPS

8

Introduction to Maps, Cartography and Digital Cartography. Types of Maps –Large, Medium and Small Scale. Map Furniture's. Introduction to Map Projection System and Datum. Polyconic and UTM (Universal Transverse Mercator).

### UNIT II INTRODUCTION TO G.I.S, G.P.S AND REMOTE SENSING

12

Introduction to Geographical Information System (GIS). Data and Data types – Spatial(point, line & Area)&Non – Spatial. Data Model – Raster & Vector. Dimensions in Data representing. Topology. Introduction to GPS & DGPS. Remote Sensing

### UNIT III CAPTURING AND GENERATING SPATIAL AND NON SPATIAL DATA AND DISPLAY

16

Capturing Spatial & Non Spatial Data. Using Total Station. Integrating DGPS / GPS. Using Mobile / Tablet. Different modes of Conversion of Spatial Data – Scanning, Digitization, onscreen. Semi auto vectorization. Integrating Spatial & Non Spatial Data

### UNIT IV SPATIAL ANALYSIS

16

Introduction to Spatial Analysis. Raster and Vector Data Analysis. Classification & Re-classification. Union, Clipping, Intersect & Buffer. Introduction to Surface Data Creation. DEM (Digital Elevation Model), DTM (Digital Terrain Model) & TIN (Triangulated Irregular Network).

### UNIT V APPLICATION OF G.I.S

8

Introduction to site suitability analysis. Application of GIS in Landscape designing and site suitability.

TOTAL: 60 PERIODS

## OUTCOME

- Knowledge about the techniques of Map preparation and analysis using maps.
- Knowledge about application of GIS in Landscape Architecture.

## REFERENCES:

- Brail K.R, 'Integrating GIS into Urban Regional Planning, Alternative approaches for developing countries, regional development Dialogue' - Volume-11, No.3 UNCRD, Japan, 1990.
- Karen C.Hanna, 'GIS for Landscape Architects', ESRI press, 1999.
- Andy Mitchell, 'The ESRI Guide to GIS Analysis Volume 1: Geographic patterns and Relationships', ESRI Press,1999.
- David Maquire, Michael Batty and Michael F.Goodchild, 'GIS,Spatial Analysis and Modeling', ESRI Press, 2005.
- Cynthia A. Brewer, 'Designing Better Maps: A Guide for GIS Users' – 2nd Edition, ESRI Press, 2015.

LN5321

PRE-THESIS

L T P/S C  
0 0 6 3

## OBJECTIVES

- To promote research in landscape architecture.
- To impart training in collecting, critically analysing and presenting information in a logical sequence.
- To enable preparation for Thesis.

## CONTENT

Preparing the basis for the thesis to be undertaken in the next semester. Training in collection, critical analysis and presenting of information in a logical sequence. To promote critical thinking and the ability of adding to theory, that can aid design applications in landscape architecture. Topics related to various aspects of Landscape Architecture could be chosen in consultation with faculty members, comprehensively researched and findings presented. The progress of work will be reviewed periodically throughout the semester.

The materials would be documented/collated and formally presented as final submission for Pre-Thesis in the form of a Pre-Thesis report. The report will be presented in the viva-voce exam and defended. The Pre-Thesis report will form the basis to begin the Thesis project.

**TOTAL: 90 PERIODS**

## OUTCOME

- Ability to research on a chosen topic.
- Expertise in collecting, processing and presenting relevant information.
- Depth of knowledge in a particular area that would give a base to start the Thesis project.

## REFERENCES

- Iain Borden and KaaterinaRuedi Ray, 'The Dissertation: An Architecture Student's Handbook' - 2nd Edition, Architectural Press, 2006.
- Ranjith Kumar, 'Research Methodology - A Step by Step Guide for Beginners' - 5th Edition, Sage Publications, 2019.

LN5322

REGIONAL LANDSCAPE PLANNING STUDIO

L T P/S C  
0 0 12 6

## OBJECTIVE

- The objective of this course is to train students in advanced landscape design involving complex situations that require handling of multiple information and contexts.

## CONTENT

Dealing with larger regional issues in planning and design. Understanding and responding to the influence of physiographic and anthropometric factors in planning and design. Understanding of ecologically sustainable development would be the underlying theme.

**TOTAL: 180 PERIODS**

## OUTCOME

- Ability to develop ecologically sustainable design.

## REFERENCES

- Swaffield, Simon, 'Theory in Landscape Architecture', University of Pennsylvania Press, 2002.
- Charles.W.Harris& Nicholas T. Dines, 'Time Saver Standards for Landscape Architecture', Mc. Graw Hill.
- Nick Robinson, 'The Planting Design Hand book', Gower Pub., 1998
- Richard T.T.Forman& Michel Godron, 'Landscape Ecology', John Wiley & Sons, 1986.
- Tom Turner, 'Landscape Planning and Environmental Impact Design', UCL Press, London, 1998.

LN5323

## INTERNSHIP TRAINING

L T P/S C  
X X X 2

## OBJECTIVES

- To help the students to have direct understanding of the practice of landscape architecture.
- To help the students to formally and informally interact with the officials engaged in landscape architecture to enhance employability of the students.

## CONTENT

The students shall undertake the Internship Training, in an Organization engaged in activities relating to Landscape Architecture for a period of 4 weeks. The Internship Training expected to make familiar the practical demands and complexities of the profession of Landscape Architecture. It is also aimed at providing the necessary acumen and knowledge to enable them to become employable by any Landscape Architect and further to motivate them to start their practice. Alternatively, the Internship Training can also be in any research organisation/ university, etc., where the knowledge of Landscape Architecture is crucial. This could help the students direct a career in research too. The students may also utilise the Internship Training to strengthen their ability to do Thesis in the subsequent semester.

The students are expected to complete the Internship Training in the Summer Vacation between second and third semesters, before the commencement of the third semester, and enroll for the course in the third semester. The students shall submit an Internship Training Report, on or before the last working day of the third semester. The students shall be evaluated on the basis of the Report submitted, through a Viva-Voce Examination, as part of the End Semester Examinations of the third semester.

## OUTCOME

- Enrichment in their theoretical understanding of Landscape Architecture and better preparedness of the students for employment in the Landscape Architecture Profession or to pursue independent research in allied fields.

*Attested*

**OBJECTIVES**

- To give training to the students to work individually on landscape design projects.

**CONTENT**

This thesis will be an individual project dealing with complex problems of landscape architecture including site planning and landscape planning and seeks to develop concepts of landscape design as an interactive process of natural and man-made environment.

**TOTAL: 360 PERIODS****OUTCOME**

- Ability to handle a major landscape design project independently.

**REFERENCES**

- Charles.W.Harris & Nicholas T. Dines, 'Time Saver Standards for Landscape Architecture', McGraw Hill, 1997.

**ELECTIVE I**

LN5001

**SUSTAINABILITY AND ENERGY CONSERVATION  
IN LANDSCAPE ARCHITECTURE.**L T P/S C  
3 0 0 3**OBJECTIVES:**

- To expose the students on the issues of sustainability at the global level.
- To give knowledge about energy conservation landscape and sustainability at the micro level.
- To learn about Sustainable landscape design for various climates of India.

**UNIT I INTRODUCTION TO SUSTAINABILITY****10**

Need and concept of sustainability, Brundtland report, World Commission on environment and development, sustainable development, sustainable growth, sustainable economy and sustainable use. Visions of sustainability. Source and ethics of sustainability. Sustainability and Climate Change.

**UNIT II SUSTAINABLE SITE****7**

Sustainable site – LEEDS, BREEM, rating erosion and sedimentation control, site selection, urban development, landscape and exterior design etc., Green Building in the context of sustainability. Ecology and sustainability. Eco-City.

**UNIT III INTRODUCTION TO ENERGY CONSERVATION IN LANDSCAPE****9**

Energy conservation and sustainability, principles of energy systems, energy and global environment, scope for energy conservation in landscape.

**UNIT IV ENERGY CONSERVATION METHODS IN  
LANDSCAPE ARCHITECTURE-CASE STUDIES****10**

Various methods of energy conservation in landscape architecture, energy conservation techniques in various climates- hot and humid, hot dry, etc. Energy efficient site planning and landscape development. Energy efficient planting design.

*Attested*

**UNIT V SUSTAINABLE LANDSCAPE PRACTICES****9**

Sustainable landscape maintenance and management, Sustainable planning and city form. Sustainable urban landscape, landscape sustainability at the national and regional level.

**TOTAL: 45 PERIODS****OUTCOME**

- Understanding of sustainability from macro to micro level.
- Knowledge on energy conscious Landscape design

**REFERENCES**

- John.F.Benson and Maggie.H.Roe, 'Landscape and Sustainability', John Wiley Publication, New York, 2000.
- O.R.Gray, 'Landscape Planning for Energy Conservation', Van Nostrand Reinhold, 1983
- Anne Simon Moffat and Marc Schiller, 'Landscape Design that saves Energy', William Monow and co.,Inc., New York, 1981.
- Publications of Centre for Science and Environments, TERI, New Delhi.

**LN5002****ENVIRONMENTAL PLANNING AND LEGISLATION****L T P/S C  
3 0 0 3****OBJECTIVES:**

- To introduce to the students, basic concepts of environmental planning and legislation.
- To enable learning about tools and methods of E.I.A.

**UNIT I COMPONENTS OF ENVIRONMENT****6**

Environmental sciences, Environment – definition, important components, quality of total environment.

**UNIT II HUMAN IMPACT ON ECOSYSTEMS****12**

Environmental impact of man's activities on earth, impacts of agriculture, industrialization, urbanization. Relations between local modification and global phenomena. Green house effect, acid rain etc., Pollution – definition, pollution of air, water, land and noise, effect on humans, vegetation and other life forms, degradation of land. International treaties on environment, sustainable development – ecological and environmental parameters, public participation and role of NGOs. Status of environment in India.

**UNIT III ENVIRONMENTAL LEGISLATION****9**

Concept of law constitution in relation to environment. Introduction to town planning legislation and legal tools for development control and their relationship for landscape design objectives. Indian forests acts – preserved, protected, private and village forests, wild life sanctuaries act. Legislative and administrative framework for national parks in U.K., U.S.A. and India. Periphery control legislation and green belt concept. Preservation of the countryside.

**UNIT IV CONSERVATION AND PRESERVATION****9**

Legislation relating to preservation of parks, open spaces, playgrounds, trees and ancient monuments. Legislation related to air, water, Land pollution prevention

**UNIT V ENVIRONMENTAL IMPACT ASSESSMENT****9**

Environmental impact assessment – definitions, methodologies, techniques, advantages and disadvantages. Process – data collection, identification of study area, scope, aim, environmental standards and their measurement. EIA in India, legislation related to EIA, EIA in developed and developing countries

**TOTAL: 45 PERIODS**



## OUTCOME

- An understanding of the basics of Environmental planning and legislation .
- Knowledge about E.I.A.

## REFERENCES:

- Michael Allaby, 'Basics of Environmental Science', Routledge, 2000.
- AvjitGupta and Mukul.G.Asher, 'Environment and the Developing World', John Wiley and Sons, Inc, 2000.
- Larry W.Canter, 'Environmental Impact Assessment', McGraw – Hill, Inc,1996
- H.N.Tiwari, 'Environmental Law', Allahabad law agency, 2016.
- Rosencrany, a.Diwan, Noble.M, 'Environmental Law and Policy in India (Cases, Materials, and Statutes)', Oxford University Press, New Delhi, 2002.

LN5003

## LANDSCAPE RESOURCES

L T P/S C  
3 0 0 3

### OBJECTIVES:

- To give understanding of the different types of Landscape resources, the threats they are facing and the different means of conservation.
- To enable application of the different techniques for regional planning.

### UNIT I SETTLEMENTS AND LANDSCAPE 6

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.

### UNIT II LANDSCAPE RESOURCES 9

Landscape resources specific to distinctive city types: for example: religious centers, historic cities, coastal or port cities, hill station etc. The urban forest: It's ecological social and environmental dimensions. Ways of studying urban vegetation. Its role in the urban landscape.

### UNIT III RESOURCES AT THE NATIONAL LEVEL 12

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 IV THREATS TO URBAN LANDSCAPE RESOURCES 9

Threats to urban landscape resources; urban environmental issues such as solid waste management, air quality, conservation of water resources and vegetation cover. The rural landscape, the impact of industry and power generation. Agricultural practices and the formation of traditional rural landscape. Illustrative examples from different climatic and geographic regions.

### UNIT V POLICIES AND DEVELOPMENT CONTROLS 9

Introduction to Forest Policy and management of forest resources. Conservation Forestry, Agro-Forestry and Social Forestry. Significance of biodiversity, urban biodiversity, and wildlife conservation. City development Plans, Zonal Plans and structure plan. Development controls and their role in the conservation and creation of urban landscape.

**TOTAL 45 PERIODS**

## OUTCOMES

- Understanding of resource management from macro to micro level.

## REFERENCES

- John Lyle, 'Design for Human Ecosystems: Landscape, Land Use, and Natural Resources', Island Press, 1999.
- O.R.Gray, 'Landscape Planning for Energy Conservation' Van Nostrand Reinhold, 1983

- Jianguo Liu, William W. Taylor, 'Integrating Landscape Ecology into Natural Resource Management', Cambridge University Press, 2002
- GötzSchroth, 'Agroforestry and Biodiversity Conservation in Tropical Landscapes', Island Press, 2004

## ELECTIVE 2

**LN5004**

**UNIVERSAL DESIGN**

**L T P/S C**  
**3 0 0 3**

**OBJECTIVES:**

- To give understanding about the importance of design that is User-Aware.
- To give knowledge on how to design services and environments to include as many people as possible.
- To enable learning about design tools and strategies to minimise the difficulties of adaptation to particular users.

**UNIT I BACKGROUND 6**  
Importance and significance. Difficulties and challenges faced by differently abled people in accessing and using open spaces. Definition and basic pretexts

**UNIT II STATUTES OF UNIVERSAL DESIGN 9**  
International and national Laws, guidelines and best practices about universal design. Standards, statutes and other considerations.

**UNIT III UNIVERSAL DESIGN AT MICRO LEVEL 9**  
Universal design of open spaces at site scale. Design of furniture, paving, signage and other hard landscape elements with reference to universal design. Plating design, Design of water elements and other soft landscape elements with reference to universal design

**UNIT IV UNIVERSAL DESIGN AT MACRO LEVEL 9**  
Design of transportation and other public facilities at urban and regional scales as per the requirements of universal design. Removal of social seclusion and stigma through design of public places.

**UNIT V CASESTUDIES 12**  
International, national and local case studies of projects which have been designed based on universal design principles.

**TOTAL: 45 PERIODS**

**OUTCOMES:**

- Knowledge and skill about designing universally accessible open spaces.
- Sensibility to challenges faced by differently abled people.

**REFERENCES:**

- Edward Steinfield and Jordana Maisel, 'Universal Design: Creating Inclusive Environments', John Wiley and sons, 2012.
- Donna Rodman, 'Universal Design Guidelines for Outdoor Spaces: Plan and Design for Choice', Corporation of the District of Maple Ridge, The City of Pitt Meadows, 2009.
- Wolfgang Preiser and Korydon H. Smith, 'Universal Design Handbook', McGraw-Hill Education, 2010.
- Clare Cooper Marcus, Carolyn Francis, 'People Places: Design Guidelines for Urban Open Space', John Wiley and sons, 1997.
- Aimi Hamraie, 'Universal Design and the Politics of Disability', The University of Minnesota Press, 2017.

*Attested*



**OBJECTIVES:**

- To enable study of the social and cultural influences on traditional landscapes through analysis of form and space, sitting principles of each period with examples.
- To give knowledge about contemporary landscape and the manifestation in the western and Indian context.

**UNIT I EASTERN TRADITIONS AND ISLAMIC LANDSCAPES 15**

Early traditions and beliefs about landscape and environment in east. Ancient Indian traditions – Vedic, Jainism, Buddhism and later Hindu movements. Symbolic meanings and sacred value of natural landscapes.

Transfer of concepts through Buddhism to China – Chinese landscape development – gardens of China – Pre Buddhist Japanese landscapes – impact of China on Japanese gardens – Japanese gardens.

Nomadic culture of central Asia – advent of Islam – concept of Paradise as a garden – spread of Islamic traditions to the West and East. Eastern expression of Islam – Samarkhand and Mughul India – Tomb and pleasure garden – Mughul concepts of site planning. Western expression of Islam – Spain Alhambra and Generalife, Granada.

**UNIT II RENAISSANCE AND THE EVOLUTION OF NEW THOUGHTS 6**

Development of the enclosed garden in the Middle ages. Renaissance – Italy, France and England, Romanticism. Influences and linkages across cultures. Study of the western landscapes till the nineteenth century.

**UNIT III THE EVOLUTION OF THE MODERN LANDSCAPE 9**

Industrialization and urbanization. Impact and development of the concept of public open spaces, open space development in new towns, parks movement. Open space development and its urban design and planning context, Early industrial towns and the garden city movement. Public park as a major component of urban landscape, the works of F.L.Olmstead, and other pioneers. Open space development and Close conceptual relationship between Town planning, urban design and landscape architecture. Examples.

**UNIT IV THE MODERN MOVEMENT, CONTEMPORARY CONCEPTS AND CONCERNS 9**

Changing concepts of space and the relationship of architecture to landscape. Study of selected works of modern architects and landscape architects. Postwar development in Europe. The influence of Ian Mcharg on Landscape architecture. The works of Jellicoe, Burle Marx and others. Concept of sustainable landscape development, Cultural landscapes their definition, identification, characteristics, policies, Artistic sensibility in landscape architecture and land art, New development in urban Landscape design

**UNIT V INDIAN CONTEXT 6**

Issues in contemporary India, Analysis and understanding of philosophies of contemporary landscape works in India, case studies.

**TOTAL: 45 PERIODS****OUTCOME**

- Understanding of the relationship between culture and Landscape design.
- Perceptive knowledge of open spaces in different cultures

**REFERENCES**

- Geoffrey and Susan Jellicoe, 'The Landscape of Man', Thames & Hudson Publication, 1995.
- Robert Holden, 'New Landscape Design', Lawrence King Publishing, UK, 2003.
- Penelope Hill, 'Contemporary History of Garden Design', Birkhauser publishers, 2004.
- Elizabeth Barlow Rogers, 'Landscape Design – A Cultural & Architectural History', Harry & Abram inc. Publishers, 2001.
- Phillip Pregill & Nancy Volkman, 'Landscapes in History', John Wiley & Sons, 1999.
- Jonas Lehrman, 'Earthy Paradise- Garden and Courtyard in Islam', Thames and Hudson, 1980.

- G.B.Tobey, 'A History of American Landscape Architecture', American Elsevier Publishing Co.,NY, 1973.
- PieluigiNicholin, Francesco Repishti, 'Dictionary of Today's Landscape Designers', SkiraEditores P.A, 2003.

**LN5006**

**LANDSCAPE GRAPHICS**

**L T P/S C**  
**3 0 0 3**

**OBJECTIVES:**

- To expose the students about the various techniques of presenting landscape design drawings.
- To train the students in preparing design portfolios

**UNIT I GRAPHIC LANGUAGE AND DESIGN PROCESS 9**

Drawings used for design communication – Concept, Scheme, Drawing and free hand Sketches. Exercises using their own designs. Use of pen, pencil and other media.

**UNIT II LANDSCAPE ELEMENTS AND THEIR REPRESENTATION 9**

Representation using various media in 2 Dimension of Trees, shrubs, groundcovers, pathways, pavements, water bodies, fountains, and other elements of Landscape. Exercises can be to observe and sketch various elements.

**UNIT III FREE HAND DRAWING AND PAINTING 9**

Landscape views and sketches, representing landscape ideas in 3 D form. Exercises can be in the form of sketching existing landscapes as well as creating views for their designs.

**UNIT IV LANDSCAPE MODELS 6**

Use of modeling as a graphic tool to express landscape design concepts. Manual models using different materials like soap, Hard Board, Clay, Cork sheet and waste materials.

**UNIT V USE OF COMPUTERS IN GRAPHICS 12**

Terrain modeling using various softwares. (3 D S MAX, Sketchup, Arch-view). Visualization and realistic imaging- creating 3D views and Animation using software.

**TOTAL: 45 PERIODS**

**OUTCOMES:**

- Knowledge and skill about preparing landscape design portfolios.

**REFERENCES:**

- Grant.W.Reid, 'Landscape Graphics', Whitney Library of Design, 1987.
- Ian Bishop and Eckart Lange, 'Visualization in Landscape and Environmental Planning', Taylor and Francis, 2005
- Tony Bertauski, 'Plan Graphics for the Landscape Designer; with Section, Elevation and computer Graphics', Pearson Prentice Hall, 2006.
- Thomas.C.Wang, 'Plan and Section Drawing', John Wiley and sons, 1996.
- Stephen M. Ervin and Hope H. Hasbrouck, 'Landscape Modeling: Digital Techniques for Landscape Visualization', McGraw-Hill Professional, 2001.
- Websites: [1.www.sketchup.google.com](http://www.sketchup.google.com)

*Attested*

### ELECTIVE 3

LN5007

### LANDSCAPE ASSESSMENT

L T P/S C  
3 0 0 3

#### OBJECTIVES:

- To give understanding about the different types Landscape Assessment techniques and methodologies
- To give understanding about the application of landscape assessment in planning.

#### UNIT I INTRODUCTION TO LANDSCAPE ASSESSMENT

6

Introduction to the concept of Landscape Assessment. Importance in today's scenario. Development of the field and formative theories.

#### UNIT II ASSESMENT TECHNIQUES

15

Assessing the landscape value – landscape quality – aesthetic, heritage and sensitivity values. – Landscape Perception - Evaluating natural process, pattern and elements of landscape. Classification and ranking of landscape. Basic quantitative methods of collecting and analyzing, projecting and presenting data for landscape planning, visual assessment and aesthetic dimension.

#### UNIT III MODELS IN LANDSCAPE ASSESSMENT

9

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. GIS models in landscape assessment.

#### UNIT IV APPLICATION IN LANDSCAPE PLANNING

6

The application of landscape assessment to evolve effective landscape planning measures. Strategies and methodologies for compilation and presentation of the landscape assessment for dissemination and use in landscape planning.

#### UNIT V CASE STUDIES

9

Case studies of projects in which landscape assessment have been conducted and has been applied to formulate master plans.

**TOTAL: 45 PERIODS**

#### OUTCOME

- Understanding of Landscape Planning and Landscape Conservation with proper assessment results and cost benefit analysis.
- Knowledge about landscape assessment.

#### REFERENCES:

- Tom Turner, 'Landscape Planning and Environmental Impact Design', Routledge, Oxon, 2003.
- Ervin H. Zube, Robert O Brush, JuliosG.Y.Fabos, 'Landscape Assessment – Values, Perceptions', Dowden, Hutchinson & Ross, 1975.
- Field, B. C. and Field, M. K., 'Environmental Economics', McGraw-Hill/Irwin, 7th edition, 2016.
- Kolstad, C. D. 'Environmental Economics', Oxford university press, 2010.

LN5008

### LANDSCAPE URBANISM

L T P/S C  
3 0 0 3

#### OBJECTIVE:

- To introduce the theory of planning known as landscape urbanism.
- To give understanding about the applications of the theory in landscape planning and city planning.

<b>UNIT I</b>	<b>BACK GROUND</b>	<b>6</b>
The basis of the theory of landscape urbanism. Concepts about the emergence of the theory. Back ground and formulation of basic tenets. Landscape planners who advocated the theory.		
<b>UNIT II</b>	<b>PRINCIPLES OF LANDSCAPE URBANISM</b>	<b>9</b>
New Urbanism, Green urbanism, from critical regionalism to critical pragmatism. Theories of landscape and city planning that led to Landscape urbanism. Role of theory in landscape urbanism. Strategies, tools and limitations of the theory.		
<b>UNIT III</b>	<b>LANDSCAPE URBANISM-PLANNING</b>	<b>6</b>
Performative processes. Process cycles, processes engaged in design, a democratic urban environment, processes of planning. Surface strategies. Contemporary positions- Network city, New pragmatism, philosophy of world complexity, ecological design media. Evolution of planning ideals- From modern to the contemporary. Rise of landscape urbanism.		
<b>UNIT IV</b>	<b>SUSTAINABLE AND ECOLOGICAL URBANISM</b>	<b>12</b>
Sustainable Urbanism. Urban design with nature. The case for sustainable urbanism. Emerging thresholds. Sustainable neighbourhoods- time: The 2030 community challenge. Implementing sustainable urbanism. Rethinking cities for the future. Case studies. Ecological Urbanism. Historic roots and current trends, propositions and principles for the design of resilient cities, Cities as habitats, part of natural world, Urban ecosystems, The future of urban design.		
<b>UNIT V</b>	<b>ASIAN LANDSCAPE URBANISM</b>	<b>12</b>
Emerging challenges, Relationship between Asian urbanism and Landscape Urbanism. Social and cultural aspects of Asian Urbanism. Landscape Urbanism in India. Case studies.		

**TOTAL: 45 PERIODS**

**OUTCOME**

- Knowledge about landscape urbanism.
- Understanding of the application of theory in landscape planning.

**REFERENCES**

- Charles Waldheim, 'Landscape as Urbanism: A General Theory', Princeton University Press, New Jersey, USA, 2016.
- Mohsen Mostafavi, Gareth Doherty (eds.), 'Ecological Urbanism', Harvard University Graduate school of Design, Lars Muller, 2016.
- Richard Weller, 'BOOM TOWN 2050 Scenarios for a Rapidly Growing City', UWA Publishing 2009.
- Steven Velegrinis, 'Flux-space: Emerging Challenges of Asian (Landscape) Urbanism', 2011.

<b>LN5009</b>	<b>CULTURAL LANDSCAPES AND LANDSCAPE CONSERVATION</b>	<b>L T P/S C</b>
		<b>3 0 0 3</b>

**OBJECTIVES**

- To introduce, the concept of cultural landscapes
- To enable learning about the conservation of cultural landscapes.

<b>UNIT I</b>	<b>INTRODUCTION TO CULTURAL LANDSCAPE</b>	<b>9</b>
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Definition of cultural landscapes. UNESCO. EU landscape convention. US National park service and others. Characteristics, features of cultural landscapes, examples from around the world.

<b>UNIT II</b>	<b>ELEMENTS OF CULTURAL LANDSCAPE</b>	<b>9</b>
Reading and assessing the elements of a cultural landscape/ region with reference to various parameters such as political, physical, natural, linguistic etc. Describing the components- tangible and the intangible. Traditions, crafts, vernacular heritage and their contributions.		
<b>UNIT III</b>	<b>ASSESSMENT OF CULTURAL LANDSCAPES</b>	<b>9</b>
Methods for identification, assessment, mapping and recording of cultural landscapes.		
<b>UNIT IV</b>	<b>LANDSCAPE CONSERVATION</b>	<b>9</b>
Landscape Conservation: Policies and Programs. Objectives, methodologies and the process.		
<b>UNIT V</b>	<b>CASE STUDIES</b>	<b>9</b>
case studies of conservation /preservation of cultural landscapes.		

**TOTAL: 45 PERIODS**

**OUTCOME**

- Understanding about the importance of cultural landscape. Recognizing cultural landscapes.
- Learning about Landscape Conservation importance, methods and the process.

**REFERENCES**

- IUCN, 01 'Landscape Conservation Law: Present Trends and Perspectives in International and Comparative Law: Proceedings of a Colloquium Commemorating the 50th Anniversary of IUCN', The World Conservation Union, 1998, Palais Du Luxembourg, Paris, 2000.
- Martin Dieterich, Jan van der Straaten, 'Cultural Landscapes and Land Use: The Nature Conservation-Society Interface', Springer Science & Business Media, Kluwer academic publisher, 2004.
- Ervin H. Zube, Robert O Brush, Julios G.Y. Fabos, 'Landscape assessment – values, perceptions', Dowden, Hutchinson & Ross, 1975.
- Laura Verdelli and Danielle Pini, 'Planning and management of urban and landscape heritage', Bononia University Press, Bologna, Italy, 2012.

**ELECTIVE 4**

<b>LN5010</b>	<b>LANDSCAPE MANAGEMENT</b>	<b>L T P/S C</b>
		<b>3 0 0 3</b>

**OBJECTIVES**

- To introduce the students to aspects of management of Landscape. Landscape project management at site level and management of natural resources for regional landscapes.
- To enable learning about the various techniques for management and valuation of natural resources.

**UNIT I INTRODUCTION 9**  
 Fundamentals and concepts in Ecosystem Services and Valuation. Natural capitals and their benefits to the society. Externalities and public goods. Non renewable resource depletion and their social costs. Intangible cost associated with social and cultural changes. Economics of global climate change. Kyoto protocol. Pollution control and Carbon trading. Economic definitions of sustainability. Ecological vs. Economic sustainability.

**UNIT II ENVIRONMENTAL ECONOMICS IN LANDSCAPE 6**  
 Environmental Economics. Valuation of landscape services. Measuring benefits and cost. Tangible costs of landscape development. Capital and maintenance cost. Modification of natural system and environmental costs.

*Attested*



**UNIT III MANAGEMENT OF NATURAL RESOURCES 15**  
 Landscape management at the regional scale in relation to soil conservation. Resource management - water management, forest management, grassland and agricultural management. Management practice related to urban ecology and urban habitats such as urban forests, urban water sheds, regional parks, green belts. Ecological. Economic and administrative issues,

**UNIT IV MANAGMENT MODELS 6**  
 Models used for sustainable management of landscapes.

**UNIT V LANDSCAPE PROJECT MANAGMENT 9**  
 Identification and protection of conservation areas at site level. Methodologies of protection of sensitive materials and zones within the site. Top soil removal, protection and reapplication during construction. Establishing and maintaining nursery at site for small and large projects. Maintenance and active management of planting areas. Life cycle analysis of projects. PERT and CPM with reference to landscape projects.

**TOTAL: 45 PERIODS**

**OUTCOME**

- Knowledge of Landscape Management techniques and valuation of natural resources.
- Familiarity with case studies of Landscape management

**REFERENCES:**

- Field, B. C. and Field, M. K., 'Environmental economics', McGraw-Hill/Irwin, 7th edition, 2016.
- Nick Hanley, Jason F. Shogren, and Ben White, 'Environmental Economics in Theory and Practice', Palgrave; 2nd edition, 2006.
- Kolstad, C. D. 'Environmental Economics', Oxford university press, 2010.
- Solow, R. 'An Almost Practical Sep toward Sustainability', 1993.
- Varian, H. R., 'Intermediate Microeconomics: A Modern Approach'. W. W. Norton & Company. 8<sup>th</sup> edition, 2010.
- Daly, H. E. and Farley, J., 'Ecological Economics: Principles and Applications', Washington, D.C., Island Press, 2004.

**LN5011 LANDSCAPE ECOLOGY AND PLANNING LT P/S C  
3 0 0 3**

**OBJECTIVES**

- To give understanding that any developmental activity involves intervention in the natural processes and to minimize the impact due to this intervention.
- To outline the evolution of landscape planning, its premises and the process.

**UNIT I ECOLOGY 9**  
 Understanding the ecosystem and their functioning. Components of ecosystem. Natural process. Fundamentals of ecology. Ecological processes and dynamics. Understanding ecological concepts like population growth, regulation, carrying capacity colonization and succession. Stability and resilience of ecosystem. Ecosystem degradation.

**UNIT II LANDSCAPE ECOLOGY 9**  
 Introduction to landscape ecology. Formation of various landforms. Landforms and landscape process. Pattern and structure of landscapes. Concepts of patch, corridor and matrix. Landscape dynamics and function. Topological and chorological process within landscape. Concept of landscape metrics. Understanding dynamic interaction between landscape structure and function. Ecological services of landscape

**UNIT III LANDSCAPE PLANNING****9**

Relationship between man and nature. Analytical aspect of landscape - the natural and cultural setting. evolution of landscape planning. Concepts and projects of McHarg, Carl Steinite, Warren Manning, Augustus Hills, Phil Lewis, IzankZonneveld, Ervin Zube. Landscape planning models. METLAND concept.

**UNIT IV PROCESS IN LANDSCAPE PLANNING****9**

The purpose of landscape planning. Domain and context for landscape planning. Principles of planning. Procedure in landscape planning - problem defining, goal setting, inventory and analysis. Basics of collecting and analyzing, projecting and presenting data in landscape planning, visual assessment and aesthetic dimension. Suitability analysis. Techniques for identifying preferences. Planning options. Proposing landscape plan.

**UNIT V LANDSCAPE PLANNING- CASE STUDIES****9**

Reclamation and restoration of derelict landscapes. Conservation and preservation of ecological fragile areas such as wetlands, creeks etc. Conservation ordinances. Case studies on landscape regional planning. Policies and landscape.

**TOTAL: 45 PERIODS****OUTCOME**

- Knowledge about basics of Ecology and Landscape Ecology.
- Familiarity with landscape planning history, evolution, process and case studies.
- Knowledge about legislation concerned with the environment and EIA

**REFERENCES:**

- Richard T.T. Forman & Michel Godron, 'Landscape Ecology', John Wiley & Sons, 1986.
- Tom Turner, 'Landscape Planning and Environmental Impact Design', Routledge, Oxon, 2003.
- Ervin H. Zube, Robert O Brush, Julios G. Y. Fabos, 'Landscape assessment – values, perceptions', Dowden, Hutchinson & Ross, 1975.
- G. Tyler Miller Jr & Scott E. Spoolman., 'Living in the Environment: Principles, Connections, and Solutions', Brooks/Cole publishers co., 16<sup>th</sup> edition, 2009.
- William M. Marsh, 'Landscape planning – Environmental Application', John Wiley and sons Inc., 1998.
- Michael Allaby, 'Basics of Environmental Science', Routledge, 2<sup>nd</sup> edition, 2002.
- Avijitgupta and Mukul G. Asher, 'Environment and the developing world', John Wiley and sons, Inc, 1998.
- Larry W. Canter, 'Environmental Impact Assessment', McGraw – Hill, Inc, 1996.
- H.N. Tiwari, 'Environmental Law', Allahabad Law Agency, 2013.
- Armin Rosencranz and Shyam Diwan, 'Environmental Law and Policy in India (Cases, Materials, and statutes)', Oxford, 2002.

**LN5012****PROFESSIONAL PRACTICE OF LANDSCAPE ARCHITECTURE****L T P/S C  
3 0 0 3****OBJECTIVE**

- To educate the students on the various aspects of a Landscape design practice.

**UNIT I THE PROFESSION OF LANDSCAPE ARCHITECTURE****6**

Brief history of profession, Professional career tracks, Registration and License, professional ethics and code of professional conduct.

**UNIT II PRINCIPLES OF PROFESSIONAL PRACTICE****9**

The client- different kinds of clients and projects, general concept for engaging the services of landscape architect. The extent and variety of services performed by landscape architect, terms and conditions.

**UNIT III PROFESSIONAL RELATIONSHIPS 9**  
Interface with other consultants and contracting agencies. Prime consulting, Multiple direct- consulting, Sub consulting relationships. Relationship between the Landscape architect and Clients, Allied professional, contractor, General public.

**UNIT IV PROFESSIONAL APPROACH 12**  
Methods of working – surveys, preparation of policy and design proposals. Reports, contents and production techniques. Types and contents of Drawings prepared in a landscape architect's office. Contracts- Definition and terminologies, Contract documents. Preparation of tender documents. Different types of tender.

**UNIT V PROJECT MANAGEMENT 9**  
Planning, and organizing the project. PERT and CPM. Project supervision, coordination between different agencies, monitoring a project during execution and preparation of site reports.

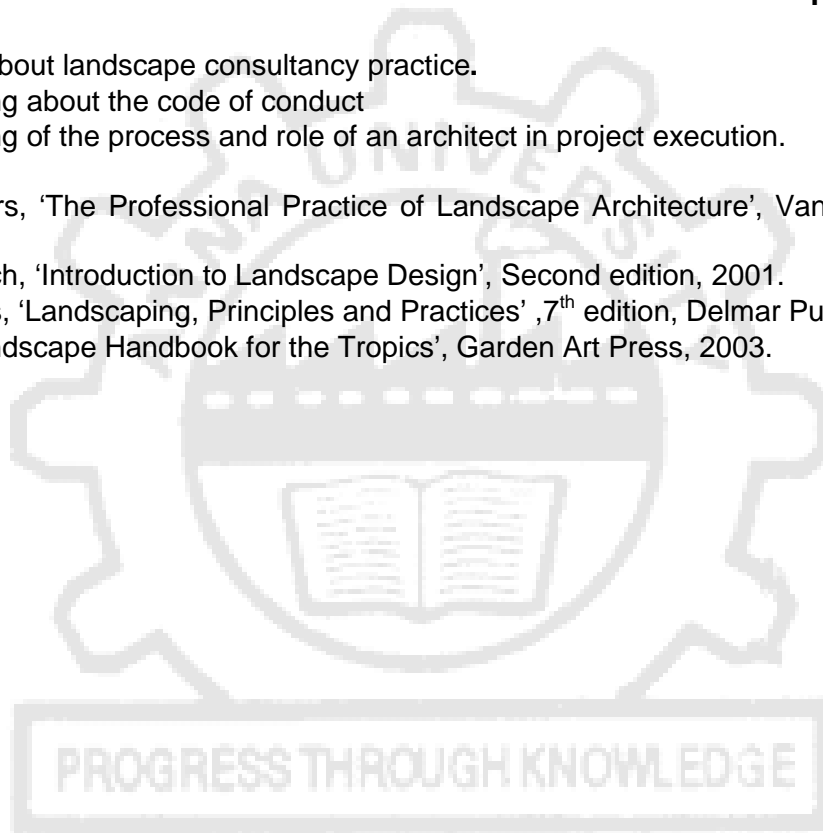
**TOTAL: 45 PERIODS**

**OUTCOMES**

- Knowledge about landscape consultancy practice.
- Understanding about the code of conduct
- Understanding of the process and role of an architect in project execution.

**REFERENCES**

- Walter Rogers, 'The Professional Practice of Landscape Architecture', Van Nostrand Reinhold, 1997.
- JohnL.Motloch, 'Introduction to Landscape Design', Second edition, 2001.
- Jack.E.Ingels, 'Landscaping, Principles and Practices', 7<sup>th</sup> edition, Delmar Publishers inc, 2009.
- W.F.Hill, 'Landscape Handbook for the Tropics', Garden Art Press, 2003.



*Attested*



## AUDIT COURSES (AC)

AX5091

**ENGLISH FOR RESEARCH PAPER WRITING**

**L T P C  
2 0 0 0**

### OBJECTIVES

- Teach how to improve writing skills and level of readability
- Tell about what to write in each section
- Summarize the skills needed when writing a Title
- Infer the skills needed when writing the Conclusion
- Ensure the quality of paper at very first-time submission

### **UNIT I INTRODUCTION TO RESEARCH PAPER WRITING 6**

Planning and Preparation, Word Order, Breaking up long sentences, Structuring Paragraphs and Sentences, Being Concise and Removing Redundancy, Avoiding Ambiguity and Vagueness

### **UNIT II PRESENTATION SKILLS 6**

Clarifying Who Did What, Highlighting Your Findings, Hedging and Criticizing, Paraphrasing and Plagiarism, Sections of a Paper, Abstracts, Introduction

### **UNIT III TITLE WRITING SKILLS 6**

Key skills are needed when writing a Title, key skills are needed when writing an Abstract, key skills are needed when writing an Introduction, skills needed when writing a Review of the Literature, Methods, Results, Discussion, Conclusions, The Final Check

### **UNIT IV RESULT WRITING SKILLS 6**

Skills are needed when writing the Methods, skills needed when writing the Results, skills are needed when writing the Discussion, skills are needed when writing the Conclusions

### **UNIT V VERIFICATION SKILLS 6**

Useful phrases, checking Plagiarism, how to ensure paper is as good as it could possibly be the first-time submission

**TOTAL: 30 PERIODS**

### OUTCOMES

- CO1 – Understand that how to improve your writing skills and level of readability  
CO2 – Learn about what to write in each section  
CO3 – Understand the skills needed when writing a Title  
CO4 – Understand the skills needed when writing the Conclusion  
CO5 – Ensure the good quality of paper at very first-time submission

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
<b>CO1</b>										✓		✓
<b>CO2</b>										✓		✓
<b>CO3</b>										✓		✓
<b>CO4</b>										✓		✓
<b>CO5</b>										✓		✓

### REFERENCES

1. Adrian Wallwork , English for Writing Research Papers, Springer New York Dordrecht Heidelberg London, 2011
2. Day R How to Write and Publish a Scientific Paper, Cambridge University Press 2006
3. Goldbort R Writing for Science, Yale University Press (available on Google Books) 2006
4. Highman N, Handbook of Writing for the Mathematical Sciences, SIAM. Highman's book 1998.

**OBJECTIVES**

- Summarize basics of disaster
- Explain a critical understanding of key concepts in disaster risk reduction and humanitarian response.
- Illustrate disaster risk reduction and humanitarian response policy and practice from multiple perspectives.
- Describe an understanding of standards of humanitarian response and practical relevance in specific types of disasters and conflict situations.
- Develop the strengths and weaknesses of disaster management approaches

**UNIT I INTRODUCTION 6**

Disaster: Definition, Factors and Significance; Difference between Hazard And Disaster; Natural and Manmade Disasters: Difference, Nature, Types and Magnitude.

**UNIT II REPERCUSSIONS OF DISASTERS AND HAZARDS 6**

Economic Damage, Loss of Human and Animal Life, Destruction Of Ecosystem. Natural Disasters: Earthquakes, Volcanisms, Cyclones, Tsunamis, Floods, Droughts And Famines, Landslides And Avalanches, Man-made disaster: Nuclear Reactor Meltdown, Industrial Accidents, Oil Slicks And Spills, Outbreaks Of Disease And Epidemics, War And Conflicts.

**UNIT III DISASTER PRONE AREAS IN INDIA 6**

Study of Seismic Zones; Areas Prone To Floods and Droughts, Landslides And Avalanches; Areas Prone To Cyclonic and Coastal Hazards with Special Reference To Tsunami; Post-Disaster Diseases and Epidemics

**UNIT IV DISASTER PREPAREDNESS AND MANAGEMENT 6**

Preparedness: Monitoring Of Phenomena Triggering a Disaster or Hazard; Evaluation of Risk: Application of Remote Sensing, Data from Meteorological And Other Agencies, Media Reports: Governmental and Community Preparedness.

**UNIT V RISK ASSESSMENT 6**

Disaster Risk: Concept and Elements, Disaster Risk Reduction, Global and National Disaster Risk Situation. Techniques of Risk Assessment, Global Co-Operation in Risk Assessment and Warning, People’s Participation in Risk Assessment. Strategies for Survival

**TOTAL : 30 PERIODS**

**OUTCOMES**

- CO1: Ability to summarize basics of disaster
- CO2: Ability to explain a critical understanding of key concepts in disaster risk reduction and humanitarian response.
- CO3: Ability to illustrate disaster risk reduction and humanitarian response policy and practice from multiple perspectives.
- CO4: Ability to describe an understanding of standards of humanitarian response and practical relevance in specific types of disasters and conflict situations.
- CO5: Ability to develop the strengths and weaknesses of disaster management approaches

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	✓											
CO2	✓											
CO3	✓	✓	✓									
CO4	✓	✓	✓									
CO5	✓	✓	✓									

*Attested*

## REFERENCES

1. Goel S. L., Disaster Administration And Management Text And Case Studies”,Deep & Deep Publication Pvt. Ltd., New Delhi,2009.
2. NishithaRai, Singh AK, “Disaster Management in India: Perspectives, issues and strategies” NewRoyal book Company,2007.
3. Sahni, PardeepEt.Al. ,” Disaster Mitigation Experiences And Reflections”, Prentice Hall OfIndia, New Delhi,2001.

AX5093

SANSKRIT FOR TECHNICAL KNOWLEDGE

L T P C  
2 0 0 0

## OBJECTIVES

- Illustrate the basic sanskrit language.
- Recognize sanskrit, the scientific language in the world.
- Appraise learning of sanskrit to improve brain functioning.
- Relate sanskrit to develop the logic in mathematics, science & other subjects enhancing the memory power.
- Extract huge knowledge from ancient literature.

### UNIT I ALPHABETS

Alphabets in Sanskrit

6

### UNIT II TENSES AND SENTENCES

Past/Present/Future Tense - Simple Sentences

6

### UNIT III ORDER AND ROOTS

Order - Introduction of roots

6

### UNIT IV SANSKRIT LITERATURE

Technical information about Sanskrit Literature

6

### UNIT V TECHNICAL CONCEPTS OF ENGINEERING

Technical concepts of Engineering-Electrical, Mechanical, Architecture, Mathematics

6

TOTAL: 30 PERIODS

## OUTCOMES

- CO1 - Understanding basic Sanskrit language.
- CO2 - Write sentences.
- CO3 - Know the order and roots of Sanskrit.
- CO4 - Know about technical information about Sanskrit literature.
- CO5 - Understand the technical concepts of Engineering.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1										✓		✓
CO2										✓		✓
CO3												✓
CO4												✓
CO5												✓

Attested

## REFERENCES

1. "Abhyasustakam" – Dr. Vishwas, Samskrita-Bharti Publication, New Delhi
2. "Teach Yourself Sanskrit" Prathama Deeksha-Vempati Kutumbshastri, Rashtriya Sanskrit Sansthanam, New Delhi Publication
3. "India's Glorious Scientific Tradition" Suresh Soni, Ocean books (P) Ltd., New Delhi, 2017.

**AX5094**

**VALUE EDUCATION**

**L T P C**  
**2 0 0 0**

## OBJECTIVES

Students will be able to

- Understand value of education and self-development
- Imbibe good values in students
- Let the should know about the importance of character

## UNIT I

Values and self-development–Social values and individual attitudes. Work ethics, Indian vision of humanism. Moral and non-moral valuation. Standards and principles. Value judgements

## UNIT II

Importance of cultivation of values. Sense of duty. Devotion, Self-reliance. Confidence, Concentration. Truthfulness, Cleanliness. Honesty, Humanity. Power of faith, National Unity. Patriotism. Love for nature, Discipline

## UNIT III

Personality and Behavior Development-Soul and Scientific attitude. Positive Thinking. Integrity and discipline. Punctuality, Love and Kindness. Avoid fault Thinking. Free from anger, Dignity of labour. Universal brother hood and religious tolerance. True friendship. Happiness Vs suffering, love for truth. Aware of self-destructive habits. Association and Cooperation. Doing best for saving nature

## UNIT IV

Character and Competence–Holy books vs Blind faith. Self-management and Good health. Science of reincarnation. Equality, Nonviolence, Humility, Role of Women. All religions and same message. Mind your Mind, Self-control. Honesty, Studying effectively.

**TOTAL: 30 PERIODS**

## OUTCOMES

Students will be able to

- Knowledge of self-development.
- Learn the importance of Human values.
- Developing the overall personality.

## Suggested reading

1. Chakroborty, S.K. "Values and Ethics for organizations Theory and practice", Oxford University Press, New Delhi

*Attested*

**OBJECTIVES**

Students will be able to:

- Understand the premises informing the twin themes of liberty and freedom from a civil rights perspective.
- To address the growth of Indian opinion regarding modern Indian intellectuals' constitutional
- Role and entitlement to civil and economic rights as well as the emergence nation hood in the early years of Indian nationalism.
- To address the role of socialism in India after the commencement of the Bolshevik Revolution in 1917 and its impact on the initial drafting of the Indian Constitution.

**UNIT I HISTORY OF MAKING OF THE INDIAN CONSTITUTION**

History, Drafting Committee, (Composition & Working)

**UNIT II PHILOSOPHY OF THE INDIAN CONSTITUTION**

Preamble, Salient Features

**UNIT III CONTOURS OF CONSTITUTIONAL RIGHTS AND DUTIES**

Fundamental Rights, Right to Equality, Right to Freedom, Right against Exploitation, Right to Freedom of Religion, Cultural and Educational Rights, Right to Constitutional Remedies, Directive Principles of State Policy, Fundamental Duties.

**UNIT IV ORGANS OF GOVERNANCE**

Parliament, Composition, Qualifications and Disqualifications, Powers and Functions, Executive, President, Governor, Council of Ministers, Judiciary, Appointment and Transfer of Judges, Qualifications, Powers and Functions.

**UNIT V LOCAL ADMINISTRATION**

District's Administration head: Role and Importance, • Municipalities: Introduction, Mayor and role of Elected Representative, CEO, Municipal Corporation. Pachayati raj: Introduction, PRI: Zila Pachayat. Elected officials and their roles, CEO Zila Pachayat: Position and role. Block level: Organizational Hierarchy (Different departments), Village level: Role of Elected and Appointed officials, Importance of grass root democracy.

**UNIT VI ELECTION COMMISSION**

Election Commission: Role and Functioning. Chief Election Commissioner and Election Commissioners - Institute and Bodies for the welfare of SC/ST/OBC and women.

**TOTAL: 30 PERIODS**

**OUTCOMES**

Students will be able to:

- Discuss the growth of the demand for civil rights in India for the bulk of Indians before the arrival of Gandhi in Indian politics.
- Discuss the intellectual origins of the framework of argument that informed the conceptualization of social reforms leading to revolution in India.
- Discuss the circumstances surrounding the foundation of the Congress Socialist Party [CSP] under the leadership of Jawaharlal Nehru and the eventual failure of the proposal of direct elections through adult suffrage in the Indian Constitution.
- Discuss the passage of the Hindu Code Bill of 1956.

**Suggested reading**

1. The Constitution of India, 1950 (Bare Act), Government Publication.
2. Dr. S.N. Busi, Dr. B. R. Ambedkar framing of Indian Constitution, 1<sup>st</sup> Edition, 2015.
3. M.P. Jain, Indian Constitution Law, 7<sup>th</sup> Edn., Lexis Nexis, 2014.
4. D.D. Basu, Introduction to the Constitution of India, Lexis Nexis, 2015.

*Attested*

**OBJECTIVES**

Students will be able to:

- Review existing evidence on their view topic to inform programme design and policy
- Making under taken by the DfID, other agencies and researchers.
- Identify critical evidence gaps to guide the development.

**UNIT I INTRODUCTION AND METHODOLOGY**

Aims and rationale, Policy background, Conceptual framework and terminology - Theories of learning, Curriculum, Teacher education - Conceptual framework, Research questions - Overview of methodology and Searching.

**UNIT II THEMATIC OVERVIEW**

Pedagogical practices are being used by teachers in formal and informal classrooms in developing countries - Curriculum, Teacher education.

**UNIT III EVIDENCE ON THE EFFECTIVENESS OF PEDAGOGICAL PRACTICES**

Methodology for the in depth stage: quality assessment of included studies - How can teacher education (curriculum and practicum) and the school curriculum and guidance materials best support effective pedagogy? - Theory of change - Strength and nature of the body of evidence for effective pedagogical practices - Pedagogic theory and pedagogical approaches - Teachers' attitudes and beliefs and Pedagogic strategies.

**UNIT IV PROFESSIONAL DEVELOPMENT**

Professional development: alignment with classroom practices and follow up support - Peer support - Support from the head teacher and the community - Curriculum and assessment - Barriers to learning: limited resources and large class sizes

**UNIT V RESEARCH GAPS AND FUTURE DIRECTIONS**

Research design – Contexts – Pedagogy - Teacher education - Curriculum and assessment - Dissemination and research impact.

**TOTAL: 30 PERIODS****OUTCOMES**

Students will be able to understand

- What pedagogical practices are being used by teachers informal and informal classrooms in developing countries?
- What is the evidence on the effectiveness of these pedagogical practices, in what conditions, and with what population of learners?
- How can teacher education (curriculum and practicum) and the school curriculum and guidance materials best support effective pedagogy?

**Suggested reading**

1. Ackers J, Hardman F (2001) Classroom interaction in Kenyan primary schools, Compare, 31(2): 245-261.
2. Agrawal M (2004) Curricular reform in schools: The importance of evaluation, Journal of Curriculum Studies, 36(3):361-379.
3. Akyeampong K (2003) Teacher training in Ghana-does it count? Multi-site teacher education research project (MUSTER) country report 1. London:DFID.

*Attested*



4. Akyeamong K, Lussier K, Pryor J, Westbrook J (2013) Improving teaching and learning of basic maths and reading in Africa: Does teacher preparation count? International Journal Educational Development, 33(3): 272–282.
5. Alexander RJ(2001) Culture and pedagogy: International comparisons in primary education. Oxford and Boston: Blackwell.
6. Chavan M(2003) Read India: Amass scale, rapid, 'learning to read' campaign.
7. www.pratham.org/images/resource%20working%20paper%202.pdf

**AX5097**

**STRESS MANAGEMENT BY YOGA**

**L T P C**  
**2 0 0 0**

**OBJECTIVES**

- To achieve overall health of body and mind
- To overcome stress

**UNIT I**

Definitions of Eight parts of yoga.(Ashtanga)

**UNIT II**

Yam and Niyam - Do's and Don't's in life - i) Ahinsa, satya, astheya, bramhacharya and aparigraha, ii) Ahinsa, satya, astheya, bramhacharya and aparigraha.

**UNIT III**

Asan and Pranayam - Various yog poses and their benefits for mind & body - Regularization of breathing techniques and its effects-Types of pranayam

**TOTAL: 30 PERIODS**

**OUTCOMES**

Students will be able to

- Develop healthy mind in a healthy body thus improving social health also
- Improve efficiency

**SUGGESTED READING**

1. 'Yogic Asanas for Group Training-Part-I':Janardan Swami Yoga bhyasi Mandal, Nagpur
2. "Rajayoga or conquering the Internal Nature" by Swami Vivekananda, Advaita Ashrama (Publication Department), Kolkata

PROGRESS THROUGH KNOWLEDGE

**AX5098**

**PERSONALITY DEVELOPMENT THROUGH  
LIFE ENLIGHTENMENT SKILLS**

**L T P C**  
**2 0 0 0**

**OBJECTIVES**

- To learn to achieve the highest goal happily
- To become a person with stable mind, pleasing personality and determination
- To awaken wisdom in students

**UNIT I**

Neetisatakam-holistic development of personality - Verses- 19,20,21,22 (wisdom) - Verses- 29,31,32 (pride & heroism) – Verses- 26,28,63,65 (virtue) - Verses- 52,53,59 (dont's) - Verses- 71,73,75,78 (do's)

**UNIT II**

Approach to day to day work and duties - Shrimad Bhagwad Geeta: Chapter 2-Verses 41, 47,48 - Chapter 3-Verses 13, 21, 27, 35 Chapter 6-Verses 5,13,17,23, 35 - Chapter 18-Verses 45, 46, 48.

### UNIT III

Statements of basic knowledge - Shrimad Bhagwad Geeta: Chapter2-Verses 56, 62, 68 Chapter 12 - Verses 13, 14, 15, 16,17, 18 - Personality of role model - shrimad bhagwad geeta - Chapter2-Verses 17, Chapter 3-Verses 36,37,42 - Chapter 4-Verses 18, 38,39 Chapter18 – Verses 37,38,63

**TOTAL: 30 PERIODS**

### OUTCOMES

Students will be able to

- Study of Shrimad-Bhagwad-Geeta will help the student in developing his personality and achieve the highest goal in life
- The person who has studied Geeta will lead the nation and mankind to peace and prosperity
- Study of Neet is hatakam will help in developing versatile personality of students.

### Suggested reading

1. Gopinath, Rashtriya Sanskrit Sansthanam P, Bhartrihari's Three Satakam, Niti-sringar-vairagya, New Delhi,2010
2. Swami Swarupananda , Srimad Bhagavad Gita, Advaita Ashram, Publication Department, Kolkata, 2016.



*Attested*