

# **SAVITRIBAI PHULE PUNE UNIVERSITY**

**(FORMERLY UNIVERSITY OF PUNE)**



**SYLLABUS FOR**

**MASTERS IN ARCHITECTURE**

**M.ARCH (LANDSCAPE)**

**(To be implemented w.e.f. A.Y. 2019-20)**

**BOARD OF STUDIES IN ARCHITECTURE**

**FACULTY OF SCIENCE AND TECHNOLOGY**

## **PREAMBLE**

From the traditional role that a landscape architect had to fulfill as a designer of gardens, the profession today invites the landscape architect to comment on and to modify open space, bringing to it his understanding of the natural and cultural context of the place. The profession of Landscape Architecture has to constantly respond to the environmental, social and economic concerns in the contemporary context.

Being an interdisciplinary field including aspects from the allied fields such as the humanities, social sciences, ecology, technology and the creative arts, landscape architecture education should include not only landscape design but also landscape conservation and planning, management of natural and designed landscapes and landscape research.

## **PROGRAM EDUCATIONAL OBJECTIVES [PEO]-**

1. **THEORITICAL BASE** - To develop a theoretical understanding of landscape architecture from micro-level to macro-level.
2. **KNOWLEDGE AND SKILLS** – To enhance the knowledge and skills of the students with reference to designing and planning of open spaces as part of natural and designed environment. The importance of local and traditional knowledge (citizens, decision-makers or experts) and its contribution to the design process is essential.
3. **VALUES** – To instil the students with the ability and desire to work on interdisciplinary teams, respecting universal values as well as context –specific values associated with various disciplines involved values of nature and community both.
4. **RESEARCH** –To give opportunity to students to be part of a culture of landscape research and scholarship, which involves scientific research, encouraging the students and faculty to think creatively and critically both, and to make them aware about the landscape architecture profession, its opportunities and challenges.
5. **PRACTICE AND ETHICS** – To make the students critically aware of the motivations behind clients' needs within the context of public policy and the environment in order to foster an ethical framework for decision making in the profession at design, planning and management level of landscapes.

## **PROGRAM OUTCOMES [PO]-**

1. **DESIGN AND PLANNING ABILITIES** – Imparting the abilities with respect to design and planning of landscapes
2. **KNOWLEDGE BASE** – Knowledge of theory of landscape architecture, research and allied disciplines relevant to the field and its challenges , applicative understanding of the theoretical base
3. **PRACTICAL, TECHNICAL AND COMMUNICATION SKILLS-** Ability to work on real life contexts/projects (design, planning, and research) and contribute individually and also as team member to the same with practical, technical and communication skills. Ability to communicate and work in an interdisciplinary team.
4. **SENSITIZATION, RESPONSIBILITY, COMMITMENT (TOWARDS NATURAL AND CULTURAL ENVIRONMENT AND ASSOCIATED ETHICAL PRACTICES)-** Ability to

be sensitive, responsible and committed towards natural and cultural environment and associated ethical practices

- 5. OUREACH, DIVERSITY AND EXPOSURE** – Ability to expand the scope of work of landscape design and planning and to respond to diverse situations in urban and rural contexts with an interdisciplinary perspective. Ability to imbibe, review, make decisions through self-initiated learning process, outreach and exposure with respect to local, national and international platforms which need services of a landscape architect.

**M.ARCH. (LANDSCAPE)  
SPPU, PUNE**

**MATRIX OF PROGRAM EDUCATIONAL OBJECTIVES AND PROGRAM  
OUTCOMES**

PEO	PO1 DESIGN AND PLANNING	PO2 KNOWLEDGE BASE	PO3 PRACTICAL, TECHNICAL AND COMMUNICATI	PO4 SENSITIZATION, RESPONSIBILIT Y, COMMITMENT	PO5 OUREACH, DIVERSITY AND EXPOSURE
PE01- THEORITICAL BASE	√	√			
PE02- KNOWLEDGE AND SKILLS	√	√	√	√	√
PE03- VALUES	√		√	√	
PE04 RESEARCH	√		√		√
PE05 PRACTICE AND ETHICS			√	√	√

<b>Sr.No.</b>	<b>Program Outcomes</b>	<b>Subjects in curriculum</b>
1	PO1- 1. DESIGN AND PLANNING ABILITIES	Landscape Design Studio-I, II, III Plants and Design Landscape Planning Theory of Landscape-I, II Landscape Architecture Project
2	PO2- 2. KNOWLEDGE BASE	Elective-I, II, III Landscape Engineering Geology and soils Geomorphology and Hydrology Ecology and Ecosystem Analysis Plant systematic and taxonomy Landscape Management and Legislation Research-I
3	PO3- 3. PRACTICAL, TECHNICAL AND COMMUNICATION SKILLS	Landscape Professional practice and Training Elective-2 Research-II Landscape Architecture Project
4	PO4- 4.SENSITIZATION, RESPONSIBILITY, COMMITMENT	Landscape Architecture Project Elective –III (Open Elective) Landscape Professional practice and Training
5	PO5- 5. OUREACH, DIVERSITY AND EXPOSURE	Elective-1 Elective-2 Elective -3 Landscape Architecture Project

<b>Sr.No.</b>	<b>Electives</b>	<b>Tentative Subjects of Electives</b>
01	Elective I [Sem-1]	<ol style="list-style-type: none"> <li>1. Horticulture Practices</li> <li>2. Sustainable landscape practices</li> <li>3. Nature and Community</li> <li>4. Social and behavioural study</li> </ol>
02	Elective II [Sem-2]	<ol style="list-style-type: none"> <li>1. Landscape Architecture Journalism</li> <li>2. Landscape and Art</li> <li>3. Landscape Construction and Services</li> </ol>
03	Elective III [Sem-4]	Open Elective-Choice Based-Interdisciplinary Elective

<b>Semesters I - M.ARCH. (LANDSCAPE)</b>											
<b>Course Code</b>	<b>Course Title</b>	<b>Course Type</b>	<b>Contact Periods (60 mins)</b>	<b>Teaching Scheme</b>			<b>Examination Scheme</b>				<b>Marks</b>
				<b>Theory/ week</b>	<b>Studio/ week</b>	<b>Credits</b>	<b>SS</b>	<b>SV</b>	<b>Th</b>		
									<b>In Sem</b>	<b>End Sem.</b>	
2019LA101	Landscape Studio- I	C1	10	2	08	10	-	400	Nil	Nil	<b>400</b>
2019LA102	Elective – I	EL	3	1	2	3	100	Nil	Nil	Nil	<b>100</b>
2019LA103	Landscape Engineering	C2	4	2	2	4	200	Nil	Nil	Nil	<b>200</b>
2019LA104	Geology and Soils	SP1	3	2	1	3	Nil	Nil	30	70	<b>100</b>
2019LA105	Geomorphology and Hydrology	SP2	3	2	1	3	Nil	Nil	30	70	<b>100</b>
2019LA106	Plant Systematics and Taxonomy	L	2	1	1	2	100	Nil	Nil	Nil	<b>100</b>
			<b>25</b>	10	15	<b>25</b>	400	400			<b>1000</b>

<b>Semesters II - M.ARCH. (LANDSCAPE)</b>											
<b>Course Code</b>	<b>Course Title</b>	<b>Course Type</b>	<b>Contact Periods (60 mins)</b>	<b>Teaching Scheme</b>			<b>Examination Scheme</b>				<b>Marks</b>
				<b>Theory/ week</b>	<b>Studio/ week</b>	<b>Credits</b>	<b>SS</b>	<b>SV</b>	<b>Th</b>		
									<b>In Sem</b>	<b>End Sem.</b>	
2019LA201	Landscape Studio- II	C1	10	2	08	10	-	400	Nil	Nil	<b>400</b>
2019LA202	Elective – II	EL	3	1	2	3	100	Nil	Nil	Nil	<b>100</b>
2019LA203	Ecology and Ecosystem Analysis	C2	4	2	2	4	200	Nil	Nil	Nil	<b>200</b>
2019LA204	Theory of Landscape Architecture-1	SP1	3	2	1	3	Nil	Nil	30	70	<b>100</b>
2019LA205	Research-I	SP2	3	2	1	3	Nil	Nil	30	70	<b>100</b>
2019LA206	Plants and Design	L	2	1	1	2	100	Nil	Nil	Nil	<b>100</b>
			<b>25</b>	10	15	<b>25</b>	400	400			<b>1000</b>

<b>Semesters III - MARCH. (LANDSCAPE)</b>											
<b>Course Code</b>	<b>Course Title</b>	<b>Course Type</b>	<b>Contact Periods (60 mins)</b>	<b>Teaching Scheme</b>			<b>Examination Scheme</b>				<b>Marks</b>
				<b>Theory/ week</b>	<b>Studio/ week</b>	<b>Credits</b>	<b>SS</b>	<b>SV</b>	<b>Th</b>		
									<b>In Sem</b>	<b>End Sem.</b>	
2019LA301	Landscape Studio-III	C1	10	2	08	10	-	400	Nil	Nil	<b>400</b>
2019LA302	Elective – II	EL	3	1	2	3	100	Nil	Nil	Nil	<b>100</b>
2019LA303	Research-II	C2	4	2	2	4	200	Nil	Nil	Nil	<b>200</b>
2019LA304	Landscape Architecture- Professional Practice and Training **	SP1	3	2	1	3	Nil	Nil	30	70	<b>100</b>
2019LA305	Landscape Management and Legislation	SP2	3	2	1	3	Nil	Nil	30	70	<b>100</b>
2019LA306	Landscape Planning	L	2	1	1	2	100	Nil	Nil	Nil	<b>100</b>
			<b>25</b>	10	15	<b>25</b>	400	400			<b>1000</b>

\*\* - This includes Professional Training (40 full working days) to be undertaken during intermediate time between II & III Semester, details of which are mentioned in the detailed syllabus. The Oral Assessment of the same will be held at the end of Semester III. The subject is included as core subject and will have both sessional and viva assessment.



Semesters IV - M.ARCH. (LANDSCPE )											
Course Code	Course Title	Course Type	Contact Periods (60 mins)	Teaching Scheme			Examination Scheme				Marks
				Theory/ week	Studio/ week	Credits	SS	SV	Th		
									In Sem	End Sem.	
2019LA401	Landscape Architecture Project	C1	20	4	16	20	-	800	Nil	Nil	<b>800</b>
2019LA402	Elective III*	EL	5	2	3	5	200	-	Nil	Nil	<b>200</b>
			<b>25</b>	6	19	<b>25</b>	200	800	Nil	Nil	<b>1000</b>

\*Elective III can be offered as an open elective. In case it is not possible to offer open elective, colleges should offer any elective from the list of electives which the student has not undertaken in any previous semester.

**DETAIL SYLLABUS**

**SEM I, II,**

**M.Arch. (Landscape)**

## SEMESTER-1

<b>SUBJECT TITLE:</b> <b>LANDSCAPE DESIGN STUDIO–I</b>				
Subject Code : 2019LA101				
<b>Teaching Scheme</b>		<b>Examination Scheme</b>	<b>Marks</b>	
Theory Periods per week	2	Sessional	300	
Studio Periods per week	8	Viva/Oral	100	
<b>Total Contact Periods ( 60 min period) per week</b>	<b>10</b>	In-semester Examination	Nil	
		End-semester Examination	Nil	
<b>Total Credits</b>	<b>10</b>	<b>Total Marks</b>	<b>400</b>	

### COURSE OBJECTIVES:

To develop an understanding of what constitutes landscape, appreciation of landscape-space & to initiate an inquiry into the process of landscape design by learning about the elements & constituents of landscape as well as its objectives in fulfilling visual , functional , cultural & environmental concerns.

### COURSE CONTENTS:

**Unit 1: Landscape Design Principles:** Studying principles of landscape design , Understanding constituents of landscape Spaces, Introduction to Universal Design

**Unit 2: Analysis of designed landscape:** Understanding Landscape space through appraisals & field visits

**Unit 3: Landscape Design Process:** Initiating Landscape Design Process, Site analysis and site planning, Use of landscape elements in the design of outdoor spaces

**Unit 4: Landscape architecture – Graphic Representation:** Understanding the application of Landscape Architecture Graphics techniques of design/planning representation

### SUBMISSION REQUIREMENT FOR SESSIONAL WORK:

Students will work on analytical and design projects and will produce the work in the form of drawings and model.

### OUTCOME:

Students at the end of the semester should have learnt / understood:

1. How to perceive & comprehend various landscape spaces
2. How to study & analyze designed as well as natural environments to understand various constituents of the landscape design & the role they perform in design ( visual / aesthetic , ecological , cultural, functional , sensorial etc. )
3. The process of site & context study & how to arrive at rationale of siting , developing an approach for design , program formulation/landscape design brief
4. Application of elements of landscape in the design projects

### RECOMMENDED READINGS:

1. Simonds. J. O. (1961). *Landscape Architecture, The Shaping of Man's Natural Environment*. London: F.W. Dodge Cooperation.
2. Harris.C.W and Dine.N.T ; *Time Saver Standards For Landscape Architecture*, Mcgraw – Hill International Edition, Arch. Series

3. Starke .B and Simonds. J. O. (2013) *Landscape Architecture: A Manual of Site Planning and Design*. 5 editions. McGraw-Hill Professional
4. Baker.B.H (1987) *A Dictionary of Landscape Architecture*.Albu : University Of New MexicoPress
5. Reid G. W: (1987) *Landscape Graphics*.
6. Shaheer .M, Dua G.W and Pal.A .(2012) *Landscape Architecture in India: a reader* .India: La, Journal of Landscape Architecture
7. Reid G. W: (1993)*From Concept to Form: In Landscape Design*. John Wiley & Sons
8. All publications by AVA
9. Spens M:(1994):*The complete landscape designs and gardens of Geoffrey Jellicoe*: Thames and Hudson
10. Booth. N.K : (1989): *Basic Elements of Landscape Architectural Design*: Waveland Pr Inc.
11. Jencks.C .(2011): *The Universe in the Landscape: Landforms*: Francis Lincoln
12. Spirn .A. W. (1998): *The Language of Landscape*
13. Dee. C. (2001): *Form And Fabric In Landscape Architecture*: Taylor and Francis
14. Booth N. K.(2011): *Foundations Of Landscape Architecture : Integrating Form And SpaceUsing The Language Of Site Design*: Wiley

<b>SUBJECT TITLE:</b> <b>ELECTIVE-I</b>				
Subject Code : <b>2019LA102</b>				
<b>Teaching Scheme</b>		<b>Examination Scheme</b>		<b>Marks</b>
Theory Periods per week	2	Sessional		100
Studio Periods per week	1	Viva/Oral		Nil
<b>Total Contact Periods ( 60 min period) per week</b>	<b>3</b>	In-semester Examination		Nil
		End-semester Examination		Nil
<b>Total Credits</b>	<b>3</b>	<b>Total Marks</b>		<b>100</b>

**COURSE OBJECTIVES:**

To introduce students to various theories, concerns, techniques and values in the areas with respect to mentioned subjects & to develop awareness / highlight its relevance to landscape architecture.

**COURSE CONTENTS:**

Individual college/institute may offer the students one or more topics, depending upon the availability of experts and resource material. The colleges will have the opportunity to focus on one or more of the following topics:

1. **Horticulture Practices**
2. **Sustainable landscape practices**
3. **Nature and Community**
4. **Social and behavioral study**

Detailed syllabus for all topics will be finalized by individual college/institute in consultation with expert faculty, considering the time and marks allotted to the subject.

**SUBMISSION REQUIREMENT FOR SESSIONAL WORK:**

Assignment will be in the form of individual study of a topic related to any one of the subject based on availability of experts, which will be presented by the student in the form of an audio-visual presentation and a report on the same.

**OUTCOME:**

Students at the end of the semester should have learnt / understood the broad concepts, practices / methods / ideas involved in the given subject.

**RECOMMENDED READINGS:**

All books/ Journals/ Magazines/ unpublished/published research/websites related to the topic selected by the individual student.

<b>SUBJECT TITLE:</b> <b>LANDSCAPE ENGINEERING</b>				
Subject Code : <b>2019LA103</b>				
<b>Teaching Scheme</b>		<b>Examination Scheme</b>		<b>Marks</b>
Theory Periods per week	2	Sessional		200
Studio Periods per week	2	Viva/Oral		Nil
<b>Total Contact Periods ( 60 min period) per week</b>	<b>4</b>	In-semester Examination		Nil
		End-semester Examination		Nil
<b>Total Credits</b>	<b>4</b>	<b>Total Marks</b>		<b>200</b>

### **COURSE OBJECTIVES:**

To understand site characteristics, methods of site survey and visual reconnaissance, landform and grading techniques for landscape design.

### **COURSE CONTENTS:**

**Unit 1: Understanding contours and their characteristics** - Topographic surveys and their methods, visualizing landforms, their graphical representation, deriving contours by method of interpolation

**Unit 2: Site Survey and Appraisal;** establishing relationship between site characteristics and design requirements. Process of site analysis / documentation with respect to gradient, relief, aspect, surface water regime etc.

**Unit 3: Earth Work:** Cut fill processes & Computation

**Unit 4: Earth form Grading;** symbols and annotations, basic grading principles, grading of terraces, grading of roads, terraces, softscape and hardscape areas, sports fields, Basics of road alignment (horizontal and vertical)

**Unit 5: Surface Drainage:** Site planning for efficient drainage; understanding drainage pattern and watershed area, storm water run-off systems and their design, calculation of surface runoff, determination of catchments area and discharge rate, etc.

**Unit 6: Introduction to landscape architecture services:** Scope of landscape architect in dealing with the visual & environmental significance and impact of engineering decisions & services. Introduction to water feature systems in designed landscape such swimming pools, fountains, etc.

### **SUBMISSION REQUIREMENT FOR SESSIONAL WORK:**

Studio assignments (Individual & group) of one week to 2 weeks duration, the entire course can be divided into 4-5 assignments and same shall be periodically evaluated at regular intervals.

### **OUTCOME:**

Students at the end of the semester should have learnt / understood:

1. How to comprehend various landforms & understand lay of the land of concerned area.
2. Understanding Grading & design as closely related & dependent processes.
3. Understand fundamentals of grading & how technically well worked out details will have immense ability to play a role in aesthetic, perceptual, environmental considerations of any design.

### **RECOMMENDED READINGS:**

1. Harris.C.W and Dine. N.T ; (1997) *Time Saver Standards For Landscape Architecture*, Mcgraw – Hill International Edition, Arch. Series
2. Storm.S and Kurt Nathan P.E;(1985) *Site Engineering for Landscape Architects*, AVI Publishing Company
3. Landphair H C; (1984) *Landscape architecture construction*. Elsevier
4. Christensen A J; (2005) *Dictionary of Landscape Architecture And Construction* .McGraw-Hill
5. Thomas J. R. Hughes;*Site Engineering for Landscape Architects*
6. Untermann, R. (1973) *Grade Easy: an introductory course in the principles and practices of grading and drainage*, Landscape Architecture Foundation

<b>SUBJECT TITLE:</b> <b>GEOLOGY AND SOILS</b>				
Subject Code : <b>2019LA104</b>				
<b>Teaching Scheme</b>		<b>Examination Scheme</b>	<b>Marks</b>	<b>Duration</b>
Theory Periods per week	2	Sessional	Nil	
Studio Periods per week	1	Viva/Oral	Nil	
<b>Total Contact Periods ( 60 min period) per week</b>	<b>3</b>	In-semester Examination	30	
		End-semester Examination	70	150 min
<b>Total Credits</b>	<b>3</b>	<b>Total Marks</b>	<b>100</b>	

### **COURSE OBJECTIVES:**

To introduce basic concepts of geology & soils, to equip students to comprehend the landscapes with respect to geological processes occurring in nature.

### **COURSE CONTENTS:**

#### **Unit 1: Geology:**

1. Earth in space; History and origin of earth and life; and interior constitution of the earth
2. Earthquakes & Volcanoes: causes and effects, seismic zones of India
3. Minerals and Metals
4. Rocks: Igneous, Sedimentary, and Metamorphic.
5. Isostasy, plate tectonics, crustal deformation and mountain building
6. Structural geology: dip, strike, folds, faults, joints, unconformities. Stratigraphy: principles, Stratigraphy and geology of India.
7. Application of geological information in the interpretation of landscapes on maps and in the field, learning on field with practical examples

#### **Unit 2: Soils:**

1. Genesis / Formation of Soils
2. Morphology and classification of soils.
3. Properties of soil : Physical, Chemical, Biological and Mineralogical
4. Survey of Indian soil types,
5. Mapping of Soils
6. Degradation of soils, Problem Soils, amendment of soil

### **SUBMISSION REQUIREMENT FOR SESSIONAL WORK:**

In-semester examination or continuous assessment and studies taken up by students individually and/or in groups will be presented and submitted along with compilation of study material in the form of reports/ notes/ assignments.

### **OUTCOME:**

Students at the end of the semester should have learnt / understood

1. The significance of studying various phenomenon & processes with respect to geology and soils and how they create particular kind of a landscape as a result of the same.
2. Applicative understanding of the interconnectedness of various earth sciences & develop an eye of observation & Analysis of various parameters to arrive at inference.

### **RECOMMENDED READINGS:**

1. M S Krishnan ; (2006) *Geology Of India And Burma*; 6<sup>th</sup> Edition : CBS Publishers & Distributors
2. Dr. J. A. Daji, revised by Dr. J. R. Kadam & Dr. N. D. Patil ; *A text book of Soil Science*; Mumbai : Media Promoters & Publishers Pvt. Ltd.
3. A.B. Roy ; (2010) *Fundamentals of Geology* : Alpha Science International Ltd
4. Arthur Holmes; (1978) *Principles Of Physical Geology*; 4<sup>th</sup> Edition: Wiley

5. Dr.Kulkarni U.D; (2018) Concepts in Geology; 4<sup>th</sup> Edition : Nirali Prakashan
6. White Robert E.; (2005) Principles and Practice of Soil Science: The Soil as a Natural Resource; 4th Edition; Wiley-Blackwell
7. Keefer Robert F.; (2000) Handbook of Soils for Landscape Architects; 1st Edition; Oxford University Press



<b>SUBJECT TITLE:</b> <b>GEOMORPHOLOGY AND HYDROLOGY</b>				
Subject Code : <b>2019LA105</b>				
<b>Teaching Scheme</b>		<b>Examination Scheme</b>	<b>Marks</b>	<b>Duration</b>
Theory Periods per week	2	Sessional	Nil	
Studio Periods per week	1	Viva/Oral	Nil	
<b>Total Contact Periods ( 60 min period) per week</b>	<b>3</b>	In-semester Examination	30	
		End-semester Examination	70	150min
<b>Total Credits</b>	<b>3</b>	<b>Total Marks</b>	<b>100</b>	

### **COURSE OBJECTIVES:**

To introduce basic concepts of geomorphology and hydrology, to equip students to comprehend the landscapes with respect to their processes occurring in nature.

### **COURSE CONTENTS:**

#### **Unit 1: Geomorphology:**

1. Geomorphological processes: Endogenic, Exogenic, Extra-terrestrial. Major processes and associated landforms: Tectonic, fluvial, Aeolian, coastal, karst, glacial, and topography caused by ground water
2. Climatic geomorphology and morphogenic regions
3. Structural geomorphology, landforms developed on sedimentary sequences, volcanoes and volcanic
4. Landforms, pseudo structural landforms
5. Running water and underground water; channel networks and drainage basins, Hill slope geomorphology
6. Geomorphological features of the Indian subcontinent

#### **Unit 2: Hydrology:**

1. Hydrological Cycle and sources of surface water
2. Rainfall regime with specific reference to the Indian region
3. Introduction to watersheds & watershed management, Characteristics and management of drainage basins, Infiltration and Soil Moisture
4. Types of Flow: channel and sheet flow
5. Ground water - Occurrence & Movement , types of wells, aquifers
6. Water bearing properties of geological formation, artesian conditions, development of karst topography, saltwater intrusions
7. Aquifers , recharge area, infiltration characteristics, rainwater harvesting, artificial recharge
2. Groundwater management, sources of ground water pollution and its control
3. Characteristics and management of drainage basins, river basin
4. Introduction to the natural processes associated with natural hydrological features- river, pond, wetland, estuary, sea, stream, etc.

### **SUBMISSION REQUIREMENT FOR SESSIONAL WORK:**

In-semester examination or continuous assessment for individual student and studies taken up by students individually and/or in groups will be presented and submitted along with compilation of study material in the form of reports/ notes/ assignments.

### **OUTCOME:**

Students at the end of the semester should have learnt / understood

1. The significance of studying various phenomenon & processes and how do they create particular kind of a landscape as a result of the same.

2. Understand the interconnectedness of various earth sciences & develop an eye of observation & Analysis of various parameters to arrive at inference.

**RECOMMENDED READINGS:**

1. Arbogast A; (2011) *Discovering Physical Geography* 2nd Edition :Wiley
2. Bateman G : Ed;(2008) *Encyclopedia Of World Geography*: Book Sales
3. Chow V. T; (1964) *Handbook of Applied Hydrology: A Compendium of Water-resources Technology; 1st Edition*: McGraw-Hill Company
4. Bierman P.R, Montgomery D.R; (2013) *Key Concepts in Geomorphology* 1nd Edition : W. H. Freeman
5. Goudie A, Viles H; (2010) *Landscapes and Geomorphology*; OUP UK
6. Yarham R; (2018) *How to Read the Landscape: A crash course in interpreting the great outdoors* : Ivy Press

SUBJECT TITLE: <b>PLANT SYSTEMATICS &amp; TAXONOMY</b>				
Subject Code : <b>2019LA106</b>				
<b>Teaching Scheme</b>		<b>Examination Scheme</b>		<b>Marks</b>
Theory Periods per week	1	Sessional		100
Studio Periods per week	1	Viva/Oral		Nil
<b>Total Contact Periods ( 60 min period) per week</b>	<b>2</b>	In-semester Examination		Nil
		End-semester Examination		Nil
<b>Total Credits</b>	<b>2</b>	<b>Total Marks</b>		<b>100</b>

### COURSE OBJECTIVES:

To introduce basic concepts related to plants, the working of and principles governing the plant kingdom, classification and taxonomy to be able to comprehend the occurrence & significance of plants in various landscapes.

### COURSE CONTENTS:

**Unit 1: Phytogeography** Zones of India, Introduction to Plant Kingdom

**Unit 2: Study of plant Structure** - Morphology, Anatomy

**Unit 3: Plant Physiology** - Functions, growth & development, Photosynthesis & Respiration, Enzymes & metabolism

**Unit 4: Principles of Taxonomy** - Classification & identification

**Unit 5: Relationship between habit & physical form**

**Unit 6: Categorization of plants with respect to habit:** Various attributes of plant materials & its value & significance in natural & designed environments

### SUBMISSION REQUIREMENT FOR SESSIONAL WORK:

Studies taken up by students individually and/or in groups will be presented and submitted along with compilation of study material in the form of reports/ notes/ assignments.

### OUTCOME:

Students at the end of the semester should have learnt / understood

1. Relationship between habit of a plant, its form & habitat.
2. Various attributes of plant materials & its value & significance in natural & designed environments so as to decide their applications in landscape architecture.

### RECOMMENDED READINGS:

1. Judd Water; (2007) *Plant Systematics: A Phylogenetic Approach*, 3rd Edition: Sinauer Associates
2. Nultsch William ; (1971) *General Botany* : Academic Press
3. Pandey S.N., Trivedi P.S; (2015) *A Text Book Of Botany Volume 1,12/e* : Vikas Publishing
4. Elpel T. J; (2013) *Botany in a Day: The Patterns Method of Plant Identification*, 6 Rev Exp edition : HOPS Press
5. Iftikhar Ahmad Khan – M.I.; (2015) *Text Book of Botany*: M.I. Publishers

## SEMESTER –2

SUBJECT TITLE: <b>LANDSCAPE DESIGN STUDIO–II</b>				
Subject Code : <b>2019LA201</b>				
<b>Teaching Scheme</b>		<b>Examination Scheme</b>	<b>Marks</b>	
Theory Periods per week	2	Sessional	300	
Studio Periods per week	8	Viva/Oral	100	
<b>Total Contact Periods ( 60 min period) per week</b>	<b>10</b>	In-semester Examination	Nil	
		End-semester Examination	Nil	
<b>Total Credits</b>	<b>10</b>	<b>Total Marks</b>	<b>400</b>	

### OBJECTIVES:

To understand site context and to resolve complex landscape issues in urban and rural fabric, dealing with residential / commercial / institutional / recreational land use in relation to landform, vegetation & water

### COURSE CONTENTS:

**Unit 1:** Documentation & Mapping, Analysis, Synthesis, Suitability, Zoning and planning with landscape land uses (for medium to large scale projects)

**Unit 2:** Evolving landscape structure for sites & suggesting an appropriate landscape design with respect to ecological, functional, cultural & visual context.

**Unit 3:** Process of landscape project formulation and landscape design development/planning in response to contextual analysis, synthesis & theoretical bearings

### SUBMISSION REQUIREMENT FOR SESSIONAL WORK

Students will work on above mentioned in detail and will submit the work in the form of drawings and/ models

### OUTCOME:

Students at the end of the semester should have learnt / understood:

1. To resolve complex landscape issues in urban and rural fabric with landscape design and planning
2. To be able to derive an open space structure for the site/zone with suitable landuses/activities in response to the context

### RECOMMENDED READINGS:

1. Simonds. J. O. (1961). *Landscape Architecture, The Shaping of Man's Natural Environment*. London: F.W. Dodge Cooperation.
2. Harris.C.W and Dine.N.T .(1997) *Time Saver Standards For Landscape Architecture*, Mcgraw – Hill International Edition, Arch. Series
3. Starke .B and Simonds. J. O. (2013) *Landscape Architecture: A Manual of Site Planning and Design*. 5 editions. McGraw-Hill Professional
4. Baker.B.H (1987) *A Dictionary of Landscape Architecture*.Albu : University Of New MexicoPress
5. Reid G. W. (1987) *Landscape Graphics: Watson-Guptill*
6. Shaheer .M, Dua G.W and Pal.A .(2012) *Landscape Architecture in India: a reader* .India: La, Journal of Landscape Architecture
7. Reid G. W. (1993)*From Concept to Form: In Landscape Design*. John Wiley & Sons
8. All publications by Brian Hackett
9. Eckbo.G.(2002): *Landscape for Living: Hennessey and Ingalls*.Univ of Massachusetts Press.
10. Leatherbarrow.D. (2015)*Topographical Stories: Studies in Landscape and Architecture:University of Pennsylvania Press*.
11. Dr.Sinha .A. (2006).*Landscapes in India: Forms and Meanings*. Asia Publishing House.

12. Mathur.A, Cunha.D.D. (2006): *Deccan Traverses - Making Of Bangalore's Terrain*.Rupa Publications.
13. Spiro A.W. (1985): *The Granite Garden: Urban Nature and Human Design*. Basic Books.
14. Bell.S. (2010) *Pattern Perception And Process*. Routledge;2nd edition.

<b>SUBJECT TITLE:</b> <b>ELECTIVE-II</b>				
Subject Code : <b>2019LA202</b>				
<b>Teaching Scheme</b>		<b>Examination Scheme</b>		<b>Marks</b>
Theory Periods per week	2	Sessional		100
Studio Periods per week	1	Viva/Oral		Nil
<b>Total Contact Periods ( 60 min period) per week</b>	<b>3</b>	In-semester Examination		Nil
		End-semester Examination		Nil
<b>Total Credits</b>	<b>3</b>	<b>Total Marks</b>		<b>100</b>

### **OBJECTIVES:**

To understand theories, concerns and values in the areas with respect to one of the following as per student's inclination and to develop awareness towards the same in reference to Landscape Architecture.

### **COURSE CONTENTS:**

Individual college may offer the students one or more topics, depending upon the availability of experts and resource material. The colleges will have the opportunity to focus on one or more of the following topics:

- 1. Landscape Architecture Journalism**
- 2. Landscape and Art**
- 3. Landscape Construction and Services**

Detailed syllabus for all topics will be finalized by individual college in consultation with expert faculty, considering the time and marks allotted to the subject.

### **SUBMISSION REQUIREMENT FOR SESSIONAL WORK**

Assignment will be in the form of individual study of a topic related to any one of the subject based on availability of experts, which will be presented by the student in the form of an audio-visual presentation and a report on the same.

### **OUTCOME:**

Students at the end of the semester should have learnt / understood the broad concepts, practices / methods / ideas involved in the given subject.

### **RECOMMENDED READINGS:**

All books/ Journals/ Magazines/ unpublished/published research/websites related to the topic selected by the individual student.

<b>SUBJECT TITLE:</b> <b>ECOLOGY AND ECOSYSTEM ANALYSIS</b>				
Subject Code : <b>2019LA203</b>				
<b>Teaching Scheme</b>		<b>Examination Scheme</b>		<b>Marks</b>
Theory Periods per week	2	Sessional		200
Studio Periods per week	2	Viva/Oral		Nil
<b>Total Contact Periods ( 60 min period) per week</b>	<b>4</b>	In-semester Examination		Nil
		End-semester Examination		Nil
<b>Total Credits</b>	<b>4</b>	<b>Total Marks</b>		<b>200</b>

### **COURSE OBJECTIVES:**

To understand fundamentals of ecology, various ecological processes, ecosystems & their physical characteristics so as to analyze the environment in a comprehensive manner.

### **COURSE CONTENTS:**

**Unit 1: Fundamental concepts & principles in ecology** – Evolution of life on earth, Environment , habitat , niche , Interactions , food chain , food web , energy flow , succession , Flora-fauna associations, etc.

**Unit 2: Biomes & Ecosystems:** Study all major biomes of the world & major ecosystems of India with respect to components their physical characteristics, its relevance & function

**Unit 3: Biodiversity:** Concept of Biodiversity , biodiversity hotspots , The Rio Conventions of biodiversity – 1992 , Millennium assessment system-2002 , Ramsar Convention, IUCN, UNESCO & its role, Understanding the role of indigenous and issues with non-indigenous species of flora and fauna in the ecosystem

**Unit 4: Landscape ecology** – human impacts on landscape structure & functions - various concepts as landscape , scale & heterogeneity , patch , mosaic , matrix , boundary , edges , eco-tones , eco-clines , eco-topes , disturbance & fragmentations, Concept of ecology and equity, Understanding the role of ecology and ecosystems with respect to landscape design and planning

**Unit 5: Ecological Services:** Management & restoration techniques of various disturbed ecosystems / landscapes, Concerns & challenges pertaining to Natural resources, life cycle analysis

**Unit 6: Field ecology:** methods, techniques, application

### **SUBMISSION REQUIREMENT FOR SESSIONAL WORK:**

Assignments on field, field ecology studies with detail documentation of flora and fauna of a selected area will be in the form of a group work, 3-4 number of assignments based on the above mentioned topics, which will be presented by the student in the form of an audio-visual presentation, report , notes , site visit studies, documentation drawings, etc.

### **OUTCOME:**

Students at the end of the semester should have learnt / understood:

The relevance of studying above mentioned topics & how these concepts & principles can be integrated while landscape planning & designing / dealing with any project in future.

### **RECOMMENDED READINGS:**

1. Burel, Françoise, Baudry Jacques;( 2003). Landscape Ecology: Concepts, Methods, and Applications: CRC Press
2. Bush M.B.:( 2002). Ecology of A Changing Planet; 3<sup>rd</sup> Edition : Benjamin Cummings
3. Odum, .E. (2004). *Fundamentals of Ecology*. Cengage Learning; 5 edition.
4. Gadgil.M.(1998). *Nurturing biodiversity: An Indian agenda*. Centre for environmental education.
5. Forman.R.T.T.(1995).*Land Mosaics: The Ecology of Landscapes and Regions*.Cambridge University Press; 1 edition.

6. Cox, B. C., Moore, P. D. (2010). *Biogeography: An Ecological and Evolutionary Approach*. Wiley; 8 edition.



<b>SUBJECT TITLE:</b> <b>THEORY OF LANDSCAPE ARCHITECTURE-I</b>				
Subject Code : 2019LA204				
<b>Teaching Scheme</b>		<b>Examination Scheme</b>	<b>Marks</b>	<b>Duration</b>
Theory Periods per week	2	Sessional	Nil	
Studio Periods per week	1	Viva/Oral	Nil	
<b>Total Contact Periods ( 60 min period) per week</b>	<b>3</b>	In-semester Examination	30	
		End-semester Examination	70	150 min
<b>Total Credits</b>	<b>3</b>	<b>Total Marks</b>	<b>100</b>	

### **COURSE OBJECTIVES:**

To develop critical thinking & theoretical basis in appreciation, appraisal & design of landscape using analytical study of precedents in history through varied spatial and temporal context up to early 19th Century.

### **COURSE CONTENTS:**

**Unit 1: Landscape Architecture theory:** Understanding the need & scope of theory and the tools to study & develop the same with respect to landscape architecture

**Unit 2: Traditions in Landscape Architecture:** Studying landscape attitudes, approaches, design & philosophy through history starting from the ancient till early 19th century along with insights into natural, social & temporal context and development of a theoretical structure for such a comparative study

**Unit 3: Man- nature relationship:** 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.

**Unit 4: Environmental and Behavioral theories:** Entropy, Prospect-refuge theory, Defensible space etc., introduction to social and cultural dimensions of landscape

### **SUBMISSION REQUIREMENT FOR SESSIONAL WORK:**

Assignments will be in the form of an individual work/group work will be presented by the student in the form of an audio-visual presentation, report & notes.

### **OUTCOME:**

Students at the end of the semester should have acquired critical thinking ability & ability to theorize a particular study highlighting the significant course contents.

### **RECOMMENDED READINGS:**

1. Jellicoe G. and Jellicoe S;(1995).The Landscape of Man: Shaping the Environment from Prehistory to the Present Day: Thames and Hudson
2. Turner .T (2010), Asian Gardens: History, Beliefs and Design. London and New York: Routledge
3. Turner .T (2011), European Gardens: History, Philosophy and Design. London and New York: Routledge
4. Rogers.E.B;(2001)Landscape Design: A Cultural and Architectural History: Harry N.Abrams
5. Waymark J,Georges T. (2000) History Of Garden Design; Thames & Hudson
6. Moore C W / Mitchell W J;(1993) Poetics of Garden; London: MIT Press
7. Boults.E and Chip.S. (2010): *Illustrated History of Landscape Design*. John Wiley & Sons.
8. Simon.S. (2002): *Theory in Landscape Architecture: A Reader*. University of Pennsylvania Press.
9. Barlow. R.E.: *Landscape Design (2001): A Cultural and Architectural History*. Harry N. Abrams; 1st Edition.
10. Barlow.R.E, Eustis E. S and Bidwell.J(2010): *Romantic Gardens : Nature, Art and Landscape Design*. David R. Godine Publishers.
11. Hunt,Dixon.J.(1994): *Gardens and the Picturesque : Studies in the History of Landscape Architecture*. The MIT Press; Reissue edition

12. Philip.P And Naney.V(1999): *Landscapes In History - Design and Planning in the Eastern And Westen Traditions*. John Wiley & Sons publications.
13. Rod.B.(2013): *Emergence In Landscape Architecture*. Routledge; 1 edition.
14. Hunt J. D.(2009): *The Venetian City Garden: Place, Typology And Perception*.BirkhauserVerlag AG; 1 edition
15. Siciliano,P. C (2004): *Landscape Interpretation: History techniques and inspiration*. Thomson Learning publications.
16. Herbert E. W. (2011): *Flora's Empire: British Gardens in India*. University of Pennsylvania Press
17. Jellicoe, G. A. (1989). *The Landscape of Civilisation: Created for the Moody Historical Gardens*. University of Michigan: Garden Art Press.

SUBJECT TITLE: <b>RESEARCH-I</b>				
Subject Code : <b>2019LA205</b>				
<b>Teaching Scheme</b>		<b>Examination Scheme</b>	<b>Marks</b>	<b>Duration</b>
Theory Periods per week	2	Sessional	Nil	
Studio Periods per week	1	Viva/Oral	Nil	
<b>Total Contact Periods ( 60 min period) per week</b>	<b>3</b>	In-semester Examination	30	
		End-semester Examination	70	150 min
<b>Total Credits</b>	<b>3</b>	<b>Total Marks</b>	<b>100</b>	

### OBJECTIVES:

To introduce methods and process of research, in order to understand the significance of the same with reference to landscape architecture and to develop skills of conducting and communicating research.

### COURSE CONTENTS:

**Unit 1: Introduction to research:** Types of research and the process of formulating a research project

**Unit 2: Research Methods:** Various methods of research, their relative advantages and disadvantages and their applications

**Unit 3: Research Writing:** Introduction to technical writing and presenting a research paper

**Unit 4: Research Publication:** Introduction to various form of publication of research

**Unit 5: Cyber security** and laws related to the same

**Unit 6: Plagiarism in research:** Introduction to the concept, Problem of plagiarism & software to check the same

### SUBMISSION REQUIREMENT FOR SESSIONAL WORK:

In-semester examination or continuous assessment for individual student and studies taken up by students individually and/or in groups will be presented and submitted along with compilation of study material in the form of reports/ notes/ assignments.

### RECOMMENDED READINGS:

1. Creswell, J. W. (2003) *Research Design: Qualitative, quantitative and mixed methods approaches*, 2nd Ed., Thousand Oaks: Sage.
2. De Vaus, D. A. (2003) *Surveys in Social Research*, Jaipur: Rawat Publications.
3. Groat, L. & Wang, D. (2002) *Architectural Research Methods*, NY: John Wiley and Sons Inc.
4. Kothari, C.R. (2005) *Research Methodology: Methods and Techniques*, New Delhi: WishwaPrakashan.
5. Sanoff, H. (1977) *Methods of Architectural Programming*, Dowden Hutchinson and Ross, Inc. Vol. 29, Community Development Series.
6. Sanoff, H. (1991) *Visual research methods in design*, USA: Van Nostrand Reinhold.

<b>SUBJECT TITLE:</b> <b>PLANTS AND DESIGN</b>				
Subject Code : <b>2019LA206</b>				
<b>Teaching Scheme</b>		<b>Examination Scheme</b>		<b>Marks</b>
Theory Periods per week	1	Sessional		100
Studio Periods per week	1	Viva/Oral		Nil
<b>Total Contact Periods ( 60 min period) per week</b>		<b>2</b>		<b>In-semester Examination</b>
				<b>Nil</b>
		<b>End-semester Examination</b>		<b>Nil</b>
<b>Total Credits</b>		<b>2</b>		<b>Total Marks</b>
				<b>100</b>

### OBJECTIVES:

To understand the role of vegetation in landscape & familiarize with the process of planting design at various scales; appreciating plant material as one of the important landscape design elements in addressing ecological , functional, cultural and visual aspects of environment.

### COURSE CONTENTS:

**Unit 1: Summarizing plant systematics** to establish a relationship between ecological and visual characteristics of plants, looking at their form in relation to their habit.

**Unit 2: Planting:** Introduction to planting patterns, techniques and planting practices such as floriculture, arboriculture, agricultural, etc., Planting techniques and maintenance criteria for trees, shrubs, ground covers, aquatic plants, etc.,

**Unit 3: Indigenous plants and planting techniques**

**Unit 4: Understanding plant selection criteria in landscape architecture:**

1. Characteristics of Plant Materials and factors influencing choice of plant material for specific design applications
  - a. Plants in the natural landscape like forests, riparian areas, aquatic environments, etc.
  - b. Planting for designed landscape from small scale spaces to urban landscape
  - c. Planting for landscape restoration
  - d. Planting for vertical landscapes
2. Visual, functional, ecological, cultural & temporal, laying emphasis on architectural & spatial significance of the vegetation in addition to its environmental value (as concepts and through field visits & appraisal of designed landscape)
3. Criteria for plant Selection:
  - a. Planting design through ages
  - b. Visual aesthetics, appearance of form, leaf colour and texture, branching habit and trunk form and their texture, colour of flowers and fruits. Seasonal variation in appearance & functional role as well as the purpose to be fulfilled in landscape design
  - c. Environmental considerations (Soil conservation, modification of microclimate etc.

**Unit 5: Understanding the principles of designing with plants**

**Unit 6: Graphic representation of planting in landscape architecture**

### SUBMISSION REQUIREMENT FOR SESSIONAL WORK:

Assignment will be in the form of notes/ assignments covering all the topics mentioned above with suitable examples, sketches and supportive material. Students will work on at least one project taken up in the design studio and work on landscape details of the project relating to all the above mentioned topics in the form of sheets and /or report.

### OUTCOME:

Students at the end of the semester should have learnt / understood:

1. The role of plants in natural & designed environments
2. How to recognize , appreciate & use plant material as one of the important landscape design elements in addressing ecological , functional, cultural and visual aspects of environment
3. How to design landscapes with plants

#### 4. How to graphically represent planting design

##### **RECOMMENDED READINGS:**

1. Clouston .B E. (1990) *Landscape Design with Plant*. London: Butterworth-Heinemann
2. Robinson.N. (1992)*The Planting Design Handbook*: Ashgate Publication Ltd
3. Bose T. K. and Chowdhury.B.E.(1992) *Tropical Garden Plants In Colour :A guide to tropical ornamental plants for garden and home*. South Asia Books
4. Mukherjee P (1983) *Nature Guides: Common Trees of India*. Oxford U.P.
5. Platts.R. (2004)*Traditional Gardens : Plans And Planting Designs*. Cassell Illustrated
6. Rix.M.(2006) *Subtropical And Dry Climate Plants : Definitive Practical Guide*. Timber Press, Incorporated