

**Maharshi Dayanand University  
Rohtak**

**SYLLABUS**

**&  
SCHEME OF EXAMINATIONS  
(w.e.f. 2012-13)**

**MASTER 's DEGREE  
IN  
Architecture  
(Landscape Architecture)**

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IN  
**Architecture**  
(Landscape Architecture)

SYLLABUS AND SCHEME OF EXAMINATIONS

# MAHARSHI DAYANAND UNIVERSITY ROHTAK

## SYLLABUS AND SCHEME OF EXAMINATIONS

MASTER'S PROGRAMME IN LANDSCAPE ARCHITECTURE  
Scheme of Examination & Syllabus

Subject Code	Subject	(L-T-P)	Marks Weightage		TOTAL MARKS
<b>SEMESTER-I</b>			<b>Theory</b>	<b>Sessional</b>	
M.ARCH. LA-101	Plants Systematic & Plant Processes	2-0-0	100	25	125
M.ARCH. LA-103	Geology & Soils	2-0-0	100	25	125
M.ARCH. LA-105	Hydrology & Geomorphology	2-0-0	100	25	125
M.ARCH. LA-107	Site Planning & Landscape Engineering-I	3-0-0	100	25	125
M.ARCH. LA-109	Professional Communication –I	4-0-0	.....	50	50
	<b>LABORATORIES</b>		<b>External</b>	<b>Internal</b>	
M.ARCH. LA-111	Plants Systematic & Plant Processes	0-0-2	25	50	75
M.ARCH. LA-113	Geology & Soils	0-0-2	25	50	75
M.ARCH. LA-115	Site Planning & Landscape Engineering-I Studio	0-0-2	50	50	100
M.ARCH. LA-117	Landscape Architecture Studio-I	0-0-14	200	100	300
	<b>TOTAL</b>	<b>13-0-20</b>	<b>700</b>	<b>400</b>	<b>1100</b>

**# Syllabus for Practical Subjects is same as for Theory Subjects.**

**# Professional Communication – I,II,III,IV :- This Subject will support the M.ARCH. LA-Landscape Architecture Studio-I,II,III&IV & will no any exam or viva for same.**

**Note for Examiner/Faculty:**

The Examiner will set Eight (8) questions in total, selecting two questions from each unit covering the whole syllabus/all the units. Students will have to attempt Five (5) questions in all, selecting at least one question from each unit. All the questions will carry equal marks.

Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

Subject Code	Subject	(L-T-P)	Marks Weightage		TOTAL MARKS
			Theory	Sessional	
<b>SEMESTER-II</b>					
M.ARCH LA -102	Ecology, Ecosystems Analysis & Field Ecology	2-0-0	100	25	125
M.ARCH LA -104	Theory of Landscape Architecture-I	2-0-0	100	25	125
M.ARCH LA -106	Plants & Design	2-0-0	100	25	125
M.ARCH LA -108	Site Planning and Landscape Engineering-II	2-0-0	100	25	125
M.ARCH LA -110	Remote Sensing, Land Information Systems and GIS	2-0-0	100	25	125
M.ARCH LA -112	Professional Communication-II	2-0-0	.....	50	50
	<b>LABORATORIES</b>		<b>External</b>	<b>Internal</b>	
M.ARCH LA -114	Ecology, Ecosystems Analysis & Field Ecology	0-0-2	25	50	75
M.ARCH LA -116	Plants & Design	0-0-2	25	50	75
M.ARCH LA -118	Remote Sensing, Land Information Systems and GIS	0-0-2	25	50	75
M.ARCH LA -120	Landscape Architecture Studio-II	0-0-16	200	100	300
	<b>TOTAL</b>	<b>12-0-22</b>	<b>775</b>	<b>425</b>	<b>1200</b>

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Subject Code	Subject	(L-T-P)	Marks Weightage		TOTAL MARKS
			Theory	Sessional	
<b>SEMESTER-III</b>					
M.ARCH LA -201	Landscape Economics, Management & Horticultural Practice	2-0-0	100	25	125
M.ARCH LA -203	Theory of Landscape Architecture-II	2-0-0	100	25	125
M.ARCH LA -205	Landscape Resources-I	2-0-0	100	25	125
M.ARCH LA -207	Professional Communication-III	2-0-0	.....	50	50
	<b>LABORATORIES</b>		<b>External</b>	<b>Internal</b>	
M.ARCH LA -209	Landscape Economics, Management & Horticultural Practice	0-0-2	25	50	75
M.ARCH LA -211	Dissertation	0-0-6	150	150	300
M.ARCH LA -213	Landscape Architecture Studio-III	0-0-16	200	100	300
	<b>TOTAL</b>	<b>8-0-24</b>	<b>675</b>	<b>425</b>	<b>1100</b>

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**Note for Examiner/Faculty:**

The Examiner will set Eight (8) questions in total, selecting two questions from each unit covering the whole syllabus/all the units. Students will have to attempt Five (5) questions in all, selecting at least one question from each unit. All the questions will carry equal marks.

Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

Subject Code	Subject	(L-T-P)	Marks Weightage		TOTAL MARKS
			Theory	Sessional	
<b>SEMESTER-IV</b>			<b>Theory</b>	<b>Sessional</b>	
M.ARCH LA -202	Landscape Conservation & Regional Planning	2-0-0	100	25	125
M.ARCH LA -204	Landscape Project Management & Professional Practice	2-0-0	100	25	125
M.ARCH LA -206	Landscape Resources-II	2-0-0	100	25	125
M.ARCH LA -208	Landscape Architecture Studio-IV (Thesis)	6-0-0	100	25	125
M.ARCH LA -210	Professional Communication-IV	2-0-0	.....	50	50
	<b>LABORATORIES</b>		<b>External</b>	<b>Internal</b>	
M.ARCH LA -212	Landscape Architecture Studio-IV (Thesis)	0-0-16	350	200	550
	<b>TOTAL</b>	<b>14-0-26</b>	<b>750</b>	<b>350</b>	<b>1100</b>
<b>GRAND TOTAL</b>		<b>47-0-92</b>	<b>2900</b>	<b>1600</b>	<b>4500</b>

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# Professional Communication – I,II,III,IV :- This Subject will support the M.ARCH. LA- Landscape Architecture Studio-I,II,III&IV & will no any exam or viva for same.

**Note for Examiner/Faculty:**

The Examiner will set Eight (8) questions in total, selecting two questions from each unit covering the whole syllabus/all the units. Students will have to attempt Five (5) questions in all, selecting at least one question from each unit. All the questions will carry equal marks.

Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

## SEMESTER-I

### M.ARCH LA -101 PLANT SYSTEMATICS AND PLANT PROCESSES

COURSE No.	SUBJECT	Hrs. per week	Theory/ Studio/ Practical	Max. Marks			Total
				Sessionals/ Internal	Exam/Practical		
					Theory	External	
M.ARCH LA -101	Plants Systematic & Plant Processes	2+2	Theory + Practical	25	100	.....	125
				50	.....	25	75

#### UNIT 1

Introduction to the Plant Kingdom.

Basic plant structure/morphology/anatomy

Basic plant functions/growth & development/physiology

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#### UNIT 2

Principles of taxonomy / classification, identification and naming

Familiarity with local flora

Photosynthesis and respiration mechanism

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#### UNIT 3

General account of enzymes and metabolism

Growth regulators

Phytogeographical Regions of India

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#### UNIT 4

Ecological and Botanical considerations in landscape design

Application of Plant Physiography to sustainable landscape design such as use of CAM (Crassulacean acid metabolism) plants in Green roofs etc.

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#### Method of Evaluation:

Internal evaluation shall be carried through class test, quiz or field experience.

**NOTE:**

Seminar presentations will be done on related topics and covered in detail and will be submitted in the form of report. Each topic concerned should be followed by a written assignment by the students along with stress on sketches.

Theory to be supported with site visits to be conducted off the class hours.

**Reference Book**

1. Randhawa M S : Flowering Trees. National Book Trust, New Delhi
2. Santapau H: Common Trees. India The Land And The People
3. Mukherjee Pippa : Nature Guides, Common Trees of India. Worldwide Fund For Nature, India.
4. Virginie & Elbert George A : Foliage Plants For Decorating Indoors. Timber Press,
5. Cloustan Brain : Landscape Design With Plants Ed. 2. Heinemann Newnes Oxford.
6. Planting In Paved Area By Timothy Cochrane
7. Cloustan Brian: Landscape Design with plants Ed. 2. Heinemann newnes Oxford.
8. Tree Planting By Brenda Colvin
9. Environmental Science – Earth as a living planet second Ed. University of California, Santa Barbara
10. Cerver Francisco A: World of Landscape Architects: World of Environmental Design
11. Cerver Francisco A: Elements of Landscape,World of Environment. Printed In Spain

**Note for Examiner/Faculty:**

The Examiner will set Eight (8) questions in total, selecting two questions from each unit covering the whole syllabus/all the units. Students will have to attempt Five (5) questions in all, selecting at least one question from each unit. All the questions will carry equal marks.

Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.



## SEMESTER-I

### M.ARCH LA -103 GEOLOGY + SOILS

COURSE No.	SUBJECT	Hrs. per week	Theory/ Studio/ Practical	Max. Marks			Total
				Sessionals/ Internal	Exam/Practical		
					Theory	External	
M.ARCH LA -103	Geology & Soils	2+2	Theory + Practical	25	100	.....	125
				50	.....	25	75

### GEOLOGY & SOILS

#### UNIT 1

##### (A)

Earth in space; origin and interior of the earth.

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

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

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##### (B)

Minerals and Metals.

Rocks: Igneous, Sedimentary, Metamorphic.

Isostasy, plate tectonics, crustal deformation and mountain building.

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#### UNIT 2

##### (A)

Genesis, morphology and classification of soils.

Properties of Soils: Physical, Chemical, Biological and Mineralogical.

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##### (B)

Soil use and Management:

(a) Soil evaluation and land-use planning.

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#### UNIT 3

##### (A)

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

##### (B)

(b) Soil and water conservation.

(c) Soil fertility and plant nutrition.

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## **UNIT 4**

### **(A)**

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

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

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### **(B)**

Managing difficult soils.

### **Mode of Evaluation:**

Internal marking shall be done through, either, class test, quiz and field experience.

### **NOTE:**

Assignment will be in the form of a handwritten journal and site visit report and tutorials covering all the topics mentioned above with suitable examples, sketches and supportive material. Theory to be supported with site visits to be conducted off the class hours.

### **Reference Books**

1. Manual of Tropical Housing and Climate By Koenisberger
2. Environmental Science, Earth As a living planet, second edition by University of California, Santa Barbara.
3. Principals of Physical Geology By Arthur Holmes
4. Structural Geology by M R Billings
5. Geology of India and Burma by M S Krishnan
6. Indian Geology by Valdiya

### **Note for Examiner/Faculty:**

The Examiner will set Eight (8) questions in total, selecting two questions from each unit covering the whole syllabus/all the units. Students will have to attempt Five (5) questions in all, selecting at least one question from each unit. All the questions will carry equal marks.

Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

## SEMESTER-I

### M.ARCH LA -105 HYDROLOGY & GEOMORPHOLOGY

COURSE No.	SUBJECT	Hrs. per week	Theory/ Studio/ Practical	Max. Marks			Total
				Sessionals/ Internal	Exam/Practical		
					Theory	External	
M.ARCH LA -105	Hydrology & Geomorphology	2+....	Theory	25	100	.....	125
				.....	.....	.....	.....

### HYDROLOGY & GEOMORPHOLOGY

#### UNIT 1

##### (A)

Hydrological Cycle and sources of surface water

Rainfall regime with specific reference to the Indian region

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##### (B)

Scope, concepts, methods and approach

Historical geomorphology: Landscape evolution models

Climatic geomorphology and morphogenic regions.

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#### UNIT 2

##### (A)

Characteristics and management of drainage basins: Introduction to watersheds

Types of Flow: channel and over-land

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##### (B)

Geomorphological processes: Endogenic, Exogenic, Extra-terrestrial. Major processes and associated landforms: Tectonic, fluvial, Aeolian, coastal, karst, glacial, and topography caused by ground water.

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#### UNIT 3

##### (A)

Occurrence and movement of ground water

Water bearing properties of geological formation, artesian conditions development of karst topography; saltwater intrusions

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##### (B)

Structural geomorphology, landforms developed on sedimentary sequences, volcanoes and volcanic landforms, pseudo structural landforms.

Running water and underground water; channel networks and drainage basins.

Hill slope geomorphology.

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## **UNIT 4**

### **(A)**

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Aquifers recharge area, infiltration characteristics, rainwater harvesting, artificial recharge

Groundwater management, sources of ground water pollution and its control

Introduction to decision support systems

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### **(B)**

Landforms related to the activities of organisms and man.

Application of remote sensing in geomorphology.

Geomorphological features of the Indian subcontinent.

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### **Mode of Internal evaluation:**

Through class test, term paper or through quiz as per the requirement prescribed by the concerned teacher.

### **Mode of Evaluation:**

By conducting a class test, quiz or appropriate method a suggested by the concerned teacher.

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### **NOTE:**

Each topic concerned should be followed by a written assignment by the students along with stress on sketches. Theory to be supported with site visits to be conducted off the class hours.

### **Reference Books**

1. Manual of Tropical Housing and Climate By Koenisberger
2. Environmental Science, Earth As a living planet, second edition by University of California, Santa Barbara.
3. Principals of Physical Geology By Arthur Holmes
4. Structural Geology by M R Billings
5. Geology of India and Burma by M S Krishnan
6. Indian Geology by Valdhiya

### **Note for Examiner/Faculty:**

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## SEMESTER-I

### M.ARCH LA -107 SITE PLANNING AND LANDSCAPE ENGINEERING-I

COURSE No.	SUBJECT	Hrs. per week	Theory/ Studio/ Practical	Max. Marks			Total
				Sessionals/ Internal	Exam/Practical		
Theory	External	Total					
M.ARCH LA -107	Site Planning and Landscape Engineering-I	3+2	Theory + Practical	25	100	.....	125
				50	.....	50	100

#### UNIT 1

Site planning process and its significance; establishing relationship between site characteristics and design requirements. Inventory, documentation and site planning checklist.

Site Survey and Appraisal; topographic surveys and their methodology, visualising landforms. Understanding contours and their characteristics, graphical representation, deriving contours by interpolation.

Earthform Grading; symbols and annotations, basic grading principles, grading terraces, grading of roads across/along contours, Basics of road alignment (horizontal and vertical)

#### UNIT 2

Surface Drainage: Site planning for efficient drainage; understanding drainage pattern and watershed area, calculation of surface runoff, determination of catchments area and discharge rate; types of drainage systems, design of drainage elements: swales and culverts etc.

Sub surface drainage planning.

Planning, grading and drainage of sports fields.

Earthworks cut and fill processes, volume computations.

#### UNIT 3

Landscape Construction: Factors in relation to systems, structures and materials for:

Circulation: Roads and Parking, paths and plazas.

Level Change: Wall, steps and ramps

Planting: Planters, beds, edges and terraces.

Water elements: Pools and water bodies.

Landscape simulation and site utilities: Basic planning and understanding of principles for:

External lighting; types of fixtures and their use in varying situations.

Irrigation: broad systems and their utility as per plantation typology.

Street furniture / site furnishings

#### UNIT 4

Overall consideration of external electrical, plumbing co-ordination vis-à-vis routing and interface with landscape elements.

Landscape working drawings: Format and logical representation of information.

Overall organization of design drawings and data as respective package with relevant cross-referencing.

**Mode of Evaluation:**

Through studio assignments of one week to 2 weeks duration. The entire course of 100 marks to be divided into 4-5 assignments and same shall be periodically evaluated and at regular interval.

**NOTE:**

Assignment will be in the form of a journal 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 studios and work on landscape engineering and details of the project relating to all the above mentioned topics in the form of sheets and /or report.

**Reference Books**

1. Randhawa M S : Flowering Trees. National Book Trust, New Delhi
2. Santapau H: Common Trees. India The Land And The People
3. Mukherjee Pippa : Nature Guides, Common Trees of India. Worldwide Fund For Nature, India.
4. Virginie & Elbert George A : Foliage Plants For Decorating Indoors. Timber Press,
5. Cloustan Brain : Landscape Design With Plants Ed. 2. Heinemann Newnes Oxford.
6. Planting In Paved Area By Timothy Cochrane
7. Cloustan Brian: Landscape Design with plants Ed. 2. Heinemann newnes Oxford.
8. Tree Planting By Brenda Colvin
9. Environmental Science – Earth as a living planet second Ed. University of California, Santa Barbara
10. Cerver Francisco A: World of Landscape Architects: World of Environmental Design
11. Cerver Francisco A: Elements of Landscape, World of Environment. Printed In Spain
12. Landscape Architecture Journal
13. Gardeners World Journal
14. Time Saver Standards for Landscape Architecture, Charles W Harris and Nicholas T Dine McGraw – Hill International Edition, Arch. Series
15. Bartrum Douglas: Rock Garden. John Gifford Ltd., London
16. Perkins Philip H: Concrete Floors Finishers
17. Text By David Stevens: Ultimate Water Garden Book
18. Littlewood Michael: Tree Detailing. London. Butterworth Architecture, 1988.

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## SEMESTER - I

### M.ARCH LA -109 Professional Communication - I (3-4 Studio Projects)

COURSE No.	SUBJECT	Hrs. per week	Theory/ Studio/ Practical	Max. Marks			Total
				Sessionals/ Internal	Exam/Practical		
					Theory	External	
M.ARCH. LA-109	Professional Communication -I	4+....	Internal	50	.....	.....	50
				.....	.....	.....	.....

## Professional Communication

Professional communication skill shall be evaluated periodically through communication skill by judgement at the time of presentation by the concerned student.

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

### Note for Examiner/Faculty:

**# Professional Communication – I:- This Subject will Having Sessional Assessment on the basis of their performance in the LA-117 Landscape Architecture Studio-I & will no any exam or viva for same.**

## SEMESTER - I

### M.ARCH LA -117 LANDSCAPE ARCHITECTURE STUDIO-1 (3-4 Studio Projects)

COURSE No.	SUBJECT	Hrs. per week	Theory/ Studio/ Practical	Max. Marks			Total
				Sessionals/ Internal	Exam/Practical		
					Theory	External	
M.ARCH LA -117	Landscape Architecture Studio-I	....+14	Practical	.....	.....	.....	.....
				100	.....	200	<b>300</b>

#### UNIT 1

Readings in Landscape Architecture

Introductory exercises in Art, Architecture & Landscape

Urban and Rural Landscape appraisal

#### UNIT 2

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

Landscape Design of small recreational or civic spaces.

#### UNIT 3

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

#### Mode of Evaluation:

Professional communication skill shall be evaluated periodically through communication skill by judgement at the time of presentation by the concerned student.

#### NOTE:

Students will work on the project addressing the abovementioned issues. The project resolve the problems through design and planning . Submit the same in the form of written report and drawings.

Assignment will be in the form of a handwritten journal and site visit report and tutorials covering all the topics mentioned above with suitable examples , sketches and supportive material.



## Reference Books

1. Breen Ann & Rigby Dick: New Waterfront: A Worldwide Urban Success Stor. Thames & Hudson
2. Panich & Trulsson: Desert Southwest Gardens.
3. Lyall Sutherland: Designing The New Landscape. London, Thamas & Hudson, 1997.
4. Urbanism Journal
5. Time Saver Standards for Landscape Architecture, Charles W Harris and Nicholas T Dine Mcgraw – Hill International Edition, Arch. Series
6. A Pattern Language By Alexander Christopher
7. Turner Tom: City as Landscape. E&Pn Spon Anlmpint of Champman & H
8. Urbanismo : Urban Planning Vol.2. Axis Books, Spain,
9. Urbanismo: Road Systems Vol.3. Axis Books, Spain,
10. Urbanismo: Parks, Vol.4 Axis Books, Spain,
11. Urbanismo : Squares, Vol. 5. Axis Books, Spain
12. Broto Carles : Urbanism. Links Internatiional,
13. Kawaguchi Yoko : Urban Environment Design 5. Korea. Jeong, Kwang-Young, 2003.
14. Residential Landscape By T E Walker
15. Charver Francisco Asensio : Environmental Restortation Landscape. Arco Colour Collection,
16. Charver Mc Clenon : Landscape Planning For Energy Conservation
17. Cho... Michael : Green Architecture. American Inst. of Rch. Press, Washington
18. Pacanek Victor: Green Imperative Ecology & Ethics in Design.
19. Wale Robert & Brenda: Green Architecture Thames And Hudson
20. Man's Role in Changing the face of earth, thomas, William L and others, University of chicago Press, Chicago
21. Silent Spring By Carson Rachel
22. Only one earth by Barbara Ward, Andre Deutsch Ltd., London
23. Grey World, Green Heart, Robert L Thayer, John Wiley and Sons Inc. Ny
24. Gardens For The Future, Cooper Guy, Conran Octopus, London
25. Environmental Scienfce – Earth As A Living Planet Second Ed. University of California, Santa Barbara.
26. Mastaedi Arain : Landscape Design Today. Spain. Carles Broto & Josey Maria,
27. Building And Landscape, Andersson, Sven Ingvar, Kobenhavn K, Danish Academy
28. Hans Dieter: New Landscape Architecture. Ernst & Sohn,
29. Landscape Journal, Basel, Munchen and Birkhauser
30. Time Saver Standards For Landscape Architecture, Charles W Harris and Nicholas T Dine Mcgraw – Hill International Edition, Arch. Series
31. Preserving Modern Landscape Architecture, Papers From The Wave Hill, National Park Service Conference Landscape Transformed, Academy Editins, 1996
32. Saver Standsrds For Landscape Architecture, Charles W Harris And Nicholas T Dine Mcgraw – Hill International Edition, Arch. Series
33. John O: Landscape Architecture Ed. 2<sup>nd</sup> Mcgraw Hill Inc, New York
34. Baker H: A Dictionary of Landscape Architect. University of New Maxico Press Albu,
35. Introduction To Landscape Architecture By Laurie Michel, Elsevier Science Publishing Company, Ny
36. Landscape : Pattern Perception and Processes, Bell Simon, E And Fn Spon, London
37. of the City, Kevin Lynch, Mit Press, London
38. Thomas C: Land Form Designs PD A Publication,
39. Francisco A: Landscape Architecture The World. Atricum International,
40. Francisco A: World of Landscape Architects: World of Environmental Design.
41. Francisco A: Elements of Landscape, World of Environment. Printed In Spain
42. Grant W: Landscape Graphics. 1987
43. Studies in Landscape Design By Geoffrey Jellicoe
44. The Experience of Landscape By Jay Appleton
45. Dictionary of Landscape Architecture, Baker H Marrow, Asla

**Note for Examiner/Faculty:**

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Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

## IInd Semester

### 1. Pedagogic Method

Lecture series, group discussions and studies based one to one interaction, punctuated with lectures. Use of audio-visual aids – slide show, video and documentaries. Group seminars or project by students. Works of selected Indian and International landscape architects and related topics.

Lectures to clarify concept.

Summer course of one month duration to orient students to application and design.

### 2. Learning Outcome

Building on the inventory of knowledge of theory of landscape architecture and awareness through understanding of development of landscape design and gardens till the early 19<sup>th</sup> century including colonial landscape in India.

Field work and analysis of ecological based data.

Understanding the role of plants, Preparing graphics of planting plan, Plant schedule, Estimation of costs, and Bills of quantity.

Knowledge of computer skill with special emphasis to application of remote sensing and G.I.S; to assimilate and present data for further analysis

Strengthen professional communication through interaction with agencies associated with planning and design.

## SEMESTER-II

### M.ARCH LA -102 ECOLOGY, ECOSYSTEM ANALYSIS AND FIELD ECOLOGY

COURSE No.	SUBJECT	Hrs. per week	Theory/ Studio/ Practical	Max. Marks			Total
				Sessionals/ Internal	Exam/Practical		
					Theory	External	
M.ARCH LA -102	Ecology, Ecosystems Analysis & Field Ecology	2+2	Theory + Practical	25	100	.....	125
				50	.....	25	75

#### UNIT 1

Evolution: Earth and Life

Concept of Ecosystem: General Structure and Function:

- i) Energy flow, Primary & Secondary Production
- ii) Types of Biogeochemical cycles; Carbon cycle, Global water cycles, nitrogen cycle bioaccumulation and biomagnifications and
- iii) Analysis and evaluation. Concept of ecosystem services.

#### UNIT 2

Types of Ecosystems

The Plant Community: General

- i) Structure,
- ii) Concept of ecological Succession and Maturity, Types of succession
- iii) Analysis,
- iv) Description and Evaluation

#### UNIT 3

Systems Ecology: Introduction to systems approach and mathematical models in ecology

Population Dynamics:

Selected topics in ecosystem management:

Climate change – causes and consequences.

#### UNIT 4

Aquatic ecology – fresh water and marine

Field ecology: Quadrat, line transect, community analysis

Field work and laboratory analysis of data

**Mode of Evaluation:**

The internal assessment shall be conducted through, test, quiz and field data etc.

**NOTE:**

Assignment will be in the form of individual indepth study of a topic related to any one of the subject or any other additional subject based on availability of experts which is presented in the form of presentation and a written report of the same

**Reference Books**

1. Agarwal, K.C. 2001 Environmental Biology, Nidi Publ. Ltd. Bikaner.
2. Bharucha Erach, The Biodiversity of India, Mapin Publishing Pvt. Ltd., Ahmedabad 380013, India, E-mail : [mapin@icenet.net](mailto:mapin@icenet.net) (R)
3. Hawkins R.E., Encyclopedia of Indian Natural History, Bombay Natural History Society, Bombay (R)
4. Heywood, V.H & Waston, R.T. 1995. Global Biodiversity Assesment. Cambridge University Press 1140p.
5. Jadhav, H & Bhosale, V.M. 1995. Environmental Protection and Laws.Himalays Pub. House,Delhi 284p.
6. Mckinney, M.L. & School, R.M. 1996. Environmental Science Systems & Solutions, Web
7. Enhanced edition. 639p.
8. Mhaskar A.K., Matter Hazardous, Techno-Science Publication (TB)
9. Odum, E.P. 1971. Fundamentals of Ecology. W.B. Saunders Co. USA, 574p

**Note for Examiner/Faculty:**

The Examiner will set Eight (8) questions in total, selecting two questions from each unit covering the whole syllabus/all the units. Students will have to attempt Five (5) questions in all, selecting at least one question from each unit. All the questions will carry equal marks.

Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

## SEMESTER-II

### M.ARCH LA -104 THEORY OF LANDSCAPE ARCHITECTURE

COURSE No.	SUBJECT	Hrs. per week	Theory/ Studio/ Practical	Max. Marks			Total
				Sessionals/ Internal	Exam/Practical		
					Theory	External	
M.ARCH LA -104	Theory of Landscape Architecture-I	2+.....	Theory	25	100	.....	125
				.....	.....	.....	.....

#### UNIT 1

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

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

#### UNIT 2

Changing perceptions of man's relationship with nature in various phases of history; responses and attitudes to nature and landscape resources as a function of this perception. Environmental and Behavioral theories: Entropy, Prospect and Refuge, Defensible space etc. An introduction to social and cultural dimensions of landscape.

#### UNIT 3

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

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

#### UNIT 4

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

Ancient Heritage: Mesopotamia, Egypt, Greece, Rome

Western Civilization: Europe; Italy, France, and England

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

Eastern Civilisation: China and Japan

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

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

Colonial landscape development in India

**Mode of Evaluation:**

The internal evaluation shall be conducted by the concerned teacher through test, reports and assignment as given by the concerned teacher.

**NOTE:**

Assignment will be in the form of individual indepth study of a topic related to any one of the subject or any other additional subject based on availability of experts which is presented in the form of presentation and a written report of the same.

**Reference Books**

1. en Ann & Rigby Dick: New Waterfront: A Worldwide Urban Success Stor. Thames & Hudson
2. ich & Trulsson: Desert Southwest Gardens.
3. Lyall Sutherland: Designing The New Landscape. London, Thamas & Hudson, 1997.
4. Urbanism Journal
5. Time Saver Standards for Landscape Architecture, Charles W Harris and Nicholas T Dine Mcgraw – Hill International Edition, Arch. Series
6. A Pattern Language By Alexander Christopher
7. Turner Tom: City as Landscape. E&Pn Spon Anlmpint of Champman & H
8. Urbanismo : Urban Planning Vol.2. Axis Books, Spain,
9. Urbanismo: Road Systems Vol.3. Axis Books, Spain,
10. Urbanismo: Parks, Vol.4 Axis Books, Spain,
11. Urbanismo : Squares, Vol. 5. Axis Books, Spain
12. Broto Carles : Urbanism. Links Internatiional,
13. Kawaguchi Yoko : Urban Environment Design 5. Korea. Jeong, Kwang-Young, 2003.
14. Residential Landscape By T E Walker
15. Charver Francisco Asensio : Environmental Restortation Landscape. Arco Colour Collection,
16. Charver Mc Clenon : Landscape Planning For Energy Conservation
17. Cho... Michael : Green Architecture. American Inst. of Rch. Press, Washington
18. Pacanek Victor: Green Imperative Ecology & Ethics in Design.
19. Wale Robert & Brenda: Green Architecture Thames And Hudson
20. Man's Role in Changing the face of earth, thomas, William L and others, University of chicago Press, Chicago
21. Silent Spring By Carson Rachel
22. Only one earth by Barbara Ward, Andre Deutsch Ltd., London
23. Grey World, Green Heart, Robert L Thayer, John Wiley and Sons Inc. Ny
24. Gardens For The Future, Cooper Guy, Conran Octopus, London
25. Environmental Scienfce – Earth As A Living Planet Second Ed. University of California, Santa Barbara.
26. Mastaedi Arain : Landscape Design Today. Spain. Carles Broto & Josey Maria,
27. Building And Landscape, Andersson, Sven Ingvar, Kobenhavn K, Danish Academy
28. Hans Dieter: New Landscape Architecture. Ernst & Sohn,
29. Landscape Journal, Basel, Munchen and Birkhauser
30. Time Saver Standards For Landscape Architecture, Charles W Harris and Nicholas T Dine Mcgraw – Hill International Edition, Arch. Series
31. Preserving Modern Landscape Architecture, Papers From The Wave Hill, National Park Service Conference Landscape Transformed, Academy Editins, 1996
32. Saver Standsrds For Landscape Architecture, Charles W Harris And Nicholas T Dine Mcgraw – Hill International Edition, Arch. Series
33. John O: Landscape Architecture Ed. 2<sup>nd</sup> Mcgraw Hill Inc, New York
34. Baker H: A Dictionary of Landscape Architect. University of New Maxico Press Albu,
35. Introduction To Landscape Architecture By Laurie Michel, Elsevier Science Publishing Company, Ny
36. Landscape : Pattern Perception and Processes, Bell Simon, E And Fn Spon, London
37. of the City, Kevin Lynch, Mit Press, London

38. Thomas C: Land Form Designs PD A Publication,
39. Francisco A: Landscape Architecture The World. Atricum International,
40. Francisco A: World of Landscape Architects: World of Environmental Design.
41. Francisco A: Elements of Landscape, World of Environment. Printed In Spain
42. Grant W: Landscape Graphics. 1987
43. Studies in Landscape Design By Geoffrey Jellicoe
44. The Experience of Landscape By Jay Appleton
45. Dictionary of Landscape Architecture, Baker H Marrow, Asla

**Note for Examiner/Faculty:**

The Examiner will set Eight (8) questions in total, selecting two questions from each unit covering the whole syllabus/all the units. Students will have to attempt Five (5) questions in all, selecting at least one question from each unit. All the questions will carry equal marks.

Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.



## SEMESTER-II

### M.ARCH LA -106 PLANTS & DESIGN

COURSE No.	SUBJECT	Hrs. per week	Theory/ Studio/ Practical	Max. Marks			Total
				Sessionals/ Internal	Exam/Practical		
					Theory	External	Total
M.ARCH LA -106	Plants & Design	2+2	Theory + Practical	25	100	.....	125
				50	.....	25	75

#### UNIT 1

Criteria for plant selection

Planting design through the ages - a historic perspective.

Planting as a design element for structuring the landscape.

Differentiation between trees, shrubs, ground cover and creepers.

#### UNIT 2

Planting for appearance of form, leaf color and texture, branching habit and trunk form and their texture, color of flowers and fruits. Spring, winter summer and autumn variation in appearance.

Visual aesthetic and functional considerations in planting design. Planting for visual effect and accent. The role of plant material in environmental improvement, (e.g. soil conservation, modification of microclimate). Planting for shelter, windbreaks and shelter belts.

#### UNIT 3

Planting in various environments such as woodlands, forests, rural areas, urban areas, roadside planting in urban and rural areas, industrial sites etc.

Planting design for habitat such as grasslands, woodlands, sloping areas, marshes, bogs, wetlands, waterside and aquatic planting etc.

Planting design and ecological considerations, stratification of plant material in nature, herbal plants and their uses.

#### UNIT 4

Plants and sustainability.

Growth rate of plants as a criteria for plant choice for particular situations. Comparison of advantages and disadvantages of fast, medium and slow growing trees. The concept of nurse planting. Creating conditions for plant establishment, planting and transplanting trees and shrubs. Maintenance of plant material.

The preparation of planting concepts, planting plans and plant schedules for various scales of project. Estimation of costs and Bill of quantity.

#### Site Visit:

**Summer course at least of one month duration is a must to get a feel of the subject and its application in design.**

**Mode of Evaluation:**

The evaluation shall be done through assignment given periodically, visit to the identified sites and visit during summer vacation to the various Botanical garden.

**NOTE:**

Students will work on abovementioned in detail and submit the work in the form of sheets and a report. Seminar presentations will be done on related topics and covered in detail and will be submitted in the form of report.

**Reference Book**

1. Randhawa M S : Flowering Trees. National Book Trust, New Delhi
2. Santapau H: Common Trees. India The Land And The People
3. Mukherjee Pippa : Nature Guides, Common Trees of India. Worldwide Fund For Nature, India.
4. Virginie & Elbert George A : Foliage Plants For Decorating Indoors. Timber Press,
5. Cloustan Brian : Landscape Design With Plants Ed. 2. Heinemann Newnes Oxford.
6. Planting In Paved Area By Timothy Cochrane
7. Cloustan Brian: Landscape Design with plants Ed. 2. Heinemann newnes Oxford.
8. Tree Planting By Brenda Colvin
9. Environmental Science – Earth as a living planet second Ed. University of California, Santa Barbara
10. Cerver Francisco A: World of Landscape Architects: World of Environmental Design
11. Cerver Francisco A: Elements of Landscape,World of Environment. Printed In Spain

**Note for Examiner/Faculty:**

The Examiner will set Eight (8) questions in total, selecting two questions from each unit covering the whole syllabus/all the units. Students will have to attempt Five (5) questions in all, selecting at least one question from each unit. All the questions will carry equal marks.

Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

## SEMESTER-II

### M.ARCH LA -108 SITE PLANNING AND LANDSCAPE ENGINEERING-II

COURSE No.	SUBJECT	Hrs. per week	Theory/ Studio/ Practical	Max. Marks			Total
				Sessionals/ Internal	Exam/Practical		
					Theory	External	
M.ARCH LA -108	Site Planning and Landscape Engineering-II	2+.....	Theory	25	100	.....	125
				.....	.....	.....	.....

#### UNIT 1

Components of Landscape Engineering and their consideration in Site Planning and Landscape design. Appraisal of site factors in large scale developments with above correlation. Use of relevant software and advanced mapping technology for analysis.

Site mobilisation; Sequence of site activity, site protection measures, site implementation checklist.

Landscape Engineering and water conservation; Watersheds and their characteristics, protection of natural water bodies: water retention structures, water harvesting techniques and devices.

#### UNIT 2

Understanding Land/environmental modifications and engineering intervention in :

Soil conservation and erosion control measures.

Land reclamation and rehabilitation process.

Disposal of sludge, fly-ash, solid and liquid waste.

Strip-mines and quarries.

#### UNIT 3

Transportation corridors.

Horticulture and Forestry techniques.

Environment-friendly material specifications and methodologies in landscape, to reduce carbon footprint

#### UNIT 4

Energy saving techniques in landscape engineering for planning of services and utilities. Design parameters and certification criteria for green buildings.

Evaluating energy efficient site planning and landscape development.

Design of sustainable landscape features such as bioswales, bio retention ponds etc.

Estimation of costs for civil works and plantation works.

Preparation of bill of quantities, specifications and Tender documents.

#### Mode of Evaluation:

The evaluation shall be done through assignment given periodically, visit to the identified sites and visit during summer vacation to the various Botanical garden.

#### NOTE:

Assignment will be in the form of a manual/handwritten journal covering all the topics mentioned above with suitable examples, sketches and supportive material. Students will work on atleast one project taken up in the design studios and work on landscape engineering and details of the project and submit the work in the form of sheets and a report.

**Reference Books**

1. Landscape Architecture Journal
2. Gardeners World Journal
3. Time Saver Standards for Landscape Architecture, Charles W Harris and Nicholas T Dine Mcgraw – Hill International Edition, Arch. Series
4. Bartrum Douglas: Rock Garden. John Gifford Ltd., London
5. Perkins Philip H: Concrete Floors Finishers
6. Text By David Stevens: Ultimate Water Garden Book
7. Littlewood Michael: Tree Detailing. London. Butterworth Architecture, 1988.

**Note for Examiner/Faculty:**

The Examiner will set Eight (8) questions in total, selecting two questions from each unit covering the whole syllabus/all the units. Students will have to attempt Five (5) questions in all, selecting at least one question from each unit. All the questions will carry equal marks

Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

## SEMESTER - II

### M.ARCH LA -112 Professional Communication - II (3-4 Studio Projects)

COURSE No.	SUBJECT	Hrs. per week	Theory/ Studio/ Practical	Max. Marks			Total
				Sessionals/ Internal	Exam/Practical		
					Theory	External	Total
M.ARCH. LA-112	Professional Communication -II	4+....	Internal	50	.....	.....	50
				.....	.....	.....	.....

## Professional Communication

Professional communication skill shall be evaluated periodically through communication skill by judgement at the time of presentation by the concerned student.

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

### Note for Examiner/Faculty:

**# Professional Communication – II:- This Subject will Having Sessional Assessment on the basis of their performance in the LA-120 Landscape Architecture Studio-II & will no any exam or viva for same.**

## SEMESTER-II

### M.ARCH LA -110 REMOTE SENSING, LAND INFORMATION SYSTEMS & GIS

COURSE No.	SUBJECT	Hrs. per week	Theory/ Studio/ Practical	Max. Marks			Total
				Sessionals/ Internal	Exam/Practical		
					Theory	External	Total
M.ARCH LA -110	Remote Sensing, Land Information Systems and GIS	2+2	Theory + Practical	25	100	.....	125
				50	.....	25	75

#### Remote Sensing, Land Information System & GIS

##### UNIT 1

**1. Concept and Foundation of Remote Sensing**

**2. Elements of Photographic System**

Types of Aerial Photographs:

Vertical Photographs,, Oblique Photographs, Satellite Imagery

##### UNIT 2

**3. Introduction to Air Photo Interpretation**

**4. Photogrammetry for Map Making**

Introduction /Definition

Geometric Elements of a Vertical Photograph

Relief Displacement

Ground Control for Aerial Photography

##### UNIT 3

**5. Digital Image Processing**

**6. Applications**

Geologic & Soil mapping

Land-use / land cover Mapping a) Land use Classification

Agriculture Applications

Forestry Applications

Water resource Applications:

a) Water Pollution Detection b) Flood Damage Estimation

Urban & Regional Planning Applications

Wetland mapping

##### UNIT 4

**7. Geographical Information Systems**

Definition

Composition of Geographical Information System

Computer Hardware Module

GIS Software Module

Data Input, Data Storage, Data Output

Database Structures

**8. Presentations / Workshop**

Application of GIS & Remote Sensing

Automated Mapping / Facility Management. (AM/FM)

3-D GIS Digital Elevation Model & Digital Terrain Model  
Digital Image Processing and Editing; Error Detection and Correction  
Geo Spatial Analysis : Turning Data into Meaningful information.  
Comparison of Vector & Raster Methods  
Internal G.I.S.  
Network Analysis  
Open GIS

**Mode of Evaluation:**

Mode of Internal evaluation shall be on the basis of class test/laboratory experiences at G.I.S. Lab.

**NOTE:**

Assignment will be in the form of a manual/handwritten journal covering all the topics mentioned above with suitable examples, sketches and supportive material.

Students will work on analytical and design projects of simple function area of smaller scale and produce the work in the form of sheets and a report.

**Reference Books**

1. Introductory Digital Image Processing: A Remote Sensing Perspective, John R. Jensen
2. Landuse Planning And Remote Sensing, David T. Lindgren
3. Remote Sensing and Interpretation By Thomas M Lillesand And Kiefer
4. Energy Efficient Landscapes
5. Landscape Graphics
6. Books on various softwares related to LIS and Landscape Computer Graphics

**Note for Examiner/Faculty:**

The Examiner will set Eight (8) questions in total, selecting two questions from each unit covering the whole syllabus/all the units. Students will have to attempt Five (5) questions in all, selecting at least one question from each unit. All the question

Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

## SEMESTER-II

### M.ARCH LA -120 LANDSCAPE ARCHITECTURE STUDIO-II

COURSE No.	SUBJECT	Hrs. per week	Theory/ Studio/ Practical	Max. Marks			Total
				Sessionals/ Internal	Exam/Practical		
					Theory	External	Total
M.ARCH LA -120	Landscape Architecture Studio-I	....+16	Practical	.....	.....	.....	.....
				100	.....	200	<b>300</b>

#### UNIT 1

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

#### UNIT 2

- Urban Open Space systems
- Rural Landscape
- Heritage and Cultural Landscape

#### UNIT 3

Professional Communication II : Advanced language skills in relation to technical writing and

#### UNIT 4

professional communications with agencies associate with planning and design, for example: Planning authorities, Statutory bodies, Clients, Contractors, other professionals.

#### Mode of Evaluation:

Professional communication skill shall be evaluated periodically through communication skill by judgement at the time of presentation by the concerned student.

#### NOTE:

Assignment will be in the form of a journal covering all the topics mentioned above with suitable examples , sketches and supportive material. Students will work on atleast one project taken up in the design studios and work on landscape engineering and details of the project relating to all the above mentioned topics in the form of sheets and /or report.

#### Reference Books

1. en Ann & Rigby Dick: New Waterfront: A Worldwide Urban Success Stor. Thames & Hudson
2. ich & Trulsson: Desert Southwest Gardens.
3. Lyall Sutherland: Designing The New Landscape. London, Thamas & Hudson, 1997.
4. Urbanism Journal
5. Time Saver Standards for Landscape Architecture, Charles W Harris and Nicholas T Dine Mcgraw – Hill International Edition, Arch. Series
6. A Pattern Language By Alexander Christopher
7. Turner Tom: City as Landscape. E&Pn Spon AnImprint of Champman & H
8. Urbanismo : Urban Planning Vol.2. Axis Books, Spain,
9. Urbanismo: Road Systems Vol.3. Axis Books, Spain,
10. Urbanismo: Parks, Vol.4 Axis Books, Spain,



11. Urbanismo : Squares, Vol. 5. Axis Books, Spain
12. Broto Carles : Urbanism. Links Internatiional,
13. Kawaguchi Yoko : Urban Environment Design 5. Korea. Jeong, Kwang-Young, 2003.
14. Residential Landscape By T E Walker
15. Charver Francisco Asensio : Environmental Restortation Landscape. Arco Colour Collection,
16. Charver Mc Clenon : Landscape Planning For Energy Conservation
17. Cho... Michael : Green Architecture. American Inst. of Rch. Press, Washington
18. Pacanek Victor: Green Imperative Ecology & Ethics in Design.
19. Wale Robert & Brenda: Green Architecture Thames And Hudson
20. Man's Role in Changing the face of earth, thomas, William L and others, University of chicago Press, Chicago
21. Silent Spring By Carson Rachel
22. Only one earth by Barbara Ward, Andre Deutsch Ltd., London
23. Grey World, Green Heart, Robert L Thayer, John Wiley and Sons Inc. Ny
24. Gardens For The Future, Cooper Guy, Conran Octopus, London
25. Environmental Scienfce – Earth As A Living Planet Second Ed. University of California, Santa Barbara.
26. Mastaedi Arain : Landscape Design Today. Spain. Carles Broto & Josey Maria,
27. Building And Landscape, Andersson, Sven Ingvar, Kobenhavn K, Danish Academy
28. Hans Dieter: New Landscape Architecture. Ernst & Sohn,
29. Landscape Journal, Basel, Munchen and Birkhauser
30. Time Saver Standards For Landscape Architecture, Charles W Harris and Nicholas T Dine Mcgraw – Hill International Edition, Arch. Series
31. Preserving Modern Landscape Architecture, Papers From The Wave Hill, National Park Service Conference Landscape Transformed, Academy Editins, 1996
32. Saver Standsrds For Landscape Architecture, Charles W Harris And Nicholas T Dine Mcgraw – Hill International Edition, Arch. Series
33. John O: Landscape Architecture Ed. 2<sup>nd</sup> Mcgraw Hill Inc, New York
34. Baker H: A Dictionary of Landscape Architect. University of New Maxico Press Albu,
35. Introduction To Landscape Architecture By Laurie Michel, Elsevier Science Publishing Company, Ny
36. Landscape : Pattern Perception and Processes, Bell Simon, E And Fn Spon, London
37. of the City, Kevin Lynch, Mit Press, London
38. Thomas C: Land Form Designs PD A Publication,
39. Francisco A: Landscape Architecture The World. Atricum International,
40. Francisco A: World of Landscape Architects: World of Environmental Design.
41. Francisco A: Elements of Landscape, World of Environment. Printed In Spain
42. Grant W: Landscape Graphics. 1987
43. Studies in Landscape Design By Geoffrey Jellicoe
44. The Experience of Landscape By Jay Appleton
45. Dictionary of Landscape Architecture, Baker H Marrow, Asla

**Note for Examiner/Faculty:**

The Examiner will set Eight (8) questions in total, selecting two questions from each unit covering the whole syllabus/all the units. Students will have to attempt Five (5) questions in all, selecting at least one question from each unit. All the question

Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

## IIIrd Semester

### 1. **Pedagogic Method**

Lecture series, group discussions and studies based one to one interaction, punctuated with lectures. Use of audio-visual aids – slide show, video and documentaries. Group seminars or project by students. Works of selected Indian and International landscape architects and related topics.

Lectures to clarify concept.

### 2. **Learning Outcome**

Through understanding of open space development. Changing concepts of space and the relationship of landscape architecture illustrated through study of selected works of modern Masters. Artistic sensibility in Landscape Architecture and land art, landscape inventory and conservation of historical landscape. Understanding Land Economics and Management practices through site visits to Botanical gardens Nurseries and well established landscapes.

### SEMESTER-III

#### M.ARCH LA -201 LANDSCAPE ECONOMICS, MANAGEMENT AND HORTICULTURAL PRACTICE

COURSE No.	SUBJECT	Hrs. per week	Theory/ Studio/ Practical	Max. Marks			Total
				Sessionals/ Internal	Exam/Practical		
					Theory	External	Total
M.ARCH LA -201	Landscape Economics, Management & Horticultural Practice	2+2	Theory + Practical	25	100	.....	125
				50	.....	25	75

#### UNIT 1

Economics: Cost and benefits related to open space development; Tangible costs of development; capital and maintenance costs: intangible costs, depletion of natural resources, modification of ecological systems rehabilitation cost, social and cultural changes. Unit cost of development of open space

#### UNIT 2

Management: Landscape management at the regional scale in relation to soil conservation, water management, grassland management, forestry and agriculture.

Management practices related to urban ecology and urban habitats, such as urban forests, river banks, regional parks and green belts: ecological, economic and administrative issues. Management models.

#### UNIT 3

Horticulture Practice: Nursery establishment and Plant propagation. Establishment and maintenance of grass, shrubs and trees with respect to: ground preparation, planting and transplanting, pruning.

#### UNIT 4

Horticulture practice and maintenance. Common plant pests, diseases and their control; manures and insecticides and their application. Protection of plant material. Water Budgeting. Equipment for landscape maintenance.

#### Mode of Evaluation:

The internal evaluation shall be conducted through class test/quiz and term paper as per requirement of the concerned teaching staff.

#### NOTE:

Assignment will be in the form of a manual/handwritten journal covering all the topics mentioned above with suitable examples, sketches and supportive material. Students will work on atleast one project taken up in the design studios and work on landscape engineering and details of the project and submit the work in the form of sheets and a report.

#### Reference Books

1. International Law and The Environment, Birnie, P W & Boyle
2. Energy and Ecology, David M Gates

3. Enology and Environmental Planning, Edington, John
4. The Environment, Public Health and Human Ecology Consideration For Economic Development
5. Environmental Policies and Programs In India, Saksena, K.D.
6. India Development Report IGIDR 97

**Note for Examiner/Faculty:**

The Examiner will set Eight (8) questions in total, selecting two questions from each unit covering the whole syllabus/all the units. Students will have to attempt Five (5) questions in all, selecting at least one question from each unit. All the question

Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

**NOTE:**

Journal covering all the above topics and Working drawings of any project done in current or previous semester submitted in the form of sheets .This will include specification writing and costing and estimation of the same.

### SEMESTER-III

#### M.ARCH LA -203 THEORY OF LANDSCAPE ARCHITECTURE-II

COURSE No.	SUBJECT	Hrs. per week	Theory/ Studio/ Practical	Max. Marks			Total
				Sessionals/ Internal	Exam/Practical		
Theory	External	Total					
M.ARCH LA -203	Theory of Landscape Architecture-II	2+.....	Theory	25	100	.....	125
				.....	.....	.....	.....

#### UNIT 1

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

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

USA: Further evolution of the public park as a major component of urban landscape. The work of F. L. Olmsted and other pioneers. Park-Systems and suburban development centered on open space.

#### UNIT 2

The Modern Movement: changing concepts of space and the relationship of architecture and landscape illustrated through studies of selected works of the modern masters.

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

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

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

#### UNIT 3

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

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

#### UNIT 4

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

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

#### Mode of Evaluation:

The internal evaluation shall be conducted by the concerned teacher through test, reports and assignment as given by the concerned teacher.

**NOTE:**

Assignment will be in the form of a handwritten journal and site visit report and tutorials covering all the topics mentioned above with suitable examples , sketches and supportive material.

**Note for Examiner/Faculty:**

The Examiner will set Eight (8) questions in total, selecting two questions from each unit covering the whole syllabus/all the units. Students will have to attempt Five (5) questions in all, selecting at least one question from each unit. All the question

Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

### SEMESTER-III

#### M.ARCH LA -205 LANDSCAPE RESOURCES-I

COURSE No.	SUBJECT	Hrs. per week	Theory/ Studio/ Practical	Max. Marks			Total
				Sessionals/ Internal	Exam/Practical		
					Theory	External	
M.ARCH LA -205	Landscape Resources-I	2+.....	Theory	25	100	.....	125
				.....	.....	.....	.....

#### UNIT 1

Settlements and Landscape: Siting and evolution of cities in relation to regional landscape resources. The role of landform, water systems, climate and vegetation. Illustrative studies of cities in India and elsewhere.

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

#### UNIT 2

Evaluation of microclimate data.

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

#### UNIT 3

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

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

#### UNIT 4

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

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

#### Mode of Evaluation:

The internal evaluation shall be conducted by the concerned teacher through test, reports and assignment as given by the concerned teacher.

#### NOTE:

Assignment will be in the form of individual indepth study of a topic related to any one of the subject or any other additional subject based on availability of experts which is presented in the form of presentation and a written report of the same.

**Note for Examiner/Faculty:**

The Examiner will set Eight (8) questions in total, selecting two questions from each unit covering the whole syllabus/all the units. Students will have to attempt Five (5) questions in all, selecting at least one question from each unit. All the question

Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.



### SEMESTER - III

#### M.ARCH LA -207 Professional Communication - III (3-4 Studio Projects)

COURSE No.	SUBJECT	Hrs. per week	Theory/ Studio/ Practical	Max. Marks			Total
				Sessionals/ Internal	Exam/Practical		
					Theory	External	
M.ARCH. LA-207	Professional Communication -II	4+....	Internal	50	.....	.....	<b>50</b>
				.....	.....	.....	.....

## Professional Communication

Professional communication skill shall be evaluated periodically through communication skill by judgement at the time of presentation by the concerned student.

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

#### **Note for Examiner/Faculty:**

**# Professional Communication – III:- This Subject will Having Sessional Assessment on the basis of their performance in the LA-213 Landscape Architecture Studio-III & will no any exam or viva for same.**

### SEMESTER-III

#### M.ARCH LA -211 DISSERTATION: SEMINAR

COURSE No.	SUBJECT	Hrs. per week	Theory/ Studio/ Practical	Max. Marks			Total
				Sessionals/ Internal	Exam/Practical		
		Theory	External		Total		
M.ARCH LA -211	Dissertation Seminar	6	Practical	.....	.....	.....	.....
				150	.....	150	300

#### UNIT 1

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

#### UNIT 2

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

#### UNIT 3

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

#### Mode of Evaluation:

The internal evaluation shall be conducted by the concerned teacher through test, reports and assignment as given by the concerned teacher.

#### Note for Examiner/Faculty:

The Examiner will set Eight (8) questions in total, selecting two questions from each unit covering the whole syllabus/all the units. Students will have to attempt Five (5) questions in all, selecting at least one question from each unit. All the question

Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

#### NOTE:

Present a research work paper supportive to Dissertation studies and submit in the form of report. Students will work on analytical and design projects of simple function area of smaller scale and produce the work in the form of sheets and a report.

### SEMESTER-III

#### M.ARCH LA -213 LANDSCAPE ARCHITECTURE STUDIO-III

COURSE No.	SUBJECT	Hrs. per week	Theory/ Studio/ Practical	Max. Marks			Total
				Sessionals/ Internal	Exam/Practical		
					Theory	External	
M.ARCH LA -213	Landscape Architecture Studio-III	....+16	Practical	.....	.....	.....	.....
				100	.....	200	300

#### UNIT 1

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

#### UNIT 2

Institutional Campuses

Urban civic spaces at urban design scale.

#### UNIT 3

Transportation and interchange systems and complexes Eco-Tourism projects.

Professional Communication III: Professional techniques in digital media.

#### Mode of Evaluation:

Professional communication skill shall be evaluated periodically through communication skill by judgement at the time of presentation by the concerned student.

#### NOTE:

Assignment will be in the form of a manual/handwritten journal covering all the topics mentioned above with suitable examples, sketches and supportive material. Students will work on atleast one project taken up in the design studios and work on landscape engineering and details of the project and submit the work in the form of sheets and a report.

#### Note for Examiner/Faculty:

The Examiner will set Eight (8) questions in total, selecting two questions from each unit covering the whole syllabus/all the units. Students will have to attempt Five (5) questions in all, selecting at least one question from each unit. All the question

Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

## IVth Semester

### 1. **Pedagogic Method**

Lecture series, group discussions and studies based one to one interaction, punctuated with lectures. Use of audio-visual aids – slide show, video and documentaries. Group seminars or project by students. Works of selected Indian and International landscape architects and related topics.

Lectures to clarify concept.

### 2. **Learning Outcome**

Through understanding of the regulations and legal aspects with reference to professional practice.

Construction administration, implementation process and documentation.

Understanding the techniques and criteria for Regional Landscape Resource, Landscape Conservation and E.I.A through illustrative examples.

Knowledge of computer skills to assimilate and present data for further analysis at Landscape issues at Regional level Land planning.

Application of skills and techniques acquired in the previous semesters to specialized requirements of the thesis including the use of video and other digital multi media for a short specific exercise related to presentation of thesis work.

**SEMESTER-IV**

**M.ARCH LA -202 LANDSCAPE CONSERVATION AND REGIONAL LANDSCAPE PLANNING**

COURSE No.	SUBJECT	Hrs. per week	Theory/ Studio/ Practical	Max. Marks			Total
				Sessionals/ Internal	Exam/Practical		
				Theory	External	Total	
M.ARCH LA -202	Landscape Conservation and Regional Landscape Planning	2+.....	Theory	25	100	.....	<b>125</b>
				.....	.....	.....	.....

**UNIT 1**

The concept of Landscape Planning and Landscape Conservation: definitions and scope.

Landscape Assessment techniques; Basic quantitative methods of collecting, analyzing, projecting and presenting data for Landscape Planning.

Application of G.I.S. and Remote sensing in Regional Landscape Planning.

**UNIT 2**

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

**UNIT 3**

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

Landscape perception, visual assessment and the aesthetic dimension of landscape planning.

**UNIT 4**

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

**Mode of Evaluation:**

The internal evaluation shall be conducted through class test/quiz and term paper as per requirement of the concerned teaching staff.

**Note for Examiner/Faculty:**

The Examiner will set Eight (8) questions in total, selecting two questions from each unit covering the whole syllabus/all the units. Students will have to attempt Five (5) questions in all, selecting at least one question from each unit. All the question

Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

**NOTE :**

Assignment will be in the form of a journal along with individual study and / or design project/s which are presented in the form of presentation and a written report of the same. The project will also include design solution for the disturbed landscapes or site needing conservation. This will be submitted in the form of sheets.

## SEMESTER-IV

### M.ARCH LA -204 LANDSCAPE PROJECT MANAGEMENT AND PROFESSIONAL PRACTICE

COURSE No.	SUBJECT	Hrs. per week	Theory/ Studio/ Practical	Max. Marks			Total
				Sessionals/ Internal	Exam/Practical		
					Theory	External	Total
M.ARCH LA -204	Landscape Project Management and Professional Practice	2+.....	Theory	25	100	.....	125
				.....	.....	.....	.....

#### UNIT 1

##### (a) Regulations and Legal Aspects

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

##### (b) Construction administration , Implementation process

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

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

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

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

#### UNIT 2

##### (c) Construction documents

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

Tender Documentation and evaluation of tender; negotiations with contractors.

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

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

#### UNIT 3

##### (d) Professional Practice

Types of client: Private, Government, Corporate etc. The scope and meaning of professional services.

Professional relationship between client and Landscape Architect: Forms of agreement, conditions of engagement, scope of work and services to be provided.

Scale of Professional Fees: Common and accepted methods of charging fees, percentage, lump sum, time-basis etc. Calculation and estimation of fee based on work involved. Taxes, remuneration and reimbursement.

Role of Professional Institute: Professional code of conduct. Relationship of Landscape Architect with other professionals.

Practical illustrations of various aspects of Client-Landscape Architect transactions, especially with regards to the establishment of credibility and trust.

#### **UNIT 4**

##### **(e) Landscape Design Competitions: Types, Guidelines**

###### **Mode of Evaluation:**

The internal evaluation shall be conducted by the concerned teacher through test, reports and assignment as given by the concerned teacher.

###### **NOTE:**

Assignment will be in the form of individual indepth study of a topic related to any one of the subject or any other additional subject based on availability of experts which is presented in the form of presentation and a written report of the same.

###### **Note for Examiner/Faculty:**

The Examiner will set Eight (8) questions in total, selecting two questions from each unit covering the whole syllabus/all the units. Students will have to attempt Five (5) questions in all, selecting at least one question from each unit. All the question

Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

## SEMESTER-IV

### M.ARCH LA -206 LANDSCAPE RESOURCES-II

COURSE No.	SUBJECT	Hrs. per week	Theory/ Studio/ Practical	Max. Marks			Total
				Sessionals/ Internal	Exam/Practical		
					Theory	External	
M.ARCH LA -206	Landscape Resources – II	2+.....	Theory	25	100	.....	125
				.....	.....	.....	.....

#### UNIT 1

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.

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

#### UNIT 2

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

Significance of biodiversity, urban biodiversity, wildlife conservation.

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

#### UNIT 3

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

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

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

#### UNIT 4

Techniques and criteria for evaluation of regional landscape resources.

#### Mode of Evaluation:

The internal evaluation shall be conducted by the concerned teacher through test, reports and assignment as given by the concerned teacher.

#### NOTE:



Assignment will be in the form of a manual/handwritten journal covering all the topics mentioned above with suitable examples, sketches and supportive material. Students will work on atleast one project taken up in the design studios and work on landscape engineering and details of the project and submit the work in the form of sheets and a report.

**Note for Examiner/Faculty:**

The Examiner will set Eight (8) questions in total, selecting two questions from each unit covering the whole syllabus/all the units. Students will have to attempt Five (5) questions in all, selecting at least one question from each unit. All the question

Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

## SEMESTER - IV

### M.ARCH LA -210 Professional Communication - IV (3-4 Studio Projects)

COURSE No.	SUBJECT	Hrs. per week	Theory/ Studio/ Practical	Max. Marks			Total
				Sessionals/ Internal	Exam/Practical		
					Theory	External	
M.ARCH. LA-210	Professional Communication – IV	4+....	Internal	50	.....	.....	50
				.....	.....	.....	.....

## Professional Communication

Professional communication skill shall be evaluated periodically through communication skill by judgement at the time of presentation by the concerned student.

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

### Note for Examiner/Faculty:

# Professional Communication – IV:- This Subject will Having Sessional Assessment on the basis of their performance in the LA-212 Landscape Architecture Studio-IV & will no any exam or viva for same.

## SEMESTER-IV

### M.ARCH LA -212 LANDSCAPE ARCHITECTURE STUDIO-IV (Landscape Architecture Thesis)

COURSE No.	SUBJECT	Hrs. per week	Theory/ Studio/ Practical	Max. Marks			Total
				Sessionals/ Internal	Exam/Practical		
					Theory	External	
M.ARCH LA -212	Landscape Architecture Studio-I	6+16	Theory + Practical	25	100	.....	125
				200	.....	350	550

## **UNIT 1**

Landscape Architecture thesis will consists of two parts:

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

## **UNIT 2**

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

### **Mode of Evaluation:**

Professional communication skill shall be evaluated periodically through communication skill by judgement at the time of presentation by the concerned student.

### **Note for Examiner/Faculty:**

The Examiner will set Eight (8) questions in total, selecting two questions from each unit covering the whole syllabus/all the units. Students will have to attempt Five (5) questions in all, selecting at least one question from each unit. All the question

Detailed teaching program to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

### **NOTE :**

Assignment will be in the form of a journal 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 studios and work on landscape engineering and details of the project relating to all the above mentioned topics in the form of sheets and /or report

### **Submission of Thesis**

Students will submit two copies of their thesis report on standard format complete in all respects to the HOD/Principal, on the date decided by him.

Other thesis material, such as drawings and models, etc. will be received and retained by the HOD/Principal, on a subsequent date to be fixed by him.